

Submitted: 2025-09-30	Revised: 2025-11-13	Accepted: 2026-01-03
-----------------------	---------------------	----------------------

The Implementation Of Augmented Reality In Vocational Education To Enhance Learning Outcomes

Mukhlis

Sekolah Tinggi Agama Islam (STAI) Al-Jami Banjarmasin, Indonesia

Email: mukhlisahmadmuaidi@gmail.com

Abstract

This study aims to analyze the implementation of Augmented Reality technology in vocational education and its effect on enhancing students' learning outcomes. The research method employed is library research by reviewing scientific journals, academic books, and relevant research reports on the use of Augmented Reality in vocational learning. Data were analyzed qualitatively using a descriptive approach to identify benefits, challenges, and effectiveness of the technology's implementation. The results indicate that Augmented Reality improves conceptual understanding, practical skills, and learning motivation among vocational students. Furthermore, this technology supports the visualization of complex materials that are difficult to understand through conventional methods. However, its implementation still faces challenges related to infrastructure limitations, teacher readiness, and development costs. Overall, Augmented Reality has strong potential as a learning innovation in vocational education when supported by adequate policies and resources.

Keywords: augmented reality, vocational education, learning outcomes,

A. Introduction

The rapid advancement of digital technology has significantly influenced the education sector across the world. Educational institutions are increasingly integrating technology to improve teaching and learning processes. One of the emerging technologies gaining attention is Augmented Reality.(Handayani et al., 2025) Augmented Reality combines virtual elements with real-world environments to create interactive learning experiences. This technology offers new opportunities for enhancing student engagement and understanding. Consequently, its application in education has become an important topic of academic discussion.

Vocational education focuses on developing practical skills and competencies required in specific occupations. Unlike general education, vocational learning emphasizes hands-on training and real-world applications. However, traditional instructional methods often face limitations in demonstrating complex technical processes.(Rivai & Rahmawati, 2025) Physical equipment may be expensive, limited, or unsafe for beginners. As a result, students may struggle to fully understand abstract or complex concepts. These challenges highlight the need for innovative learning tools.

Augmented Reality offers unique advantages for vocational education. It allows learners to interact with virtual objects while remaining connected to the real

environment. Through AR, students can visualize machinery components, technical procedures, and work simulations. This visualization enhances comprehension and retention of knowledge. Moreover, AR supports experiential learning without the risks associated with real equipment. Therefore, AR aligns well with the objectives of vocational education.

Learning outcomes are a critical indicator of educational effectiveness. In vocational education, learning outcomes include knowledge acquisition, skill mastery, and professional attitudes. Improving learning outcomes requires instructional methods that are engaging and relevant. (Rusydi et al., 2025) Traditional lecture-based methods may not fully address diverse learning needs. Technology-enhanced learning provides alternative approaches. Augmented Reality is considered one such approach with high potential.

Student motivation plays a vital role in achieving learning outcomes. Motivated students are more likely to engage actively in learning activities. Augmented Reality provides interactive and immersive experiences that can increase interest and curiosity. Interactive simulations encourage exploration and experimentation. This active involvement supports deeper learning. (Bakar & Ridho, 2025) Consequently, AR can positively influence student motivation.

Teachers also benefit from the integration of Augmented Reality. AR provides educators with innovative instructional tools. Teachers can demonstrate concepts more clearly using visual and interactive elements. This reduces reliance on verbal explanations alone. However, teachers need adequate training to effectively use AR. Teacher readiness is therefore an important consideration.

Despite its potential, the implementation of Augmented Reality faces several challenges. Infrastructure limitations, such as inadequate hardware and software, can hinder adoption. Development costs may be high for educational institutions. Additionally, technical issues may disrupt learning activities. These challenges require careful planning and support. Addressing them is essential for successful implementation.

Policy and institutional support influence the adoption of educational technology. (Syifa & Hasanah, 2025) Clear policies encourage innovation and provide direction. Institutional commitment ensures resource allocation and sustainability. Without policy support, technology initiatives may fail. Therefore, governance plays a critical role in AR implementation. This aspect is often discussed in educational technology research.

