



Technology Integration in Learning to Read the Al-Qur'an

Rizal Tri Bimantoro¹, Muhamad Firdaus Bin Alias², Hendra Syafrianto³, Hamdani Abdi³, Elvi Rahmi⁴, Munawir K⁵

¹STAI Darul Qur'an Payakumbuh, Indonesia

²Universiti Sains Islam Malaysia, Malaysia

³STAI Pengembangan Ilmu Al-Qur'an Sumatera Barat, Indonesia

⁴STIT Ahlussunnah Bukittinggi, Indonesia

⁵Universitas Islam Negeri Alauddin Makassar, Indonesia

✉ rijaltri7@students.unnes.ac.id *

Abstract

This paper explains Digital Literacy For The Better Generation Learning Assistance for the Quran and Literacy Empowerment in the Pati District towards Achieving Sustainable Development Goals (SDGs)". This paper is written to review the design of the application, which is designed to meet the community's needs for cross-type digital literacy based on the interpretation of Surah Al-'Alaq verses 1-5. This paper used data obtained from research and development (R&D). Data were collected using the principle of secondary data. The method used in the problem analysis was the qualitative descriptive method. This method was used to describe the design of the Digital Literacy For The Better Generation digital literacy media app. Based on the problem analysis, it can be concluded that the interpretation of Surah Al-'Alaq verses 1-5 is closely related to the command for humans to seek knowledge and be literate. Thus, the design of the Digital Literacy For The Better Generation application, which consists of various types of literacy, is expected to improve the quality of people's digital literacy, especially the Quranic generation, to step into a future based on renewable technology.

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INTRODUCTION

Indonesia stands as the nation boasting the world's most significant Muslim populace, followed by Pakistan and India and as per data compiled in June 2021 by the Directorate General of Population and Civil Registration (Dukcapil), the Islamic adherents in Indonesia constituted 86.88% (Armansyah & Aziz, 2023; Jenkins, 2015; Mukhlas, 2024; Permatasari & Adinugraha, 2023). A study led by Komjen Pol Syafruddin, Chair of the Indonesian Foundation in 2021, reveals that 86.88% of the Muslim populace possesses proficiency in reading the Alquran. In contrast, a mere 35% demonstrate such competence. Consequently, approximately 65% of the Muslim population exhibits rudimentary literacy skills about the Quran (Ayyad, 2022; Jaya & Putro, 2023). This state of limited literacy is ascribed, in part, to a delayed realization of the pivotal significance of acquiring precise and thorough proficiency in Alquran recitation during the formative stages of development.

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STAI Yayasan Tarbiyah Islamiyah (YASTIS) Lubuk Begalung Padang, Indonesia

Such delay stems from constrained temporal availability and an esteemed psychological demeanor that hinders initiation of Quranic studies de novo. This challenge is compounded by the dearth of platforms capable of nurturing the collective enthusiasm among these individuals (Bernstein et al., 2023).

Literature studies conducted by the authors encompass research conducted by domain experts to ascertain Indonesia's present literacy landscape. Among these studies, an investigation undertaken by the Program for International Student Assessment (PISA), an international appraisal agency, holds prominence (Klieme, 2020). Outcomes from the PISA 2018 study, subsequently disseminated by the Organization for Economic Cooperation and Development (OECD), rank Indonesia 71 out of 77 nations surveyed in 2018 (Courtney et al., 2023). Additionally, Indonesia is categorized within the cohort exhibiting scores below 450.0, with a recorded score of 382.0. Interestingly, this statistical insight contradicts the marginal illiteracy rate of approximately 1.93% reported among the Indonesian populace (Ansari, 2020).

