

Recontextualization of Connectivism Theory in Digital Learning Transformation at Imam Syafi'i Tapan Tulungagung Junior High School

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ABSTRACT

The transformation of digital learning has driven a paradigm shift in education from information-delivery-oriented instruction toward learning models based on networking, connectivity, and digital knowledge management. In the context of Islamic education, this transformation is not merely concerned with technology adoption but also involves how digital innovation is integrated with institutional culture and the educational values embraced by schools. This study aims to analyze the recontextualization of George Siemens' Connectivism Theory in explaining digital learning transformation and to explore the adaptation of Connectivism principles within digital learning practices at SMP Imam Syafi'i Tapan Tulungagung. This research employed an interpretive qualitative approach with a case study design. Data were collected through observations, in-depth interviews, and documentation involving the school principal, teachers, and students as research participants. Data analysis was conducted through interactive stages of data condensation, data display, and conclusion drawing. The findings reveal that the recontextualization of Connectivism occurs through a transformation of learning paradigms, a shift in the teacher's role as a knowledge facilitator, increased student autonomy, and the development of a digital network-based learning ecosystem. Connectivism principles are adapted through the utilization of diverse digital learning resources, technology-supported collaboration, and the strengthening of students' information literacy. This study concludes that digital learning transformation in Islamic schools requires the integration of technological innovation, institutional management strategies, and Islamic educational values. The contribution of this research lies in developing a contextual perspective on the adaptation of Connectivism within Islamic education as a foundation for strengthening sustainable and meaningful digital learning cultures.

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1. INTRODUCTION

Digital transformation in education has become one of the strategic issues in the development of contemporary education science. Changes in the learning ecosystem due to the development of

information technology, artificial intelligence, digital networks, and connectivity-based learning cultures have driven a paradigm shift from knowledge-centered learning to learning that emphasizes the ability to access, manage, evaluate, and build knowledge through networks. In this context, education no longer takes place only in formal classrooms, but develops through various digital spaces that allow interaction between learners, educators, learning resources, communities, and technology. Theory Connectivism Introduced by (Dziubaniuk et al., 2023; Siemens, 2005) It is one of the theoretical perspectives that explains that the learning process in the digital era occurs through the formation of knowledge networks, the ability to recognize relevant information, and the maintenance of connections that allow individuals to continue learning in a dynamic environment. However, the implementation of theory Connectivism In educational practice, we still face contextual problems, especially in educational institutions based on religious values that have distinctive cultural characteristics, educational vision, and learning orientation. The transformation of digital learning in Islamic schools is not only related to the adoption of technology, but also concerns how technology is interpreted, negotiated, and integrated with institutional values. Therefore, the study of theoretical recontextualization Connectivism it becomes important to understand how the concept of network-based learning can be applied in a relevant way in the context of secondary Islamic education.

A number of previous studies have shown that the theory Connectivism has a significant contribution in explaining the changing character of learning in the digital era. Research (Dziubaniuk et al., 2023) shows that Connectivism provides a conceptual framework for understanding learning as the process of building connections between individuals and digital information resources, learning communities, and the technological environment. Furthermore, research (Dennis, 2020) emphasizing that digital learning requires network literacy skills, which are the ability of individuals to create, develop, and maintain knowledge relationships through various digital platforms. In the context of formal education, several studies have found that the application of the principle of Connectivism through online learning, blended learning, and the use of the Learning Management System (LMS) can increase students' learning independence, collaboration, and critical thinking skills (Dupl  a et al., 2023). In Indonesia, various studies on the digital transformation of education also show that technological integration has opened up opportunities for learning innovation, but still faces challenges in the form of teacher readiness, school culture, digital competence, and technology access gap (Wohlfart & Wagner, 2021). Research on Islamic educational institutions shows that the digitalization of learning is beginning to develop through the use of digital media, learning platforms, and online learning resources, but most studies still focus on aspects of technology use or media effectiveness, not on how digital learning theories are constructed and interpreted in the context of Islamic institutions.

Although the study of digital learning and the theory of Connectivism continues to develop, there are still research gaps that need to be studied more deeply. Most previous research tends to see Connectivism as a universal concept applied in the general education environment, while aspects of recontextualization of the theory in certain social, cultural, and institutional value contexts are still relatively limited. Previous research has also placed more emphasis on measuring the effectiveness of digital technology use, digital literacy levels, or student learning outcomes, but has not revealed much how educational actors such as principals, teachers, and students understand, adapt, and give meaning to network-based learning. In addition, the context of secondary Islamic schools has not been explored much, even though these educational institutions have unique dynamics in integrating technological developments with scientific traditions, religious values, and Islamic educational goals. Therefore, research is needed that not only tests the application of technology, but examines the social and pedagogical processes in transforming the principles of Connectivism to suit the characteristics of a particular educational environment.

