

DAFTAR PUSTAKA

- Aikina, T., & Bolsunovskaya, L. (2020). Moodle-based learning: Motivating and demotivating factors. *International Journal of Emerging Technologies in Learning (iJET)*, 15(2), 239-248. Doi: <https://doi.org/10.3991/ijet.v15i02.11297>.
- Akhmadan, W. (2017). Pengembangan bahan ajar materi garis dan sudut menggunakan macromedia flash dan moodle kelas vii sekolah menengah pertama. *Jurnal Gantang*, 2(1), 27-40. Doi: <https://doi.org/10.31629/jg.v2i1.62>.
- Al-Awidi, H. M., & Ismail, S. A. (2014). Teachers' perceptions of the use of computer assisted language learning to develop children's reading skills in English as a second language in the United Arab Emirates. *Early Childhood Education Journal*, 42(1), 29-37. Doi: <https://doi.org/10.1007/s10643-012-0552-7>.
- Aldiab, A., Chowdhury, H., Kootsookos, A., Alam, F., & Allhibi, H. (2019). Utilization of Learning Management Systems (LMSs) in higher education system: A case review for Saudi Arabia. *Energy Procedia*, 160, 731-737. Doi: <https://doi.org/10.106/j.egypro.2019.02.186>.
- Aldoobie, N. (2015). ADDIE model. *American International Journal of Contemporary Research*, 5(6), 68-72. Retrieved from http://www.aijcrnet.com/journals/Vol_5_No_6_December_2015/10.pdf.
- Ali, M., & Asrori M. (2014). *Metodologi dan Aplikasi Riset Pendidikan*. Jakarta: Bumi Aksara.
- Aminy, R., Huzafah, S., & Santri, D. J. (2017). Pengembangan materi pembelajaran sistem koordinasi manusia memanfaatkan fitur edmodo untuk sekolah menengah atas. *Jurnal Pembelajaran Biologi: Kajian Biologi dan Pembelajarannya*, 4(1), 28-42. Retrieved from <https://core.ac.uk/download/pdf/267822862.pdf>.
- Amiroh. (2012). *Membangun E-learning dengan Learning Management System Moodle*. Sidoarjo: PT Berkah Mandiri Globalindo.
- Asrizal, A., Amran, A., Ananda, A., Festiyed, F., & Sumarmin, R. (2018). The development of integrated science instructional materials to improve students' digital literacy in scientific approach. *Jurnal Pendidikan IPA Indonesia*, 7(4), 442-450. Doi: <https://doi.org/10.15294/jpii.v7i4.13613>.
- Azis, A. A. (2017). Pengembangan media e-learning berbasis lms moodle pada mata kuliah anatomi fisiologi manusia. *Jurnal Pendidikan Biologi*, 7(1), 1-8. Doi: <http://dx.doi.org/10.17977/um052v7i1p1-8>.

- Badruzzaman, A., & Raharjo, R. (2019). Profil miskonsepsi siswa pada materi sistem endokrin. *BioEdu*, 8(2). Retrieved from <https://jurnalmahasiswa.unesa.ac.id/index.php/bioedu/article/viewFile/28834/26401>.
- Blazheska-Tabakovska, N., Ristevski, B., Savoska, S., & Bocevka, A. (2019). Learning management systems as platforms for increasing the digital and health literacy. *Proceedings of the 2019 3rd International Conference on E-Education, E-Business and E-Technology*, 33-37. Doi: <https://doi.org/10.1145/3355166.3355176>.
- Branch, R. M. (2009). *Instructional Design: The ADDIE Approach*. New York: Springer US.
- BSNP. (2014). *Naskah Akademik Instrumen Penilaian Buku Teks Pelajaran Pendidikan Dasar dan Menengah*. Jakarta: Badan Standar Nasional Pendidikan.
- Chen, H. I. (2013). Identity practices of multilingual writers in social networking spaces. *Language Learning & Technology*, 17(2), 143-170. Retrieved from http://128.171.57.22/bitstream/10125/44328/17_02_chen.pdf.
- Cimer, A. (2012). What makes biology learning difficult and effective: students' views. *Educational Research and Reviews*, 7(3), 61-71. Doi: <http://doi.org/10.5897/ERR11.205>.
- Connie, Risdianto, E., & Zuki, M. (2021). Development of online-based learning using moodle e-learning system in new innovation and paradigm of education course. *International Conference on Educational Sciences and Teacher Profession (ICETeP 2020)*, 532(532), 108-113. Doi: <https://dx.doi.org/10.2991/assehr.k.210227.018>.
- Copriady, J., Iswandari, S. N., Noer, A. M., & Albeta, S. W. (2020). Pengembangan e-modul berbasis moodle pada materi hidrokarbon. *EDUSAINS*, 12(1), 81-88. Doi: <http://doi.org/10.15408/es.v12i1.11503>.
- Fahmi, M. H., & Cipta, B. S. I. (2018). Pengembangan blended learning berbasis moodle (studi kasus di universitas islam raden rahmat malang). *Jurnal Teknologi Terapan: G-Tech*, 2(1), 106-113. Doi: <https://doi.org/10.33379/gtech.v2i1.328>.
- Fayanto, S., Kawuri, T. R. Y. M., Jufrianyah, A., Setiamukti, D. D., Sulisworo, D. (2019). Implementation e-learning based moodle on physics learning in senior high school. *Indonesian Journal of Science and Education*, 3(2), 93-102. Doi: <https://doi.org/10.31002/ijose.v3i2.1178>.
- Fitriani, U., Adisyahputra, & Komala, R. (2018). Pengembangan eco-friendly website dalam pembelajaran biologi berbasis proyek pada materi pencernaan