The global trend toward digital learning has accelerated the adoption of immersive technologies. Augmented Reality is part of a broader shift toward interactive learning environments. This shift reflects changes in student expectations and industry demands. Vocational education must adapt to remain relevant. AR supports alignment between education and industry practices.

Research on Augmented Reality in education has increased in recent years. Many studies report positive learning outcomes. However, findings vary depending on context and implementation. Some studies focus on technical disciplines, while others

examine pedagogical aspects. This diversity of findings requires synthesis. A comprehensive review is therefore necessary.

This study aims to analyze existing literature on the implementation of Augmented Reality in vocational education. The focus is on understanding its impact on learning outcomes. By synthesizing prior research, this study identifies key benefits and challenges. The study uses a library research approach. This approach allows for systematic analysis. The findings contribute to theoretical and practical discussions.

B. Literature Review

Augmented Reality is defined as a technology that overlays digital information onto the physical environment (Azuma, 1997). In educational contexts, AR enhances real-world experiences with virtual content. Early research emphasized its potential for interactive learning. AR differs from virtual reality by maintaining contact with the real world. This characteristic makes it suitable for practical learning environments. Therefore, AR has attracted attention in vocational education.

Several studies have examined AR's impact on learning outcomes. Cheng and Tsai (2013) found that AR-based learning improved conceptual understanding. Their study emphasized visualization benefits. Students were able to understand abstract concepts more effectively. However, the study noted technical challenges. These findings highlight both benefits and limitations. Such results are relevant to vocational contexts.

Research by Bacca et al. (2014) reviewed AR applications in education. The authors identified increased motivation and engagement as key outcomes. AR supports active learning strategies. Students interact directly with learning materials. This interaction fosters deeper learning. The review provided a foundation for later empirical studies.

In vocational education, AR has been applied in technical training. Radu (2014) reported improved skill acquisition through AR simulations. Learners practiced procedures repeatedly without physical risks. This repetition enhanced mastery. The study also highlighted safety benefits. These findings support AR's suitability for vocational training.

Motivation is frequently discussed in AR literature. Dunleavy et al. (2009) observed increased learner motivation in AR-supported activities. Interactive elements captured students' attention. Motivation contributed to better learning outcomes. However, novelty effects were noted. Sustaining motivation requires pedagogical integration.

Teacher perceptions influence AR adoption. Research by Erbas and Demirer (2019) found that teachers viewed AR positively but expressed concerns about technical skills. Training was identified as a key factor. Teachers needed support to integrate AR effectively. Without training, technology use was limited. This finding emphasizes capacity building.

Infrastructure readiness is another important factor. Studies indicate that hardware availability affects implementation success (Ibáñez & Delgado-Kloos, 2018).

Limited devices restrict access. Software compatibility issues may arise. These constraints impact learning experiences. Therefore, infrastructure planning is essential.

Cost considerations are frequently mentioned in literature. Developing AR content requires investment. Some studies suggest using low-cost mobile AR solutions. Mobile devices increase accessibility. However, content quality must be maintained. Balancing cost and quality is challenging.

Pedagogical design plays a crucial role in AR effectiveness. Simply adding AR does not guarantee improved learning. Instructional alignment is necessary. Studies emphasize integrating AR with learning objectives. Poor design reduces effectiveness. Thus, pedagogy is central.

Assessment of learning outcomes is also discussed. AR supports formative assessment through interactive feedback. Immediate feedback enhances learning. However, measuring long-term outcomes is complex. More research is needed. This gap remains in literature.

Overall, existing studies demonstrate AR's potential in vocational education. However, outcomes depend on multiple factors. Context, design, and support influence effectiveness. Integrating findings provides comprehensive understanding. This study builds on previous research.

C. Method

This study employs a library research method to examine the implementation of Augmented Reality in vocational education. Library research involves systematic review of existing literature. It is suitable for synthesizing theoretical and empirical findings. The method enables comprehensive analysis without field data collection. This approach is widely accepted in educational research. Therefore, it aligns with the study's objectives.