In acknowledgment of this somber reality, the Indonesian government has embarked on initiatives encompassing regulatory frameworks aimed at nurturing a culture of reading among all strata of society (Fahmi et al., 2017; Raihani, 2018; Vally, 2015). Noteworthy among these initiatives is the implementation of a digital literacy program, synergistically aligned with the prevailing technological currents within the era of globalization (Ben Ghrbeia & Alzubi, 2024; Yetti, 2024). The expanding populace, distributed geographically, accentuates the need to conduct research in strategic locations, such as the Pati District within the Pati Regency. Examination of the region, facilitated through the author's observations and interviews with Ustad Ahmad (TPQ Al-Islam) in the Pati District, underscores a predominant Muslim presence (Silva et al., 2020). However, a significant segment demonstrates inadequate proficiency in Quranic reading, with some individuals exhibiting an inability to do so entirely (Bouchara, 2015). The foundation for the author's assertions is rooted in the divine verses 1-5 of Surah Al-Alaq.

Meaning: "(1)Read you by mentioning the name of your Lord who created you. (2)Namely Has created humans from alaq (clot of blood / substance). (3)Recite you in the name of your Lord, Most Gracious. (4)He is your God Who has taught with Qolam/Ink. (5)He is your God who has also taught humans what they did not know before (Al-Alaq:1-5).

The essence of Surah Al-Alaq verses 1-5 underscores the critical need for literacy, especially in Pati District, in this age of globalization. This urgency is particularly pronounced for the younger generation, Generation Z, as they must equip themselves with digital literacy skills for personal growth (Martzoukou et al., 2022)(Radovanović et al., 2020). Considering this backdrop, the implementation of digital literacy in the Pati District becomes not just necessary but also time-sensitive. It's especially important for Generation Z, enabling them to navigate the complexities of the modern world with a sharp, imaginative, and innovative mindset.

In response to this situation, the author proposes a practical and innovative solution: "Digital Literacy For The Better Generation: Quran Assistance and Strengthening Literacy in Pati District in Realizing SDGs." This concept aims to blend digital skills, proficiency in Al-Qur'an, and literacy enhancement to cater to the unique needs of Pati District's residents, aligning with the overarching goals of sustainable development.

METHOD

This application was developed through the research and development (R&D) method (Brem & Wolfram, 2014; Safitri et al., 2020; Engkizar et al., 2022). Research

development can be interpreted based on two objectives: the development of product prototypes, and the formulation of methodological suggestions for the design and evaluation of product prototypes that have been developed (Camburn et al., 2015; Menold et al., 2017). Research and development are generally defined as research containing stages to produce or improve new products. The product in question does not have to be in physical form (hardware) such as books, teaching aids, learning modules, etc (Ahmad et al., 2013; Chao et al., 2015; Richey & Klein, 2014; Anwar et al., 2022; Asmaldi et al., 2022; Khoiriyati et al., 2021; Rahayu et al., 2022). However, it also includes software products like applications, data processing programs, and others. Four steps are commonly carried out in development research, namely (Chen & Zhang, 2014; Liu et al., 2021): 1) preliminary investigation, 2) theoretical embedding, 3) empirical testing, 4) documentation, analysis, and reflection on process and outcome (Carcary, 2020). This research aims to develop the Digital Literacy for the Better Generation application. This application was developed to build a digitally literate generation so that today's technology can be used properly and wisely (Rahmah, 2015).

Data were collected using the principle of secondary data. The method used in the problem analysis was the qualitative descriptive method (Colorafi & Evans, 2016; Ruggiano & Perry, 2019). Qualitative descriptive method are using to collect the data that consists of documents, audio cassettes or video cassettes, or the transcript of these tapes. This method was used to analyze data about digital literacy and it's correlation with surah Al-‘Alaq verses 1-5 also describe design and the advantage of using Digital Literacy For the Better Generation app.