This research offers novelty through the approach of recontextualizing the theory of Connectivism in the Islamic education environment at the junior high school level, with a focus on how the concept of connectivity-based learning is translated into digital learning practices that are in accordance with the institutional culture of Imam Syafi'i Tapan Tulungagung Junior High School. The novelty of this research lies in the effort to construct an understanding that Connectivism is not just a technology-based learning theory, but as a conceptual framework that can be adapted based on values, pedagogical practices, and the character of the learning community. Operationally, this study examines how schools

build a digital learning ecosystem, how teachers develop network-based learning strategies, how students experience changes in learning patterns, and how Islamic values interact with digital learning practices. Thus, this research is expected to make a conceptual contribution in the form of a new model of meaning to Connectivism in the context of Islamic education, as well as make a practical contribution to the development of digital transformation strategies that maintain the institutional identity of schools.

Based on this background, this study aims to analyze the process of recontextualization of Connectivism theory in the transformation of digital learning at Imam Syafi'i Tapan Tulungagung Junior High School. This research is specifically directed to understand how the main concept of Connectivism is interpreted in digital learning practice, how connectivity based learning implementation strategies and patterns are developed by school residents, and how the experiences and social constructions of teachers and students towards changes in learning paradigms in the digital era.

2. METHODS

This study uses an interpretive qualitative approach with a case study type to understand in depth the process of recontextualizing the Theory Connectivism George Siemens in the transformation of digital learning at Imam Syafi'i Tapan Tulungagung Junior High School. The qualitative approach was chosen because this research is oriented towards the disclosure of meanings, experiences, practices, and social constructions built by educational actors in a natural context. Qualitative research allows researchers to understand educational phenomena holistically through the perspective of participants, not just measuring the relationships between variables (Creswell & Poth, 2018). Meanwhile, the case study design was used because the research focused on an in-depth exploration of a contemporary phenomenon in a specific institutional context, i.e. how connectivity-based learning theories are interpreted and implemented in the middle school environment (Yin, 2018). Through this design, the research seeks to uncover the relationship between theoretical concepts Connectivism, digital learning practices, school culture, and Islamic education values that develop within the Imam Syafi'i Tapan Tulungagung Junior High School.

This research was carried out at Imam Syafi'i Junior High School located in Tapan Village, Tulungagung Regency, East Java. The selection of the research location was based on the consideration that the school is a context of Islamic education that is undergoing a process of learning transformation through the use of digital technology. The institutional context of Islamic schools is an important aspect in this study because the implementation of educational technology is not only related to technical aspects, but also related to values, organizational culture, educational orientation, and pedagogical practices that develop in the school environment. In the context of this research, digital learning transformation is understood as a process of changing learning patterns that involve the use of technology, digital learning resources, network-based interactions, and changes in the role of teachers and students in building knowledge.

The research subjects or research informants consist of principals, teachers, and students of Imam Syafi'i Tapan Tulungagung Junior High School who are directly involved in digital learning practices. The selection of informants is carried out using the purposive sampling technique, which is the determination of informants based on certain considerations in accordance with the needs and focus of the research (Merriam & Tisdell, 2016). The principal was chosen because he has a strategic role in determining digital transformation policies and the development of the school's academic culture. Teachers are chosen because they have direct experience in designing and implementing technology-based learning, while students are chosen to understand learning experiences, digital interactions, and changes in knowledge acquisition patterns through a network-based learning environment. The object of the research is the process of recontextualizing Theory Connectivism George Siemens in the practice of digital learning transformation at Imam Syafi'i Tapan Tulungagung Junior High School, including the meaning of the concept of connectivity, digital learning implementation strategies, and the experience of school residents in building a network-based learning culture.