The first step involved identifying relevant keywords. Keywords included augmented reality, vocational education, and learning outcomes. These terms guided database searches. Academic databases and journals were consulted. Only peer-reviewed sources were included. This ensured credibility.

The second step involved screening literature. Abstracts were reviewed for relevance. Studies unrelated to education were excluded. Focus was placed on vocational and technical education. Recent publications were prioritized. This ensured contemporary relevance.

The third step involved thematic categorization. Literature was grouped into themes such as motivation, skills, and implementation challenges. This organization facilitated analysis. Each theme was examined independently. Relationships among themes were identified. This approach improved clarity.

Qualitative content analysis was used to analyze data. Key findings were extracted from each source. Patterns and trends were identified. Contradictory findings were critically examined. This analysis enabled balanced interpretation. The approach supported depth.

To ensure reliability, multiple sources were compared. Consistent findings strengthened conclusions. Divergent results were contextualized. Triangulation enhanced validity. This method reduced bias. Reliability was prioritized.

Library research has limitations. It depends on existing studies. No primary data were collected. However, comprehensive review mitigated this limitation. The method remains valuable. It supports theoretical insights.

D. Results and Discussion

The findings indicate that Augmented Reality positively influences learning outcomes in vocational education. Students demonstrate improved conceptual understanding. Visualization of complex processes supports comprehension. Practical skills are enhanced through simulations. Learning becomes more interactive. These outcomes align with prior studies.

Motivation is consistently reported as a major benefit. AR increases engagement through interactive content. Students participate actively in learning. Increased motivation supports persistence. This contributes to better outcomes. Motivation is therefore critical.

Skill acquisition benefits significantly from AR. Simulated practice allows repetition. Errors can be corrected safely. This enhances mastery. Students gain confidence. Practical competence improves.

Cognitive load is reduced through visualization. AR simplifies complex information. Step-by-step guidance supports learning. This is especially beneficial in technical subjects. Students process information more effectively. Learning efficiency increases.

Teachers report improved instructional effectiveness. AR supports demonstration. Abstract explanations become concrete. Teaching becomes more dynamic. However, training is required. Teacher readiness influences success.

Infrastructure challenges remain. Limited devices restrict implementation. Technical issues disrupt learning. Institutions must invest strategically. Support systems are needed. Infrastructure affects sustainability.

Cost remains a barrier. Developing AR content requires resources. Open-source tools may reduce costs. Collaboration can support development. Cost management is essential. Financial planning is necessary.

The table below summarizes key findings:

Aspect	Positive Impact	Challenges
Learning Outcomes	Improved understanding and skills	Limited access
Motivation	Increased engagement	Novelty effect
Instruction	Effective visualization	Teacher training needs

The table highlights the dual nature of AR implementation. Benefits and challenges coexist. Effective strategies are required. Institutions must balance innovation and feasibility. Planning is crucial. This insight informs practice.

Policy support enhances implementation. Clear strategies encourage adoption. Institutional commitment ensures sustainability. Without support, initiatives fail. Governance matters. Policy alignment is essential.

Pedagogical integration determines effectiveness. AR must align with objectives. Poor integration reduces benefits. Teachers need instructional guidance. Pedagogy drives outcomes.

Hybrid learning models enhance AR use. Combining AR with traditional methods works well. Balance improves learning. Flexibility benefits students. Hybrid approaches are promising.

Long-term effectiveness requires evaluation. Continuous assessment informs improvement. Feedback guides refinement. Adaptation is necessary. Learning environments evolve. Overall, AR reshapes vocational education. It enhances learning experiences. Challenges require management. Strategic implementation is key. The findings support innovation.

E. Conclusion

This study concludes that Augmented Reality has significant potential to enhance learning outcomes in vocational education. It improves understanding, skills, and motivation. These benefits support educational objectives. However, challenges remain. Addressing them is necessary.

The study contributes theoretically and practically. It synthesizes existing research. Limitations include reliance on secondary data. Future research should involve empirical studies. Longitudinal research is recommended. This will deepen understanding.