RESULT AND DISCUSSION



Fig 1. The initial appearance and the Digital Literacy For The Better Generation Logo

Digital literacy for the better generation entails literacy development directly or through applications integrated with books, journals, comics, and Alquran mentoring programs. This holistic approach is meticulously designed to fulfill the exacting literacy requirements within the community. This application is optimized for smartphone usage, offering users the convenience of access anytime and anywhere (Dinh et al., 2013; Louw & Nieuwenhuizen, 2020). Consequently, the application's features impeccably align with the targeted user demographic. The salient attributes encompassed within the application encompass:

(1) *Homepage Feature*, this constituent embodies the central hub of the Digital literacy for the better generation application. Upon accessing the homepage, users can seamlessly navigate through the array of facilities furnished by the application (Kapoor & Vij, 2018). Noteworthy are: a) *BIN-Book*, an extensive repository of literary works, meticulously categorized into diverse genres. The spectrum includes educational literature, narratives, novels, comics, biographies, and even audio books, b) *BIN-Journal*, a curated compilation of journal links, adeptly serving as an invaluable resource, particularly within the academic sphere, c) *BIN-Dictionary*, this feature

showcases an online dictionary, presently catering to a multitude of languages with plans for further expansion, encompassing languages such as Javanese, English, and Arabic, d) *BIN-News*, a repository of news articles spanning the domains of education and religion, rendering users privy to the latest developments. Rigorous scrutiny, including a filtering mechanism, is exercised to ensure the exclusion of undesirable content such as explicit material, misinformation, and detrimental content (Marsoof et al., 2023), e) *BIN-Quote*, a reservoir of inspirational quotes attributed to both Islamic luminaries and prominent figures within the realm of education. Users can seamlessly explore and discover quotes aligned with their aspirations, f) *Al-Quran*, this feature facilitates uncomplicated access to the revered Quran, liberating users from the constraints of temporal and spatial boundaries. It especially caters to individuals traversing long distances or those incapable of carrying a physical copy of the Quran, g) *BIN-Note*, a versatile feature catering to users seeking to chronicle their various activities, encompassing shopping lists, task deadlines, meeting schedules, and more, h) *BIN-Quiz*, a dynamic educational feature encompassing an assortment of knowledge quizzes. Users can opt for their preferred subject or topic before embarking on an enriching learning experience (Boulton-Lewis & Tam, 2018).

(2) *Search Feature*: this functionality serves the purpose of assisting users in locating desired books, journals, news articles, or quotations (Beel et al., 2016). Users can effortlessly input a few keywords into the search box, prompting the display of pertinent content aligned with the entered keywords (Jiang et al., 2022). (3) *Submit Feature*, an essential attribute enabling users to submit noteworthy creations, encompassing books, comics, news articles, or quotations (Ryan et al., 2023). The development team will curate the uploaded content, meticulously selecting pieces deemed suitable for publication within the Digital Literacy For The Better Generation application. Upon successful selection process, the submitted work gains the potential for dissemination to the application's user base (Oliveira et al., 2017; Schaffer et al., 2013). (4) *Notification Feature*, an indispensable facet designed to facilitate timely communication of notifications, reminders, and other pertinent information from the application to the user. This functionality is pivotal in enhancing user engagement and ensuring that critical updates are effectively conveyed. (5) *Profile Feature*: this pivotal component encapsulates user-specific information, including but not limited to the individual's full name, user name, personal email, contact number, password, and personal data. Users retain the prerogative to modify their chosen username, contingent upon the availability of name options (Santoso et al., 2021; Suryawinata, 2019). (6) *Chat Feature*, an interactive attribute furnishes users with the means to communicate with fellow users of the Digital Literacy For The Better Generation application. This feature fosters a collaborative environment, enabling the exchange of ideas, insights, and information among the application's user community (Alahuhta et al., 2014). The comprehensive design of the Digital Literacy For The Better Generation feature application is expounded in its entirety within the accompanying attachment.

Strategy and Implementation Targets of Digital Literacy For The Better Generation

Digital Literacy For The Better Generation mplementation encompasses all segments of society, with a pronounced emphasis on Generation Z within Pati District, Pati Regency. The strategic framework underpinning Digital Literacy For The Better Generation deployment is systematically delineated through a sequence of technical operational phases, each contributing to the practical program realization.