- lingkungan. *Biosfer: Jurnal Pendidikan Biologi*, 11(1), 32-46. Doi: <https://doi.org/10.21009/biosferjpb.11-1.4>.
- Hadi, H., & Agustina, S. (2016). Pengembangan buku ajar geografi desa-kota menggunakan model ADDIE. *Jurnal Educatio*, 11(1), 90-105. Retrieved from <https://core.ac.uk/download/pdf/229258596.pdf>.
- Hadiprayitno, G., Muhlis, & Kusmiyati. (2019). Problems in learning biology for senior high schools in Lombok Island. *Journal of Physics: Conference Series*, 1241(1), 12-54. Doi: <https://doi.org/10.1088/1742-6596/1241/1/012054>.
- Hague, C., & Payton, S. (2011). Digital literacy across the curriculum. *Curriculum Leadership*, 9(10). Retrieved from <http://www.curriculum.edu.au/leader/default.asp?id=33211&issueID=12380>.
- Hallam, G., Thomas, A., & Beach, B. (2018). Creating a connected future through information and digital literacy: strategic directions at the University of Queensland Library. *Journal of the Australian Library and Information Association*, 67(1), 42-54. Doi: <https://doi.org/10.1080/24750158.2018.1426365>.
- Hanafi. (2017). Konsep penelitian R&D dalam bidang pendidikan. *Saintifika Islamica: Jurnal Kajian Keislaman*, 4 (2), 129-150. Retrieved from <http://jurnal.uinbanten.ac.id/index.php/saintifikaislamica/article/view/1204>
- Hanafi, Y., Murtadho, N., & Ikhsan, M. A. (2020). Reinforcing public university student's worship education by developing and implementing mobile-learning management system in the ADDIE instructional design model. *International Journal of Interactive Mobile Technologies*, 14(2). 215-241. Doi: <https://doi.org/10.3991/ijim.v14i02.11380>.
- Handayati, S. (2020). Pengembangan media pembelajaran e-book dengan memanfaatkan fitur rumah belajar pada mata pelajaran ipa. *JIRA: Jurnal Inovasi dan Riset Akademik*, 1(4), 369-384. Doi: <https://doi.org/10.47387/jira.v1i4.61>
- Haryanto. (2016). *Pengembangan Bahan Ajar Cetak*. Yogyakarta: UNY Press.
- Haske, S. A. & Wulan, R. A. (2015). Pengembangan e-learning berbasis moodle dalam pembelajaran ekosistem untuk meningkatkan literasi lingkungan siswa pada program pengayaan. *Biologi, Sains, Lingkungan dan Pembelajarannya*, 8(9), 402-409. Retrieved from <https://jurnal.uns.ac.id/prosbi/article/view/6952/6178>.
- Hatlevik, O. E., & Christophersen, K. A. (2013). Digital competence at the beginning of upper secondary school: Identifying factors explaining digital inclusion. *Computers & education*, 63, 240-247. Doi: <https://doi.org/10.1016/j.compedu.2012.11.015>.