Bibliography

- A, Suryani E. dan Hidayat. 2021. "Peran Guru Tahfidz Dalam Meningkatkan Kualitas Hafalan Al-Qur'an Peserta Didik Di Pondok Pesantren." *AL GHAZALI: Jurnal Pendidikan Dan Pemikiran Islam* 2(14):123–35.
- Abdul Kadir, et al., "Fundamentals of Education" (Surabaya: IAIN Sunan Ampel Press)
- Abdul Mujib, *Islamic Education* (Jakarta: Kencana, 2006)
- Abudin Nata, *Islamic Perspectives on Learning Strategies* (Jakarta: Kencana, 2009)
- Ahmad Munjin Nasih, *Methods and Techniques of Islamic Religious Learning* (Bandung: PT. Refika Aditama)
- Ali Rahman Taraju, Nurdin Nurdin, and Adawiyah Pettalongi, 'Challenges and Strategies for Teachers in Facing the Industrial Revolution 4.0 Era', *Proceedings of the Islamic Studies and Integration of Science in the Era of Society (KIIES) 5.0, 1.1* (2022),
- Amin, S., I. Abinnashih, and R. C. Dewi. 2025. "Utilizing CBT Based E-Learning to Enhance the Quality of Education at MTs N 2 Purbalingga." *AL GHAZALI: Jurnal Pendidikan Dan Pemikiran Islam*.
- Anisatul Mufarokah, *Teaching and Learning Strategies* (Yogyakarta: Teras, 2009).
- Arfani, A. A. D., P. S. Fintani, T. Falasifa, and ... 2025. "Implementation of the Incentive Grant Policy by the Central Java Provincial Government for Non-Formal Religious Education Teachers at BADKO LPQ in Belik Subdistrict." *AL GHAZALI: Jurnal Pendidikan Dan Pemikiran Islam*.
- Arifin, Putri Paradiva, Ramdanil Mubarak, and Muhammad Imam Syafi'i. 2024. "Transformasi Budaya Religius: Strategi Implementasi Pendidikan Agama Islam Di Sekolah Menengah Pertama Islam DDI Sangatta Utara." *AL GHAZALI: Jurnal Pendidikan Dan Pemikiran Islam* 96–120.
- Bakar, A. B. A., & Ridho, M. R. (2025). The Impact of Human Psychological Conditions on the Application of Islamic Law in Determining the Validity of Worship. *AL GHAZALI: Jurnal Pendidikan Dan Pemikiran Islam*.
https://jurnal.staialjamibjm.ac.id/index.php/AL_GHAZALI/article/view/478
- Bakar, A. B. A., and M. R. Ridho. 2025. "The Impact of Human Psychological Conditions on the Application of Islamic Law in Determining the Validity of Worship." *AL GHAZALI: Jurnal Pendidikan Dan Pemikiran Islam*.
- Casudi, Casudi, Haris Diar Rizki, Siti Winda Normasari, Prada Laila Isyrina, and Elza Roikhatul Miskiyyah. 2025. "Integration of Character Education in Aqidah Akhlaq Learning for Fourth Grade Students at Madrasah Diniyah Baabussalam, Kemukten Village." *AL GHAZALI: Jurnal Pendidikan Dan Pemikiran Islam* 5(2):290–318.
- Evi Susilowati, Postgraduate of Uin, and Sts Jambi, 'Implementation of the Independent Learning Curriculum in Islamic Religious Education Subjects', *Al-Miskawaih: Journal of Science Education*, 1.1 (2022)