Fig 2. Program Implementation Technical Stages Concept

Starting with the Base Class, this initial phase is designed for new participants to Hijaiyyah. They learn Quranic basics through Iqra' 1. Moving on, the Intermediate Class is for those who can recite surahs but need improvement in tajwid (pronunciation rules). This stage builds on Iqra' 3 (Tanjung et al., 2022). The program also includes Advanced and Tahfidz/Tahsin classes. These levels cater to participants who can read the Quran correctly, focusing on perfecting recitation and memorizing parts of the Quran, beginning with Juz' Amma (Azizah & Azani, 2023). Additionally, I've established the Digital Literacy For The Better Generation Academy, an offline literacy center located at the Al-Amin Saliyan Mosque. It's accessible to Pati District residents and can be reached through Instagram (@DALIBIN_akademi).

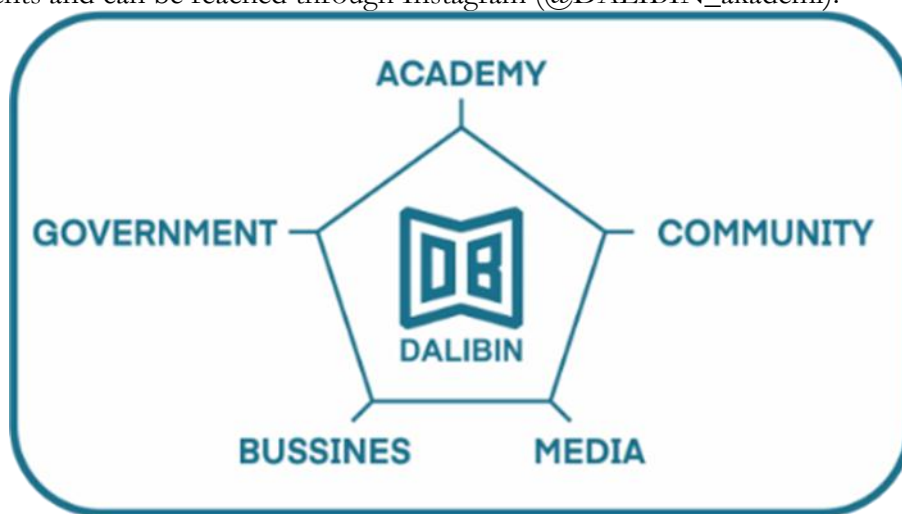


Fig 3. Digital Literacy For The Better Generation Pentahelix concept

In addition, Digital Literacy For The Better Generation follows the Pentahelix concept, involving various stakeholders. (1) Academics contribute through research and Islamic studies to develop learning materials for Digital Literacy For The Better Generation. (2) The community, especially Generation Z, is vital in strengthening literacy and the Digital Literacy For The Better Generation Platform (Szymkowiak et al., 2021). (3) The local government, including the Pati Department of Education and the Ministry of Religion, provides guidance, oversight, funding, and policies to support literacy and Islamic education via Digital Literacy For The Better Generation. (4&5) Media and Business partners help promote the Literacy Strengthening and Al-Quran Learning program by Digital Literacy For The Better Generation (Idris et al., 2022).

CONCLUSSION

Digital Literacy For The Better Generation is a digital platform designed to boost literacy in reading the Quran while integrating various literacy aspects through books, journals, and comics. This initiative is dedicated to enhancing literacy among the people of Pati. Moreover, there exists the Digital Literacy For The Better Generation Academy or Literacy Class (accessible via Instagram @DALIBIN_akademi), which offers direct coaching intertwined with the Quran

Assistance and Literacy Strengthening Program. This comprehensive program has been meticulously crafted to address the unique literacy needs of the Pati community. The author is genuinely confident and optimistic about the potential impact of this initiative. The optimism stems from the collaborative synergy among various stakeholders. The expectation is that this cooperative effort will contribute significantly to the local community and the broader national and religious contexts. Ultimately, this endeavor aligns with the larger goal of enhancing literacy and ensuring quality education, which aligns with the Sustainable Development Goals (SDGs), mainly focusing on quality education.