- Hazumi, Y. (2020). Development of pop-up book learning media on earth oil materials. *International Journal of Science and Society*, 2(3), 155-122. Doi: <https://doi.org/10.200609/ijsoc.v2i3.133>.
- Hendripides, S., & Hikmah, N. (2018). Development of innovative teaching materials through scientific approach. *Journal of Educational Sciences*, 2(2), 14-22. Retrieved from <https://fkip.unri.ac.id/wp-content/uploads/2019/03/JES-2018.pdf>.
- Herayanti, L., Fuaddunnazmi, M., & Habibi, H. (2015). Pengembangan media pembelajaran berbasis moodle pada mata kuliah fisika dasar. *Jurnal Pendidikan Fisika dan Teknologi*, 1(3), 205-209. Doi: <http://dx.doi.org/10.29303/jpft.v1i3.260>.
- Herdani, T. P., Sartono, N., & Evriyani, D. (2015). Development of modified monopoly game as a learning media on endocrine system (research and vevolpment at senior high school 1 Jakarta). *Biosfer: Jurnal Pendidikan Biologi*, 8(1), 20-28. <https://doi.org/10.21009/biosferjpb.8-1.3>.
- Hidayati, N., Pangestuti, A. A., & Prayitno, T. A. (2019). Edmodo mobile: developing e-module on biology cell for online learning community. *Biosfer: Jurnal Pendidikan Biologi*, 12(1), 94-108. Doi: <http://journal.unj.ac.id/unj/index.php/biosfer/article/view/10813>.
- Hobbs, R. (2010). *Digital and Media Literacy: A Plan of Action. A White Paper on the Digital and Media Literacy Recommendations of the Knight Commission on the Information Needs of Communities in a Democracy*. Washington, DC 20036: Aspen Institute. 1 Dupont Circle NW Suite 700. Retrieved from <https://files.eric.ed.gov/fulltext/ED523244.pdf>.
- Hsu, T. C., Lee-Hsieh, J., Turton, M. A., & Cheng, S .F. (2014). Using the ADDIE model to develop online continuing education courses on caring for nurses in Taiwan. *Journal of Continuing Education in Nursing*, 45(3), 124-131. Doi: <https://doi.org/10.3928/00220124-20140219-04>.
- Inggriyani, F., Fazriyah, N., & Purbasari, A. (2019). Penggunaan e-learning berbasis moodle bagi KKG sekolah dasar di kecamatan lengkong kota bandung. *Jurnal SOLMA*, 8(2), 268-277. Doi: <https://doi.org/10.29405/solma.v8i2.3695>.
- Iordache, C., Mariën, I., & Baelden, D. (2017). Developing digital skills and competences: A quick-scan analysis of 13 digital literacy models. *Italian Journal of Sociology of Education*, 9(1). Doi: <http://dx.doi.org/10.14658/pupj-ijse-2017-1-2>.
- Irmayanti, I., Hasruddin, H., & Kartika, K. (2017). Analisis kesulitan belajar siswa pada materi pokok hormon di kelas XI IPA SMA Negeri 1 Matauli Pandan tahun pembelajaran 2016/2017. *Jurnal Pendidikan Matematika Dan*

Sains, 12(1), 1–6. Retrieved from <https://jurnal.unimed.ac.id/2012/index.php/jpms/article/viewFile/8998/7847>.

Jayawickrama, T., Abdelaal, S., & Abadia, R. (2020). Using online learning environments to address digital literacy competencies of construction management graduates. *Proceedings of the 28th International Conference on Computers in Education*. Retrieved from https://apsce.net/icce/icce2020/proceedings/paper_112.pdf.

Jeffrey, L., Hegarty, B., Kelly, O., Penman, M., Coburn, D., & McDonald, J. (2011). Developing digital information literacy in higher education: Obstacles and supports. *Journal of Information Technology Education*, 10, 383-413. Retrieved from <https://www.learntechlib.org/p/111528/>.

Jones, R. H., & Hafner, C. A. (2012). *Understanding Digital Literacies: A Practical Introduction*. Oxford: Routledge.

Jones-Jang, S. M., Mortensen, T., & Liu, J. (2019). Does media literacy help identification of fake news? Information literacy helps, but other literacies don't. *American Behavioral Scientist*, 0002764219869406. Doi: <https://doi.org/10.1177%2F0002764219869406>.