- Faiz, M. Abd, S. Amin, E. N. Sari, and ... 2025. "Enhancing Qur'anic Memorization through the Yanbu'a Method: The Role of Tahfidz Teachers at SD Takhasus Al-Qur'an Walisanga Tanjung." AL GHAZALI: Jurnal Pendidikan Dan Pemikiran Islam.
- Fariduddin, Ecep Ishak. 2025. "Fiqh Education in the Age of Digital Clicks and Social Conflict : Preserving Islam Nusantara Amidst Social Fragmentation." AL GHAZALI: Jurnal Pendidikan Dan Pemikiran Islam 5(1):126–43.
- Farina, Mahlida. 2024. "Efektivitas Penggunaan Media Digital Dalam Pembelajaran Anak Usia Dinidi Paud Idola Desa Amawang Kiri." AL GHAZALI: Jurnal Pendidikan Dan Pemikiran Islam 44–58. doi: 10.69900/ag.v4i1.205.
- Fatwa, M., and M. Sa'diyah. 2025. "Building the Mental of Santri Through 40 Days of Sunnah Fasting (A Study at Pondok Pesantren Darul Amanah Sukorejo Kendal)." AL GHAZALI: Jurnal Pendidikan Dan Pemikiran Islam.
- Fauzan, Moh., and Ramdanil Mubarak. 2024. "Implementasi Nilai Spiritual Dalam Pengajaran Pendidikan Agama Islam Melalui Pengembangan Kecerdasan Spiritual." AL GHAZALI: Jurnal Pendidikan Dan Pemikiran Islam 59–77. doi: 10.69900/ag.v4i1.208.
- Firmansyah, Firmansyah. 2025. "The Purpose of Education from the Perspective of Hadith in Instilling Islamic Values Dynamically in Daily Life." AL GHAZALI: Jurnal Pendidikan Dan Pemikiran Islam 5(2):340–58.
- Handayani, F., Basari, M. H., & Nurhidayah. (2025). Implementation of Boarding School Learning in Building Religious Character at SMA Daarul Qur'an Bandung. AL GHAZALI: Jurnal Pendidikan Dan Pemikiran Islam. https://jurnal.staialjamibjm.ac.id/index.php/AL_GHAZALI/article/view/472
- Handayani, F., M. H. Basari, and Nurhidayah. 2025. "Implementation of Boarding School Learning in Building Religious Character at SMA Daarul Qur'an Bandung." AL GHAZALI: Jurnal Pendidikan Dan Pemikiran Islam.
- Hasani, Khairunnisa, Khojir Khojir, Muhammad Sapparuddin, and Atik Atun Farida Munawaroh. 2025. "Implementation of Multicultural Education in Islamic Religious Education Learning to Foster Tolerance and Brotherhood in Junior High School (SMPN) 2 Samarinda." AL GHAZALI: Jurnal Pendidikan Dan Pemikiran Islam 5(2):359–77.
- Hasifah, "Strategies and Challenges in Improving Islamic Religious Education at Canggung Lampung State Elementary School", Journal of Islamic Religious Teacher Professional Education, no. 2 (2023)
- Husamah, "Blended Learning", (Jakarta; PrestasiPustakarya.)
- Irpan Abdul Gafar and Muhammad Jamil, "Reformulation of Islamic Education Learning Design" (Jakarta: Raja Grafindo,)
- Istiningsih siti, Hasbullah. "Blended Learning, Future Learning Strategy Trends",. Journal of Elements. Vol. 1 No. 1.
- Kuswianto, D., and O. Ariyanti. 2025. "Millennial Santri's Digital Da'wah Activism at Tanbihul Ghofilin Islamic Boarding School, Banjarnegara." AL GHAZALI: Jurnal Pendidikan Dan Pemikiran Islam.