Data collection was carried out through participatory observation, in-depth interviews, and documentation studies. Participatory observations were carried out to obtain an overview of digital learning practices, the use of technology in teaching and learning activities, interaction patterns between

teachers and students, and the developing digital environment in schools. In-depth interviews were conducted in a semi-structured manner with informants to explore their experiences, views, strategies, and meanings of digital learning transformation. Documentation was used to complete research data in the form of school policy documents, learning tools, digital media used, archives of learning activities, and other relevant documents. In qualitative research, researchers play the role of human instruments that function in collecting, interpreting, and analyzing data, supported by accompanying instruments in the form of interview guidelines, observation guidelines, documentation sheets, and field notes (Creswell & Poth, 2018)

The research procedure is carried out through several stages, namely the preparation stage, the field data collection stage, the data analysis stage, and the research results preparation stage. The preparation stage is carried out by identifying the research focus, compiling research instruments, and obtaining research permits from the institution. The data collection stage is carried out directly at the research location through interaction with informants and observation of digital learning practices. Furthermore, the data obtained is analyzed in stages to find patterns, categories, and themes related to the recontextualization of the Connectivism theory.

Data analysis uses the interactive model of Miles, Huberman, and Saldaña which includes three main stages, namely data condensation, data presentation, and drawing conclusions or verification. (Miles et al., 2014). At the data condensation stage, the researcher selects, focuses, coding, and organizes data from interviews, observations, and documentation. Furthermore, the data is presented in the form of a thematic narrative to find the relationship between the concepts Connectivism with the practice of digital learning transformation. The final stage is carried out through the interpretation and verification of findings based on empirical evidence obtained during the research.

The validity of the data in this study is guaranteed through the application of source triangulation, technique triangulation, member checking, and trail audit. Source triangulation is carried out by comparing information from school principals, teachers, and students, while technical triangulation is carried out by comparing the results of observations, interviews, and documentation. Member checking is carried out by confirming the results of the researcher's interpretation to the informant to ensure the suitability of the meaning of the data obtained. Trail audit is carried out through the systematic recording of all research processes so that the research process can be traced and accounted for (Lincoln & Guba, 1985)

The ethical aspects of research are considered through the application of the principles of informed consent, informant anonymity, data confidentiality, and responsible use of research data. Before the data collection process is carried out, the researcher asks for consent from the school and the informant regarding their involvement in the research. The identity of the informant is kept confidential and the data obtained is only used for academic purposes. By paying attention to the principles of research ethics, this study seeks to produce credible findings while respecting the rights and interests of all research participants.

3. RESULTS AND DISCUSSION

3.1.1. Recontextualization of Learning through Learning Paradigm Change

The first findings show a change in learning patterns from a teacher-oriented approach to more student-centered learning. The principal explained that technological developments have encouraged changes in the learning process because students have greater opportunities to seek, discover, and develop knowledge independently. According to the Principal, "there has been a change from learning that was previously more teacher-centered to more student-centered learning" (KS, interview, 2026).

These changes can also be seen in the shift in the role of teachers in the learning process. Teachers no longer only function as the main conveyor of information, but also as directors and facilitators who help students understand and evaluate information obtained from various digital sources. Subject teachers said that information is currently widely available through the internet, so the role of teachers is more directed to guide students in understanding and assessing the quality of the information (G2, interview, 2026).

On the student side, this paradigm shift can be seen from the increase in independent learning initiatives. Students begin to utilize various digital resources when facing learning difficulties. One

student said that when he does not understand the material, he can look for additional explanations through the internet or learning videos (S4, interview, 2026). These findings show that the learning process no longer only takes place through direct interaction with teachers, but develops through relationships between students, technology, and various sources of knowledge.

3.1.2. Establishment of a Network-Based Digital Learning Ecosystem

The second theme shows that schools build a digital learning ecosystem through policy support, technology facilities, and teacher competency development. The principal explained that digital transformation is carried out due to changes in the character of students who are getting closer to technology as well as the need to provide a learning experience that does not only rely on textbooks, but also utilizes available digital resources (KS, interview, 2026).

The implementation of the policy is carried out through the provision of technology facilities, school internet access, the use of digital learning applications, and training for teachers. The principal said that schools provide support through policies on the use of digital media, improving teacher competence, providing technology facilities, and encouraging learning innovation (KS, interview, 2026).

The results of the observation showed that teachers had used digital media as a learning support, while students were directed to use various sources of information in learning activities. Learning documentation also showed the use of digital media in teaching modules, teaching materials equipped with online resources, and learning activities that utilized digital devices. The findings show that technology has become part of the school learning environment, not just an additional instrument in the learning process.

3.1.3. Adaptation of Connectivism Principles in Digital Learning Practices

The third theme shows that the principle of connection-based learning is applied through students' activities in accessing, connecting, and processing various digital information sources. The teacher directs students not only to use one learning source, but to look for several references and then compile an understanding based on the information obtained. The subject teacher said that students are directed to look for several references and make conclusions based on these various information (G2, interview, 2026).