Julyal, I. (2014). Pengembangan modul pembelajaran bernuansa dialog bergambar pada materi sistem hormon di sman 1 limbur lubuk mengkuang kabupaten bungo jambi. *Abstract of Undergraduate, Faculty of Education, Bung Hatta University*, 3(4). Retrieved from <https://www.ejurnal.bunghatta.ac.id/index.php/JFKIP/article/view/3777>.

Jungnickel, P.W., Kelley, K.W., Hammer, D.P., Haines, S.T., Marlowe, K.F. (2009). Addressing competencies for the future in the professional curriculum. *American Journal of Pharmaceutical*, 73(8), 1-15. Doi: <https://dx.doi.org/10.5688%2Faj7308156>.

Kazakoff, E. R. (2015). Technology-based literacies for young children: Digital literacy through learning to code. *Young Children and Families in the Information Age*. 43-60. Doi: https://doi.org/10.1007/978-94-017-9184-7_3.

Kennedy, I.G., Gloria, L., & Héla, J. (2016). *Education Skills for 21st Century Teachers: Voices Froma Global Online Educators' Forum*. London: SpringerBriefs in Education.

Khairani, N. A., & Rajagukguk, J. (2019). Development of moodle e-learning media in industrial revolution 4.0 era. *4th Annual International Seminar on Transformative Education and Educational Leadership (AISTEEL 2019)*, 384, 559-565. Retrieved from <https://www.atlantis-pess.com/proceedings/aisteel-19/125928496>.

Kim, E., Park, H., & Jang, J. (2019). Development of a class model for improving creative collaboration based on the online learning system (moodle) in

- Korea. *Journal of Open Innovation: Technology, Market, and Complexity*, 5(3), 67. Doi: <http://dx.doi.org/10.3390/joitmc5030067>.
- Kurniawan, R. (2009). *Membangun Media Ajar Online Untuk Orang Awam*. Palembang: Maxicom.
- La Perle, K. M. D., & Dintzis, S. M. (2018). Endocrine system. *Comparative Anatomy and Histology*, 251-273. Doi: <https://doi.org/10.1016/B978-0-12-802900-8.00015-4>.
- Lebeaux, D., Jablon, E., Flahault, C., Lanternier, F., Viard, J. P., Pacé, B., ... & Lemogne, C. (2021). Introducing an open-source course management system (moodle) for blended learning on infectious diseases and microbiology: A pre-post observational study. *Infectious Diseases Now*, 14, 1-7. Doi: <https://doi.org/10.1016/j.idnow.2020.11.002>.
- Lestari, I. (2018). Pengembangan bahan ajar matematika dengan memanfaatkan geogebra untuk meningkatkan pemahaman konsep. *GAUSS: Jurnal Pendidikan Matematika*, 1(1), 26-36. Doi: <https://doi.org/10.30656/gauss.v1i1.634>.
- Liansari, V., & Nuroh, E. Z. (2018). Realitas penerapan literasi digital bagi mahasiswa FKIP Universitas Muhammadiyah Sidoarjo. *Proceedings of the ICECRS*, 1(3), 241-252. Doi: <https://doi.org/10.21070/picecrs.v1i3.1397>.
- Littlejohn, A., Beetham, H., & McGill, L. (2012). Learning at the digital frontier: a review of digital literacies in theory and practice. *Journal of Computer Assisted Learning*, 28(6), 547-556. Doi: <https://doi.org/10.1111/j.1365-2729.2011.00474.x>.
- Manurung, A. (2020). *Gambaran Literasi Digital pada Mahasiswa Skripsi Fakultas Psikologi di Universitas Sumatera Utara (USU)*. Universitas Sumatera Utara.
- Matsun, M., Ramadhani, D., & Lestari, I. (2018). Pengembangan bahan ajar listrik magnet berbasis android di program studi pendidikan fisika IKIP PGRI pontianak. *Jurnal Pendidikan Matematika dan IPA*, 9(1), 99-107. Doi: <http://dx.doi.org/10.26418/jpmipa.v9i1.23703>.
- Mershad, K., & Wakim, P. (2018). A learning management system enhanced with internet of things applications. *Journal of Education and Learning*, 7(3), 23-40. Doi: <http://doi.org/10.5539/jel.v7n3p23>.
- Meurant, R. C. (2010). How computer-based internet-hosted learning management systems such as Moodle can help develop L2 digital literacy. *International journal of multimedia and ubiquitous engineering*, 5(2), 19-26. Retrieved from https://gvpress.com/journals/IJMUE/vol5_no2/2.pdf.
- Miarsyah, M., Rusdi, R., Aryani, N. D., & Ichsan, I. Z. (2019). MEBA: Development android-based ecosystem module for senior high school