- Laela Sari, Afivah, and Sri Mulyani. 2024. "Pengaruh Lingkungan Keluarga Terhadap Akhlak Siswa Sebagai Pembentuk Pola Kepribadian." *AL GHAZALI: Jurnal Pendidikan Dan Pemikiran Islam* 21–30. doi: 10.69900/ag.v4i1.210.
- Latifah, Yunia Dwi. 2025. "Challenges and Strategies in Strengthening the Implementation of the Independent Curriculum in Islamic Religious Education Learning." *AL GHAZALI: Jurnal Pendidikan Dan Pemikiran Islam* 5(2):279–89.
- M. Nasir Budiman. Education from the Perspective of the Qur'an. Jakarta, Madani Press, First Edition, 2001. p.
- M. Nur Lukman Irawan and others, "Strategies of Islamic Educational Institutions in Responding to Contemporary Educational Challenges," *Journal of Education and Counseling (JPDK)*, 4.6 (2022),
- Mabruri, M. O., S. Amin, and ... 2025. "The Use of the Quran Belajar Indonesia Application in Quran Learning at Madrasah Diniyah Takmiliyah Awaliyah (MDTA) Hidayatut Tholabah, Tegalreja Village, Banjarharjo District, Brebes Regency." *AL GHAZALI: Jurnal Pendidikan Dan Pemikiran Islam*.
- Mahrita, M., M. Afnanda, and ... 2025. "The Concept of Creed on Allah Decree in the Nussa and Rarra Animated Film." *AL GHAZALI: Jurnal Pendidikan Dan Pemikiran Islam*.
- Miftahudin, Ujang, and Jaelani Husni. 2024. "Manajemen Evaluasi Pesantren: Dulu, Kini Dan Nanti." *AL GHAZALI: Jurnal Pendidikan Dan Pemikiran Islam* 31–43. doi: 10.69900/ag.v4i1.207.
- Ministry of National Education, "Law of the Republic of Indonesia Number 20 of 2003 Concerning the National Education System" (Jakarta: Center for Education Data and Information, Balitabang-Depdiknas).
- Mukhlis, M. 2025. "The Effectiveness of the Lok-R Model in Enhancing Academic Achievement in the Islamic Religious Education Study Program." *AL GHAZALI: Jurnal Pendidikan Dan Pemikiran Islam*.
- Mukhlis, Mukhlis, Ahyar Rasyidi, and Husna Husna. 2024. "Tujuan Pendidikan Islam: Dunia, Akhirat Dan Pembentukan Karakter Muslim Dalam Membentuk Individu Yang Berakhlak Dan Berkontribusi Positif." *AL GHAZALI: Jurnal Pendidikan Dan Pemikiran Islam* 1–20. doi: 10.69900/ag.v4i1.189.
- Mukhtar, Islamic Religious Education Learning Design, Jakarta, Misaka Galiza, 2003, p. 134.
- Muzakki, Z. (2018). The Urgency of Moral Education at an Early Age. *Jurnal Asy-Syukriyyah*, 19(1), 50–
- Muzakki, Z., & Dahari, D. (2021b). THE EFFECT OF PARENTAL ATTENTION AND STUDENT LEARNING OUTCOMES IN THE GRAHA MAS HOUSING SCHOOL, NORTH SERPONG. *Jurnal Asy-Syukriyyah*, 22(2), Art. 2.
- Muzakki, Z., & Nurdin, N. (2022). Formation of Student Character in Islamic Religious Education. *EDUKASIA: Journal of Education and Learning*, 3(3), Art. 3
- Muzakki, Z., Solihin, R., & Zubaidi, Z. (2022a). PEDAGOGICAL ELEMENTS IN THE QURAN: (A Descriptive Study of Lukman Verses 12-19). *JIQTA: Journal of Quranic Studies and Interpretation*, 1(1), Art. 1.