The digital learning resources used include learning videos, educational websites, e-books, Google Classroom, and various other digital resources (G1, interview, 2026). Learning activities are also developed through group discussions using digital platforms, material sharing, presentation of information search results, and technology-based projects.

From the perspective of students, the use of technology provides a more interesting and flexible learning experience. Students stated that learning using technology became easier to understand because there were videos, images, and additional resources that helped understand the material (S1, interview, 2026). Students also use the internet as an additional resource when there is material that is not yet understood (S1, interview, 2026).

3.1.4. Digital Literacy and Learning Transformation Strengthening Strategies

The last theme shows that digital learning transformation is not only related to the ability to use technology, but also the ability to select, evaluate, and use information appropriately. The principal emphasized that schools pay attention to digital literacy by teaching students to choose trusted sources, compare information, and use technology responsibly (KS, interview, 2026).

Teachers also provide assistance so that students are able to evaluate the credibility of digital information. One of the teachers said that students were directed to look at the credibility of the source, compare some information, and not directly accept all information found on the internet (G1, interview, 2026).

However, the study found several obstacles in the implementation of digital learning, especially related to differences in students' technological abilities, network limitations, and the readiness of human resources. Teachers mentioned that students' different technological abilities and network limitations are challenges in digital learning (G2, interview, 2026). To overcome this, schools conduct training, share good practices between teachers, mentor students, and combine digital learning with conventional methods.

Overall, the results of the study show that the recontextualization of Connectivism Theory at Imam Syafi'i Tapan Tulungagung Junior High School takes place through the process of adapting connection-

based learning into the context of Islamic schools. This process can be seen through changes in the roles of teachers and students, the formation of a digital learning ecosystem, the use of various knowledge sources, and the development of digital literacy as part of the learning experience of students.

3.2. Discussion

The findings of the study show that the recontextualization of the Connectivism Theory at Imam Syafi'i Tapan Tulungagung Junior High School does not take place through the application of the concept of digitalization mechanically, but through an adaptation process that involves changing the learning paradigm, restructuring the role of educational actors, and forming a network-based learning culture. In this context, digital transformation is understood as a change in the educational ecosystem that affects the way schools manage knowledge, develop learning strategies, and build relationships between teachers, students, and digital learning resources. The findings show that the main concept of Connectivism regarding learning as a process of connecting has expanded its meaning when applied in the Islamic school environment, because connectivity is not only related to human relations and technology, but also to the values, institutional culture, and educational orientation embraced by the school.

The results of the study show that the shift in learning from teacher-centered to student-centered reinforces the idea (Siemens, 2005) that the characteristics of learning in the digital era have changed from the process of acquiring knowledge to the ability to manage knowledge networks. In this study, this change can be seen from the shift in the position of teachers who were previously dominant as a source of information to become facilitators who help students find, evaluate, and connect various sources of knowledge. This finding is in line with the study (Dziubaniuk et al., 2023) which explains that Connectivism It offers a new perspective on the role of educators in the digital environment, that is, not as the only knowledge center, but as a guide to the process of forming learning networks.

However, this study expands this understanding by showing that changing the role of teachers in Islamic schools does not mean reducing the position of teachers as authoritative figures. In contrast to some digital learning discourses that place technology as a substitute for teacher dominance, the context of Imam Syafi'i Tapan Tulungagung Junior High School shows that technology actually strengthens the pedagogical function of teachers. Teachers remain important actors in providing knowledge validation, directing information use ethics, and building meaning for the digital resources used by students. Thus, the recontextualization of Connectivism in this context results in a form of adaptation that does not completely replace previous learning patterns, but integrates the relationship between teacher authority and student independence.

The findings of the study also show that the practice of digital learning in Imam Syafi'i Junior High School is developing through the establishment of a network-based learning ecosystem. The use of various digital sources such as learning videos, educational websites, e-books, and learning platforms shows that knowledge sources are no longer single, but spread across various information networks. This condition supports the view (Dennis, 2020) that digital learning requires the ability to build and maintain connections as part of modern learning competencies. In the context of this research, these connections are not only formed between students and technology, but also through relationships between students and teachers, peers, and various digital information sources.

The findings reinforce previous research that showed that technology-based learning can improve learning flexibility and expand access to knowledge sources (Pettersson, 2021). However, this study makes an additional contribution by showing that the success of digital transformation is not only determined by the availability of technology, but also by the ability of institutions to manage changes in learning culture. From the perspective of Islamic education management, digital transformation requires educational leadership that is able to integrate technological innovation with institutional values and goals. School principals in this study do not only play the role of technology policymakers, but also as leaders of organizational culture change through the provision of facilities, teacher competency development, and the creation of learning innovation spaces.