REFERENCES

- Ahmad, S., Mallick, D. N., & Schroeder, R. G. (2013). New Product Development: Impact of Project Characteristics and Development Practices on Performance. *Journal of Product Innovation Management*, 30(2), 331–348. <https://doi.org/10.1111/j.1540-5885.2012.01002>
- Alahuhta, P., Nordb, E., Sivunen, A., & Surakka, T. (2014). Fostering Team Creativity in Virtual Worlds. *Journal For Virtual Worlds Research*, 7(3). <https://doi.org/10.4101/jvwr.v7i3.7062>
- Ansari, A. H. (2020). Cream skimming? Evaluating the access to Punjab’s public-private partnership programs in education. *International Journal of Educational Development*, 72, 102126. <https://doi.org/10.1016/j.ijedudev.2019.102126>
- Anwar, F., Taqiyuddin, M. F., Wijaya, K., Azmi, M. C. Y., & Izharman, I. (2022). Implementation of Talaqqi, Sima’i, Wahdah, Talqin and Kitabah Methods in Memorizing the Quran: How Do Teachers Guide Students. *Khalifa: Journal of Islamic Education*, 6(2), 152-172. <http://dx.doi.org/10.24036/kjie.v6i2.151>
- Armansyah, A. D., & Aziz, A. N. (2023). Perkembangan Tokoh dan Agama Islam di Pakistan. *Jurnal Studi Islam Dan Kemuhmadiyah (JASIKA)*, 3(1). <https://doi.org/10.18196/jasika.v3i1.53>
- Asmaldi, A., Husti, I., Zamsiswaya, Z., & Syafril, S. (2022). Integration Between Religion and Science in Islamic Studies in Integrated Islamic Junior High School. *Khalifa: Journal of Islamic Education*, 6(2), 240-258. <http://dx.doi.org/10.24036/kjie.v6i2.274>
- Ayyad, E. (2022). Re-Evaluating Early Memorization of the Qur’ ān in Medieval Muslim Cultures. *Religions*, 13(2), 179. <https://doi.org/10.3390/rel13020179>
- Azizah, P. B., & Azani, M. Z. (2023). School Program Innovation in Boosting Student Moral Values and Achievement. *EDUKASI: Jurnal Pendidikan Islam (e-Journal)*, 11(2), 348–362. <https://doi.org/10.54956/edukasi.v11i2.466>
- Beel, J., Gipp, B., Langer, S., & Breitingner, C. (2016). Paper Recommender Systems: A Literature Survey. *International Journal on Digital Libraries*, 17, 305–338. <https://doi.org/10.1007/s00799-015-0156-0>
- Ben Ghrbeia, S., & Alzubi, A. (2024). Building Micro-Foundations for Digital Transformation: A Moderated Mediation Model of the Interplay between Digital Literacy and Digital Transformation. *Sustainability*, 16(9), 3749. <https://doi.org/10.3390/su16093749>
- Bernstein, E. S., Shore, J. C., & Jang, A. J. (2023). Network Centralization and Collective Adaptability to a Shifting Environment. *Organization Science*, 34(6), 2064–2096. <https://doi.org/10.1287/orsc.2022.1584>
- Bouchara, A. (2015). The Role of Religion In Shaping Politeness In Moroccan Arabic: The Case of The Speech act of Greeting and its Place In Intercultural Understanding and Misunderstanding. *Journal of Politeness Research*, 11(1), 71–98.