students. *Indian Journal of Public Health Research and Development*, 10(8), 2114-2118. Retrieved from https://www.researchgate.net/profile/Ilimi-Ichsan/publication/336063550_MEBA_Development_Android-based_Ecosystem_Module_for_Senior_High_School_Students/links/5da1901d299bf116fe9f0e6d/MEBA-Development-Android-based-Ecosystem-Module-for-Senior-High-School-Students.pdf.

Mila, N., Alisyahbana, A. N. Q. A., Arisah, N., & Hasan, M. (2021). Efektivitas pemanfaatan canva sebagai media pembelajaran daring. *Prosiding Penelitian Pendidikan dan Pengabdian 2021*, 1(1), 181-188. Retrieved from <http://prosiding.rcipublisher.org/index.php/prosiding/article/view/132/23>.

Mohammadyari, S., & Singh, H. (2015). Understanding the effect of e-learning on individual performance: The role of digital literacy. *Computers & Education*, 82, 11-25. Doi: <https://doi.org/10.1016/j.compedu.2014.10.025>.

Monteiro, A., & Leite, C. (2021). Digital literacies in higher education: Skills, uses, opportunities and obstacles to digital transformation. *Revista de Educación a Distancia (RED)*, 21(65), 1-20. Doi: <https://doi.org/10.6018/red.438721>.

Montoya, S. (2018). Defining literacy. *GAML Fifth Meeting*. 17-18. Retrieved from http://gaml.uis.unesco.org/wp-content/uploads/sites/2/2018/12/4.6.1_07_4.6-defining-literacy.pdf.

Mustami, M. K., Syamsudduha, S., Safei, & Ismail, M. I. (2019). Validity, practicality, and effectiveness development of biology textbooks integrated with augmented reality on high school students. *International Journal of Technology Enhanced Learning*, 11(2), 187-200. Doi: <https://doi.org/10.1504/IJTEL.2019.098789>.

Ng, W. (2011). Why digital literacy is important for science teaching and learning. *Teaching science*, 57, 26-32. Retrieved from http://www.curriculum.edu.au/leader/%20why_digital_literacy_is_important_for_science_tec,34913.html?issueID=12610.

Ng, W. (2012). Can we teach digital natives digital literacy?. *Computers & education*, 59(3), 1065-1078. Doi: <https://doi.org/10.1016/j.compedu.2012.04.016>.

Nurdyansyah, N. (2018). Pengembangan bahan ajar modul ilmu pengetahuan alam bagi siswa kelas iv sekolah dasar. *Universitas Muhammadiyah Sidoarjo*. Retrieved from <https://core.ac.uk/download/pdf/151573668.pdf>.

Nurhasanah, Z., Widodo, A., & Riandi, R. (2019). Augmented reality to facilitate students' biology mastering concepts and digital literacy. *JPBI (Jurnal Pendidikan Biologi Indonesia)*, 5(3), 481-488. Doi: <https://doi.org/10.22219/jpbi.v5i3.9694>.