This perspective shows the interconnectedness between Connectivism and Islamic education management. In Islamic education management, the success of educational change is measured not only through the efficiency of resource use, but also through the institution's ability to maintain a balance between innovation and educational values. Studies on transformational leadership in education show

that technological change requires leaders who are able to build a shared vision, increase the capacity of organizational members, and create an adaptive culture (Corbett & Spinello, 2020). The findings of this study show that digital transformation at Imam Syafi'i Junior High School runs through this mechanism, namely when technology policies are followed by strengthening teacher capacity and assisting students.

In addition to technological and organizational aspects, this study found that digital literacy is an important element in the recontextualization of Connectivism. Students' ability to search for information does not automatically result in meaningful learning without the ability to evaluate the quality of information. The finding that teachers provide direction regarding the credibility of sources, comparison of information, and the responsible use of technology show the existence of a critical dimension in digital learning. This expands the concept of Connectivism, which is often understood only as the ability to build connections, to the ability to manage the quality of those connections.

This finding is related to the study on digital literacy which emphasizes that students in the digital era need the ability to find, understand, evaluate, and use information ethically (Ilomäki et al., 2023; Peng, 2022). In the context of Imam Syafi'i Junior High School, digital literacy is not only directed at technical competence, but also has a moral dimension and responsibility for the use of technology. This shows the existence of a typical characteristic of Islamic education, namely the integration of intellectual abilities and the formation of values in the learning process.

However, this study also found that there is tension in the digital transformation process. On the one hand, technology provides opportunities for students to learn independently and expand access to knowledge. On the other hand, there are challenges in the form of variations in students' technological abilities, network limitations, and potential difficulties in choosing valid information. These findings show that digital transformation does not always run linearly towards ideal conditions, but is a negotiation process between innovation opportunities and the limitations of practice in the field. This is in line with the research (Wohlfart & Wagner, 2021) which shows that the digital transformation of education in Indonesia is still facing problems of human resource and infrastructure readiness.

Based on all these findings, the main contribution of this research lies in the development of an adapted perspective of Connectivism in the context of Islamic education. This research shows that Connectivism needs to be understood contextually, not as a universally applied theory without considering institutional character. In the context of Imam Syafi'i Tapan Tulungagung Junior High School, Connectivism is reconstructed through four main dimensions, namely technological connectivity, social connectivity, information literacy, and integration of Islamic educational values. This conceptual model shows that digital learning in Islamic schools is not just a process of digitizing materials, but a process of building a knowledge network that remains within the framework of the institution's educational values and goals.

Thus, this research provides theoretical and practical implications. Theoretically, the research expands the study of Connectivism by including the dimensions of cultural context and institutional values in the implementation process. Practically, the research provides an overview that the transformation of digital learning in Islamic schools requires a management strategy that includes digital leadership, teacher competency, strengthening information literacy, and developing a network-based learning culture. Digital transformation is thus not only a matter of using technology, but the process of changing the way schools understand, manage, and produce knowledge in the digital era.

4. CONCLUSION

This study shows that the recontextualization of Connectivism Theory in digital learning transformation at Imam Syafi'i Tapan Tulungagung Junior High School takes place through the process of adapting the concept of knowledge connectivity into the context of Islamic education. The findings of the study show that digital transformation is not only characterized by the use of technology in learning, but also through changes in learning paradigms, shifts in the role of teachers as knowledge facilitators, increasing student independence, and forming a digital network-based learning ecosystem. The principle of Connectivism is developed through the practice of utilizing various digital learning resources, technology-based collaboration, and strengthening students' ability to access and evaluate information.

The novelty of this research lies in the construction of the concept of adapted Connectivism in the context of Islamic schools, namely the reinterpretation of Connectivism which is not only oriented to the relationship between students and technological networks, but also integrates the social dimension, information literacy, educational leadership, and Islamic institutional values. This research contributes to the development of Islamic education management studies by showing that digital transformation requires an institutional strategy that connects technological innovation with organizational culture and educational goals.