- <https://doi.org/10.1515/pr-2015-0004>
- Boulton-Lewis, G. M., & Tam, M. (2018). Issues in Teaching and Learning for Older Adults in Hong Kong and Australia. *Educational Gerontology*, *44*(10), 639–647. <https://doi.org/10.1080/03601277.2018.1521902>
- Brem, A., & Wolfram, P. (2014). Research and Development from the Bottom Up- Introduction of Terminologies for New Product Development in Emerging Markets. *Journal of Innovation and Entrepreneurship*, *3*, 1–22. <https://doi.org/10.1186/2192-5372-3-9>
- Camburn, B., Dunlap, B., Gurjar, T., Hamon, C., Green, M., Jensen, D., & Wood, K. (2015). A Systematic Method for Design Prototyping. *Journal of Mechanical Design*, *137*(8), 081102. <https://doi.org/10.1115/1.4030331>
- Carcary, M. (2020). The Research Audit Trail: Methodological Guidance for Application In Practice. *Electronic Journal of Business Research Methods*, *18*(2), 166–177. <https://doi.org/10.34190/JBRM.18.2.008>
- Chao, K. M., James, A. E., Nanos, A. G., Chen, J. H., Stan, S. D., Muntean, I., & van Capelle, J. (2015). Cloud E-learning for Mechatronics: CLEM. *Future Generation Computer Systems*, *48*, 46–59. <https://doi.org/10.1016/j.future.2014.10.033>
- Chen, C. P., & Zhang, C. Y. (2014). Data-Intensive Applications, Challenges, Techniques and Technologies: A Survey on Big Data. *Information Sciences*, *275*, 314–347. <https://doi.org/10.1016/j.ins.2014.01.015>
- Colorafi, K. J., & Evans, B. (2016). Qualitative Descriptive Methods in Health Science Research. *HERD: Health Environments Research & Design Journal*, *9*(4), 16–25. <https://doi.org/10.1177/1937586715614171>
- Courtney, S. A., Austin, C. K., & Zolfaghari, M. (2023). International Perspectives on Teacher Induction: A Systematic Review. *Teaching and Teacher Education*, *125*, 104047. <https://doi.org/10.1016/j.tate.2023.104047>
- Dinh, H. T., Lee, C., Niyato, D., & Wang, P. (2013). A Survey of Mobile Cloud Computing: Architecture, Applications, and Approaches. *Wireless Communications and Mobile Computing*, *13*(18), 1587–1611. <https://doi.org/10.1002/wcm.1203>
- Engkizar, E., Sarianti, Y., Namira, S., Budiman, S., Susanti, H., & Albizar, A. (2022). Five Methods of Quran Memorization in Tahfidz House of Fastabiqul Khairat Indonesia. *International Journal of Islamic Studies Higher Education*, *1*(1), 54–67. <https://doi.org/10.24036/insight.v1i1.27>
- Fahmi, F. Z., McCann, P., & Koster, S. (2017). Creative Economy Policy In Developing Countries: The Case of Indonesia. *Urban Studies*, *54*(6), 1367–1384. <https://doi.org/10.1177/0042098015620529>
- Idris, M., Ali, N., Hardianto, H., Elihami, E., & Muwaffaq, M. A. (2022). The Use of Collaborative Education-Strategies in Learning Al-QurânTM an and Hadist to Engage All Elementary School Learners. *Jurnal Basicedu*, *6*(5), 9070–9078. <https://doi.org/10.31004/basicedu.v6i5.3130>
- Jaya, I. I., & Putro, S. R. S. (2023). Hubungan Kemampuan Literasi Al Qur'an Dengan Karakter Religius. *El Banar: Jurnal Pendidikan Dan Pengajaran*, *6*(2), 1–11. <https://doi.org/10.54125/elbanar.v6i2.156>
- Jenkins, P. (2015). The World's Fastest Growing Religion: Comparing Christian And Muslim Expansion In The Modern Era. *The Changing World Religion Map: Sacred Places, Identities, Practices and Politics*, 1767–1779. https://doi.org/10.1007/978-94-017-9376-6_93
- Jiang, E., Toh, E., Molina, A., Olson, K., Kayacik, C., Donsbach, A., & Terry, M. (2022). Discovering the Syntax and Strategies of Natural Language Programming with Generative Language Models. *In Proceedings of the 2022 CHI*