- Nurjanah, E., Rusmana, A., & Yanto, A. (2017). Hubungan literasi digital dengan kualitas penggunaan e-resources. *Lentera Pustaka: Jurnal Kajian Ilmu Perpustakaan, Informasi Dan Kearsipan*, 3(2), 117-140. Doi: <https://doi.org/10.14710/lenpust.v3i2.16737>.
- Panjaitan, A. Y., Sinaga, E., & Rasmi, R. (2020). Perbedaan hasil belajar siswa menggunakan model pembelajaran kooperatif tipe jigsaw dengan tipe student team achievement division (STAD) pada materi sistem endokrin manusia. *Jurnal Pelita Pendidikan*, 8(1), 020-026. Doi: <https://doi.org/10.24114/jpp.v8i1.12170>.
- Papadakis, S., Kalogiannakis, M., Sifaki, E., & Vidakis, N. (2018). Evaluating moodle use via smart mobile phones. A case study in a Greek university. *EAI Endorsed Transactions on Creative Technologies*, 5(16). Doi: <https://doi.org/10.4108/eai.10-4-2018.156382>.
- Patmanthara, S., & Hidayat, W. N. (2018). Improving vocational high school students digital literacy skill through blended learning model. *Journal of Physics: Conference Series*, 1028(1), 1-7. Doi: <https://doi.org/10.1088/1742-6596/1028/1/012076>.
- Peerapolchaikul, T., Suealek, N., & Rojpibulstit, P. (2019). Students' attitudes towards the effectiveness of moodle platform at preclinical-medical Level in PBL curriculum. *Studies in Logic, Grammar and Rhetoric*, 60(1), 61-74. Doi: <https://doi.org/10.2478/slgr-2019-0045>.
- Perdana, R., Yani, R., Jumadi, J., & Rosana, D. (2019). Assessing students' digital literacy skill in senior high school Yogyakarta. *JPI (Jurnal Pendidikan Indonesia)*, 8(2), 169-177. Doi: <https://doi.org/10.23887/jpi-undiksha.v8i2.17168>.
- Poulova, P., Klimova, B., & Krizek, M. (2019). Selected e-learning systems and their comparison. *2019 International Symposium on Educational Technology*, 297-300. Doi: <https://doi.org/10.1109/ISET.2019.00070>.
- Prasetyo, D., Wibawa, B., & Musnir, D. N. (2020). Development of mobile learning-based learning model in higher education using the addie method. *Journal of Computational and Theoretical Nanoscience*, 17(2), 911-917. Doi: <https://doi.org/10.1166/jctn.2020.8740>.
- Prastowo, A. (2012). *Panduan Kreatif Membuat Bahan Ajar Inovatif*. Yogyakarta: Diva Press.
- Pratama, R., Indriyanti, D. R., & Mindyarto, B. N. (2021). Development of a diagnostic test for student misconception detection of coordination system material using four-tier multiple choice. *Journal of Innovative Science Education*, 10(1), 251-258. Doi: <https://doi.org/10.15294/jise.v10i1.37413>.
- Prior, D. D., Mazanov, J., Meacheam, D., Heaslip, G., & Hanson, J. (2016). Attitude, digital literacy and self efficacy: Flow-on effects for online learning

behavior. *The Internet and Higher Education*, 29, 91-97. Doi: <https://doi.org/10.1016/j.iheduc.2016.01.001>.

Purnamasari, G. R., Panjaitan, R. G. P., & Wahyuni, E. S. (2017). Kelayakan media e-comic pada submateri sistem endokrin kelas XI SMA. *Jurnal Pendidikan dan Pembelajaran Khatulistiwa*, 6(12). Retrieved from <https://jurnal.untan.ac.id/index.php/jpdpb/article/view/23082/18259>.

Putri, A. N. (2021). The development of an inquiry-based laboratory manual for student of biology education. *Journal of Education Research and Evaluation*, 5(1), 95-111. Doi: <http://dx.doi.org/10.23887/jere.v5i1.29203>.

Rahmania, P., Riezky, M. P. & Dewi, P. (2015). Peningkatan literasi membaca melalui penerapan problem-based learning pada pembelajaran biologi siswa kelas X mia 1 SMAN 1 Boyolali tahun pelajaran 2014/2015. *Prosiding Seminar Nasional Pendidikan Sains*.

Rahmayani, Rahmatsyah, & Sani, R. A. (2021). Development of dynamic fluid props with ADDIE design at SMA. *Journal of Physics: Conference Series*, 1811(1), 012069. Doi: <https://doi.org/10.1088/1742-6596/1811/1/012069>.

Ratumanan, G. T. & Laurens, T. (2011). *Evaluasi Hasil Belajar pada Tingkat Satuan Pendidikan*. Surabaya: UNESA University Press.

Reinbold, S. (2013). Using the ADDIE model in designing library instruction. *Medical Reference Services Quarterly*, 32(3), 244-256. Doi: <http://www.tandfonline.com/action/showCitFormats?doi=10.1080/02763869.2013.806859>.