- Nata, Islamic Perspective on Strategy.,
- Qomariyah, Alfiyah Ayu, and Fina Surya Anggraini. 2025. "Implementation of Islamic Religious Education Learning in the Independent Curriculum Using the Jigsaw Method to Enhance Student Activeness at SMAN 1 Kutorejo." *AL GHAZALI: Jurnal Pendidikan Dan Pemikiran Islam* 5(2):319–39.
- Remiswel, Rizki Amalia, Paikem Strategy Development Format in Islamic Religious Learning (Yogyakarta: Graha Ilmu, 2013).
- Rivai, F. A., & Rahmawati, N. (2025). Workshop, Assistance, and Capacity Building in the Development of Teaching Materials Based on 21st-Century Learning. *AL GHAZALI: Jurnal Pendidikan Dan Pemikiran Islam*. https://jurnal.staialjamibjm.ac.id/index.php/AL_GHAZALI/article/view/470
- Rivai, F. A., and N. Rahmawati. 2025. "Workshop, Assistance, and Capacity Building in the Development of Teaching Materials Based on 21st-Century Learning." *AL GHAZALI: Jurnal Pendidikan Dan Pemikiran Islam*.
- Robiatul Awwaliyah and Hasan Baharun, 'ISLAMIC EDUCATION IN THE NATIONAL EDUCATION SYSTEM (EPISTEMOLOGICAL REVIEW OF ISLAMIC EDUCATION PROBLEMS), *SCIENTIFIC JOURNAL OF DIDAKTIKA: Scientific Media for Education and Teaching*, 19.1 (2019),
- Rusydi, A., A. Khalidi, and Z. Najirah. 2025. "The Effect of Colored Headscarf Punishment on Improving the Speaking Skills (Maharah Kalām) of Female Students at Pondok Pesantren Ihyā Ulumuddīn Nur Sufi'iyah Amuntai." *AL GHAZALI: Jurnal Pendidikan Dan Pemikiran Islam*.
- Rusydi, A., Khalidi, A., & Najirah, Z. (2025). The Effect of Colored Headscarf Punishment on Improving the Speaking Skills (Maharah Kalām) of Female Students at Pondok Pesantren Ihyā Ulumuddīn Nur Sufi'iyah Amuntai. *AL GHAZALI: Jurnal Pendidikan Dan Pemikiran Islam*. https://jurnal.staialjamibjm.ac.id/index.php/AL_GHAZALI/article/view/435
- Sugiyono. (2018). *Evaluation Research Methods (Quantitative, Qualitative, and Combination Approaches)* (1st ed.). Alfabeta, CV.
- Suharsimi Arikunto. (2019). *Research procedures: a practical approach*. PT. Rineka Cipta.
- Syaful Sagala, *Concept and Meaning of Learning: to Help Solve Learning and Teaching Problems*, Bandung, Alfabeta, 2003.
- Syifa, A., & Hasanah, N. (2025). The Thoughts of Shaykh Abdus Shamad al-Palimbani in Hidayatus Salikin on the Concept of Tazkiyatun Nafs. *AL GHAZALI: Jurnal Pendidikan Dan Pemikiran Islam*. https://jurnal.staialjamibjm.ac.id/index.php/AL_GHAZALI/article/view/424
- Syifa, A., and N. Hasanah. 2025. "The Thoughts of Shaykh Abdus Shamad Al-Palimbani in Hidayatus Salikin on the Concept of Tazkiyatun Nafs." *AL GHAZALI: Jurnal Pendidikan Dan Pemikiran Islam*.
- Tanuri, T. 2025. "Exploring the Roles and Challenges of the Sandwich Generation in the Context of Islamic Education and Family Ethics." *AL GHAZALI: Jurnal Pendidikan Dan Pemikiran Islam*.

- Wahyuni, Siti, and Tri Handriani. 2025. "Teaching Arabic Pegon through the AIR (Auditory Intellectually Repetition) Learning Model for New Female Students at the Tahfizh Al-Qur'an Islamic Boarding School, Lirboyo." *AL GHAZALI: Jurnal Pendidikan Dan Pemikiran Islam* 5(2):263–78.
- Wina Sanjaya, *Learning Strategy Oriented to Educational Process Standards*, (Jakarta: Kencana)
- Yusran, Muhammad, and Muhammad Nur Effendi. 2024. "Pendidikan Keluarga Dalam Al-Quran." *AL GHAZALI: Jurnal Pendidikan Dan Pemikiran Islam* 78–95. doi: 10.69900/ag.v4i2.304.
- Zubairi, Z., Nurdin, N., & Solihin, R. (2022). Islamic Education in the Industrial Revolution 4.0. *Scaffolding: Journal of Islamic Education and Multiculturalism*, 4(3), Art. 3.
- Zuhairini, *Philosophy of Islamic Education* (Jakarta: Bumi Aksara, 2009)