- Conference on Human*, 1–19. <https://doi.org/10.1145/3491102.3501870>
- Kapoor, A. P., & Vij, M. (2018). Technology at the Dinner Table: Ordering Food Online Through Mobile Apps. *Journal of Retailing and Consumer Services*, 43, 342–351. <https://doi.org/10.1016/j.jretconser.2018.04.001>
- Khoiriyati, W. R., Harahap, H. N., & Sinaga, R. A. (2021). The Using of the Comic Application as Learning Medium for Islamic Study in Elementary School. *Khalifa: Journal of Islamic Education*, 5(2), 104-129. <http://dx.doi.org/10.24036/kjie.v5i2.126>
- Klieme, E. (2020). Policies and Practices Of Assessment: A Showcase For The Use (and Misuse) of International Large Scale Assessments In Educational Effectiveness Research. *International Perspectives in Educational Effectiveness Research*, 147–181. https://doi.org/10.1007/978-3-030-44810-3_7
- Liu, M., Fang, S., Dong, H., & Xu, C. (2021). Review of Digital Twin About Concepts, Technologies, and Industrial Applications. *Journal of Manufacturing Systems*, 58, 346–361. <https://doi.org/10.1016/j.jmsy.2020.06.017>
- Louw, C., & Nieuwenhuizen, C. (2020). Digitalisation Strategies in A South African Banking Context: A Consumer Services Analysis. *South African Journal of Information Management*, 22(1), 1–8. <https://doi.org/10.4102/sajim.v22i1.1153>
- Marsoof, A., Luco, A., Tan, H., & Joty, S. (2023). Content-filtering AI Systems– Limitations, Challenges and Regulatory Approaches. *Information & Communications Technology Law*, 32(1), 64–101. <https://doi.org/10.1080/13600834.2022.2078395>
- Martzoukou, K., Kostagiolas, P., Lavranos, C., Lauterbach, T., & Fulton, C. (2022). A Study of University Law Students’ Self-perceived Digital Competences. *Journal of Librarianship and Information Science*, 54(4), 751–769. <https://doi.org/10.1177/0961000621104800>
- Menold, J., Jablolkow, K., & Simpson, T. (2017). Prototype for X (PFX): A Holistic Framework for Structuring Prototyping Methods to Support Engineering Design. *Design Studies*, 50, 70–112. <https://doi.org/10.1016/j.destud.2017.03.001>
- Mukhlas, O. S. (2024). Setting the Age Limit for Marriage in India and Pakistan. *Al-Afkar, Journal For Islamic Studies*, 7(1), 788–799. <https://doi.org/10.31943/afkarjournal.v7i1.885>
- Oliveira, R., Montez, C., Boukerche, A., & Wangham, M. S. (2017). Reliable Data Dissemination Protocol for Vanet Traffic Safety Applications. *Ad Hoc Networks*, 63, 30–44. <https://doi.org/10.1016/j.adhoc.2017.05.002>
- Permatasari, A., & Adinugraha, H. H. (2023). Milineal Generation Intention In Investing Sharia-Based Mutual Funds Digital. *Studia Economica: Jurnal Ekonomi Islam*, 1, 37–50. <https://doi.org/10.30821/se.v0i1.15018>
- Radovanović, D., Holst, C., Belur, S. B., Srivastava, R., Hounghonon, G. V., Le Quentrec, E., & Noll, J. (2020). Digital Literacy Key Performance Indicators For Sustainable Development. *Social Inclusion*, 8(2), 151–167. <https://doi.org/10.17645/si.v8i2.2587>
- Rahayu, S., Adel, S., & Burhanuddin, B. (2022). Eight Students’ Courtesies to Teachers Pursuant to Islamic Teaching. *International Journal of Islamic Studies Higher Education*, 1(1), 42–53. <https://doi.org/10.24036/insight.v1i1.95>
- Rahmah, A. (2015). Digital Literacy Learning System for Indonesian Citizen. *Procedia Computer Science*, 72, 94–101. <https://doi.org/10.1016/j.procs.2015.12.109>
- Raihani, R. (2018). Education for Multicultural Citizens In Indonesia: Policies and Practices. *Compare: A Journal of Comparative and International Education*, 48(6), 992–