Richey, R. C., & Klein, J. D. (2014). Design and development research. *Handbook of Research on Educational Communications and Technology*. 141–150. Doi: https://doi.org/10.1007/978-1-4614-3185-5_12.

Ristanto, R., Rusdi, R., Mahardika, R., Darmawan, E., & Ismirawati, N. (2020). Digital flipbook imunopedia (DFI): A development in immune system e-learning media. *International Journal of Interactive Mobile Technologies*, 14(19), 140-162. Doi: <https://doi.org/10.3991/ijim.v14i19.16795%0d>.

Santos, A. I., & Serpa, S. (2017). The importance of promoting digital literacy in higher education. *Int'l J. Soc. Sci. Stud.*, 5, 90. Doi: <https://doi.org/10.11114/ijsss.v5i6.2330>.

Santosa, T., & Marina, E. (2020). Analisis masalah pendidikan biologi pada sekolah menengah pertama di era pandemi Covid-19. *Jurnal Review Pendidikan dan Pengajaran*, 3(2), 273-278. Retrieved from <http://journal.universitaspahlawan.ac.id/index.php/jrpp>.

Sari, W. P., & Handayani, T. (2014). Perbandingan penggunaan model pembelajaran make a match dengan snowball throwing ditinjau dari motivasi dan hasil belajar ranah kognitif siswa kelas xi ipa materi pembelajaran sistem

hormon manusia di SMA Negeri 1 Kasihan. *Jupemasi-Pbio*, 1(1), 1-4. Retrieved from http://jupemasipbio.uad.ac.id/wp-content/uploads/2014/11/1.-NP_11A08001_WINDA-PURNAMA-SARI.pdf.

Setyawan, S. A., Savira, S., Sabrina, T. I., Khairunnisa, F., Suryanda, A., Rini, D. S., & Ristanto, R. H. (2021). Pengembangan penuntun praktikum ekosistem dan interaksi dalam ekosistem. *Journal of Biology Learning*, 2(2), 58-66. Doi: <https://doi.org/10.32585/jbl.v2i2.775>.

Shafeeq, C.P. (2013). Redefining education in the world of ICTs. *International Journal of English and Education*, 2(1), 284-288. Retrieved from http://ijee.org/yahoo_site_admin/assets/docs/SHAFEEQ.061042.pdf.

Shannon, L. J. Y., & Rice, M. (2017). Scoring the open source learning management systems. *International Journal of Information and Education Technology*, 7(6), 432-436. Doi: <https://doi.org/10.18178/ijiet.2017.7.6.907>.

Shopova, T. (2014). Digital literacy of students and its improvement at the university. *Journal on Efficiency and Responsibility in Education and Science*, 7(2), 26-32. Doi: <https://doi.org/10.7160/eriesj.2014.070201>.

Siddiq, F., Gochyyev, P., & Wilson, M. (2017). Learning in digital networks–ICT literacy: A novel assessment of students' 21st century skills. *Computers & Education*, 109, 11-37. Doi: <https://doi.org/10.1016/j.compedu.2017.01.014>

Siemens, G., Gašević, D., & Dawson, S. (2015). Preparing for the digital university: A review of the history and current state of distance, blended, and online learning. Retrieved from <http://linkresearchlab.org/PreparingDigitalUniversity.pdf>.

Simanullang, N. H. S., & Rajagukguk, J. (2020). Learning management system (LMS) based on moodle to improve students learning activity. *Journal of Physics: Conference Series*, 1462(1), 012067. Doi: <https://doi.org/10.1088/1742-6596/1462/1/012067>.

Spante, M., Hashemi, S. S., Lundin, M., & Algers, A. (2018). Digital competence and digital literacy in higher education research: Systematic review of concept use. *Cogent Education*, 5(1), 1519143. Doi: <https://doi.org/10.1080/2331186X.2018.1519143>.

Sukarno, S., & Widdah, M. (2020). The Effect of students' metacognition and digital literacy in virtual lectures during the Covid-19 pandemic on achievement in the "methods and strategies on physics learning" course. *Jurnal Pendidikan IPA Indonesia*, 9(4), 477-488. Doi: <https://doi.org/10.15294/jpii.v9i4.25332>.