Practically, this research provides implications for education managers in designing digital transformation policies through strengthening teacher competence, developing a digital literacy culture, and providing an adaptive learning environment. However, this research has limitations in the context of studies that are only conducted in one educational institution with certain characteristics, so it has not described the variation in digital transformation practices in various other Islamic schools. Further research can expand the study through multi-site studies, involve more educational actors, or develop a Connectivism implementation model that can be applied to various Islamic education contexts

REFERENCES

- Ashfiya, M. B., Amalia, Z. D., Burda, N., Azzahro, F., Sofanin, A., & Syafi'i, I. (2026). Transforming Educators' Competencies for Human-Centered Learning in the Era of Artificial Intelligence: A Literature Review from the Perspective of Islamic Educational Values. *AL GHAZALI: Jurnal Pendidikan dan Pemikiran Islam*, 6(4), 1405-1423.
- Corbett, F., & Spinello, E. (2020). Connectivism and leadership: Harnessing the power of networks for learning. *Heliyon*. <https://doi.org/10.1016/j.heliyon.2020.e03250>
- Creswell, J. W., & Poth, C. N. (2018). *Qualitative Inquiry and Research Design: Choosing Among Five Approaches* (4th ed.). Sage Publications.
- Dennis, M. (2020). Connectivism and Connective Knowledge in the Digital Age. *International Review of Research in Open and Distributed Learning*. <https://doi.org/10.19173/irrodl.v21i3.4718>
- Dupl  a, E., Cretienand Pecorini, B., Weber, J., & Blouin, M. (2023). Online Learning in the Context of the Fourth Industrial Revolution: The Case of a Connectivist Module in a University Context. *Canadian Journal of Learning and Technology*, 49(1), 1–21. <https://doi.org/10.21432/cjlt28411>
- Dziubaniuk, O., Ivanova-Gongne, M., & Nyholm, S. (2023). Digital transformation in education: A systematic literature review. *International Journal of Educational Technology in Higher Education*. <https://doi.org/10.1186/s41239-023-00390-w>
- Ilom  ki, L., Paavola, S., Lakkala, M., & Kantosalo, A. (2023). Digital competence: An emergent boundary concept for policy and educational research. *Review of Education*. <https://doi.org/10.1002/rev3.3425>
- Lincoln, Y. S., & Guba, E. G. (1985). *Naturalistic Inquiry*. SAGE Publications.
- Merriam, S. B., & Tisdell, E. J. (2016). *Qualitative Research: A Guide to Design and Implementation* (4th ed.). Jossey-Bass.
- Miles, M. B., Huberman, A. M., & Salda  a, J. (2014). *Qualitative Data Analysis: A Methods Sourcebook* (3rd ed.). SAGE Publications.
- Pahrurroji, P. (2025). The Curriculum Design of Imam As-Shafi'i's Education and Its Relevance to the Indonesian Education System. *Khazanah Pendidikan Islam*, 7(1), 36-47.
- Peng, M. (2022). Digital literacy and its role in education in the digital age. *Education Research International*. <https://doi.org/10.1155/2022/2533413>
- Pettersson, F. (2021). Understanding digital transformation in education. *Education and Information Technologies*. <https://doi.org/10.1007/s10639-020-10239-8>
- Rabbi, M. F., Hanapi, W., Akbar, A. F., Ansyari, A., & Cahyadi, A. (2025). Penggunaan Platform Digital pada Pembelajaran Al Qur'an Di Ma'had Online Al Imam As Syafi'i. *FIKRUNA: Jurnal Ilmiah Kependidikan dan Kemasyarakatan*, 7(2), 557-572.
- Siemens, G. (2005). Connectivism: A Learning Theory for the Digital Age. *International Journal of Instructional Technology and Distance Learning*, 2(1), 3–10.
- Syafi'i, I. (2026). Online Learning Technology for Religious Education: A Study of LMS Effectiveness Among PAUD Teachers in Indonesia's Affirmation Scholarship Program. *Andragogi: Jurnal*

- Pendidikan dan Pembelajaran, 6(2), 345-357.
- Syafi'i, I. (2026). Embodied knowledge, mediated practice: A critical examination of digital integration in Qur'anic tahsin pedagogy. *Jurnal Sinar Edukasi | JSEI* , 7(01), 35-51.
- Syafi'i, I. (2025). The effectiveness of ghorib learning through Microsoft Teams e-learning platform in Indonesia. *Journal of Education and Religious Studies*, 5(01), 38-47.
- Wohlfart, O., & Wagner, I. (2021). Digital transformation in education: Teachers' digital competence and organizational conditions. *Education and Information Technologies*. <https://doi.org/10.1007/s10639-021-10574-4>
- Yin, R. K. (2018). *Case Study Research and Applications: Design and Methods* (6th ed.). SAGE Publications.