1009. <https://doi.org/10.1080/03057925.2017.1399250>
- Richey, R. C., & Klein, J. D. (2014). Design and Development Research. *Handbook of Research on Educational Communications and Technology*, 141–150. https://doi.org/10.1007/978-1-4614-3185-5_12
- Ruggiano, N., & Perry, T. E. (2019). Conducting Secondary Analysis of Qualitative Data: Should we, can we, and how? *Qualitative Social Work*, 18(1), 81–97. <https://doi.org/10.1177/1473325017700701>
- Ryan, M. D., Macrossan, P., Wright, S., & Adams, M. (2023). Blockchain and Publishing: Towards A Publisher-Centred Distributed Ledger for the Book Publishing Industry. *Creative Industries Journal*, 16(1), 2–21. <https://doi.org/10.1080/17510694.2021.1939541>
- Safitri, V. A., Sari, L., & Gamayuni, R. R. (2020). Research and Development (R&D), Environmental Investments, to Eco-Efficiency, and Firm Value. *The Indonesian Journal of Accounting Research*, 22(3). <https://doi.org/10.33312/ijar.446>
- Santoso, N. P. L., Durachman, Y., Watini, S., & Millah, S. (2021). Manajemen Kontrol Akses Berbasis Blockchain untuk Pendidikan Online Terdesentralisasi. *Technomedia Journal*, 6(1), 111–123. <https://doi.org/10.33050/tmj.v6i1.1682>
- Schaffer, M. A., Sandau, K. E., & Diedrick, L. (2013). Evidence- Based Practice Models for Organizational Change: Overview and Practical Applications. *Journal of Advanced Nursing*, 69(5), 1197–1209. <https://doi.org/10.1111/j.1365-2648.2012.06122.x>
- Silva, C. S., Cordeiro, E. M., de Paiva, J. B., Dourado, P. M., Carvalho, R. A., Head, G., & Correa, A. S. (2020). Population Expansion and Genomic Adaptation To Agricultural Environments of The Soybean Looper, *Chrysodeixis Includens*. *Evolutionary Applications*, 13(8), 2071–2085. <https://doi.org/10.1111/eva.12966>
- Suryawinata, M. (2019). Buku Ajar Mata Kuliah Pengembangan Aplikasi Berbasis Web. *Umsida Press*, 1–144. <https://doi.org/10.21070/2019/978-602-5914-81-2>
- Szymkowiak, A., Melović, B., Dabić, M., Jeganathan, K., & Kundi, G. S. (2021). Information Technology and Gen Z: The Role of Teachers, the Internet, and Technology in the Education of Young People. *Technology in Society*, 65, 101565. <https://doi.org/10.1016/j.techsoc.2021.101565>
- Tanjung, E. F., Hayati, I., & Hasibuan, M. F. (2022). Application of Al-Quran Learning with the Tartila Method for Junior High School Students in Sibolga. *AL-ISHLAH: Jurnal Pendidikan*, 14(2), 1257–1270. <https://doi.org/10.35445/alishlah.v14i2.1187>
- Vally, S. (2015). The Education Crisis and The Struggle to Achieve Quality Public Education In South Africa. *Education as Change*, 19(2), 151–168. <https://doi.org/10.1080/16823206.2015.1085616>
- Yetti, E. (2024). Pedagogical Innovation and Curricular Adaptation In Enhancing Digital Literacy: A Local Wisdom Approach For Sustainable Development In Indonesia Context. *Journal of Open Innovation: Technology, Market, and Complexity*, 100233. <https://doi.org/10.1016/j.joitmc.2024.100233>

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