Sulistia, T., Djamahar, R., & Rahayu, S. (2019). Hubungan kualitas tidur dan aktivitas fisik dengan hasil belajar kognitif sistem koordinasi manusia. *Didaktika Biologi: Jurnal Penelitian Pendidikan Biologi*, 2(2), 113-120. Doi: <https://doi.org/10.32502/dikbio.v2i2.1785>.

- Suprpto, M., Rusdi, R., & Rusmono, R. (2018). Pengembangan flip flop book dalam model collaborative multimedia learning untuk meningkatkan hasil belajar peserta didik. *Erudio Journal of Educational Innovation*, 5(1), 115-123. Doi: <https://doi.org/10.18551/erudio.5-1.14>.
- Suryanda, A., Sartono, N., & Sa'Diyah, H. (2019). Developing smartphone-based laboratory manual as a learning media. *Journal of Physics: Conference Series*, 1402(7), 077077. Doi: <https://doi.org/10.1088/1742-6596/1402/7/077077>.
- Techataweewan, W., & Prasertsin, U. (2018). Development of digital literacy indicators for Thai undergraduate students using mixed method research. *Kasetsart Journal of Social Sciences*, 39(2), 215-221. Doi: <https://doi.org/10.1016/j.kjss.2017.07.001>.
- Ting, Y. L. (2015). Tapping into students' digital literacy and designing negotiated learning to promote learner autonomy. *The Internet and Higher Education*, 26, 25-32. Doi: <https://doi.org/10.1016/j.iheduc.2015.04.004>.
- Trisnaningsih, S., Suyanto, S., & Rahayu, T. (2016). Pengembangan learning management system quipper school pada pembelajaran materi sistem pertahanan tubuh untuk meningkatkan motivasi dan hasil belajar siswa kelas XI di SMA Negeri 3 Yogyakarta. *Jurnal Pendidikan Biologi*, 5(6), 28-36. Retrieved from <http://staffnew.uny.ac.id/upload/131930139/penelitian/PENGEMBANGAN%20LEARNING%20MANAGEMENT%20SYSTEM%20QUIPPER%20SCHOOL%20PADA%20PEMBELAJARAN%20MATERI%20SISTEM%20PERTAHANAN.pdf>.
- Tu, J. C., Zhang, X., & Zhang, X. Y. (2021). Basic courses of design major based on the ADDIE model: Shed light on response to social trends and needs. *Sustainability*, 13(8), 4414. Doi: <https://doi.org/10.3390/su13084414>.
- Vekli, G. S., & Çimer, A. (2017). High school students' written argumentation qualities with problem-based computer-aided material (PBCAM) designed about human endocrine System. *Universal Journal of Educational Research*, 5(5), 848-861. Doi: <https://doi.org/10.13189/ujer.2017.050517>.
- Voogt, J., & Roblin, N. P. (2012). A comparative analysis of international frameworks for 21st century competences: Implications for national curriculum policies. *Journal of curriculum studies*, 44(3), 299-321. Doi: <https://doi.org/10.1080/00220272.2012.668938>.
- Wibowo, A. T., Akhlis, I., & Nugroho, S. E. (2015). Pengembangan LMS (Learning Management System) berbasis web untuk mengukur pemahaman konsep dan karakter siswa. *Scientific Journal of Informatics*, 1(2), 127-137. Doi: <https://doi.org/10.15294/sji.v1i2.4019>.

- Widyastuti, E., & Susiana. (2019). Using the ADDIE model to develop learning material for actuarial mathematics. *Journal of Physics: Conference Series*, 1188(1), 012-052. Doi: <https://doi.org/10.1088/1742-6596/1188/1/012052>.
- Wulandari, N. (2020). Pengembangan media pembelajaran fisika berbasis android di SMA Negeri 3 Ngabang. *Jurnal Pendidikan Informatika dan Sains*, 9(1), 21-27. Doi: <http://dx.doi.org/10.31571/saintek.v9i1.1296>.
- Wuryaningrum, V., Sartono, N., & Dewahrani, Y. R. (2018). Developing bilingual student work sheet with contextual approach on human reproductive system topic. *Biosfer: Jurnal Pendidikan Biologi*, 7(1), 10-16. Doi: <https://doi.org/10.21009/biosferjpb.7-1.2>.
- Zhang, J. (2020). The construction of college english online learning community under ADDIE model. *English Language Teaching*, 13(7), 46-51. Doi: <https://doi.org/10.5539/elt.v13n7p46>.

