
Reconstructing Islamic education for the digital era: An integrative framework of *tarbiyah*, *ta'lim*, and *ta'dib*

Faelalika Putri Herhan^{1*}, Khaerudin²

^{1 2} Institut Agama Islam Pemalang, Pemalang, Indonesia

*Corresponding Author: faelalikali@gmail.com

Submission: 2 July 2026

Revision: 16 July 2026

Accepted: 26 July 2026

Abstract

Digital transformation has created multidimensional challenges for Islamic education, while existing studies tend to examine *tarbiyah*, *ta'lim*, and *ta'dib* separately, leaving the need for an integrated conceptual framework unaddressed. This study aims to reconstruct the paradigm of Islamic education in the digital era by developing an integrative framework of *tarbiyah*, *ta'lim*, and *ta'dib*. A qualitative conceptual approach was employed through library research and content analysis of relevant scholarly literature. The findings propose a conceptual framework integrating spiritual development (*tarbiyah*), knowledge development and digital literacy (*ta'lim*), and character formation with digital ethics (*ta'dib*) to address contemporary challenges in Islamic education. This study contributes by providing a conceptual model that advances the theoretical development of Islamic education and offers a foundation for future empirical research and curriculum innovation in the digital era.

Keywords: Islamic education; Digital era; *Tarbiyah*; *Ta'lim*; *Ta'dib*.

Abstrak

Transformasi digital menghadirkan tantangan multidimensional bagi pendidikan Islam. Namun, kajian yang ada masih cenderung membahas *tarbiyah*, *ta'lim*, dan *ta'dib* secara terpisah sehingga belum menghasilkan suatu kerangka yang integratif. Penelitian ini bertujuan merekonstruksi paradigma pendidikan Islam di era digital melalui pengembangan kerangka integratif *tarbiyah*, *ta'lim*, dan *ta'dib*. Penelitian ini menggunakan pendekatan kualitatif dengan jenis penelitian konseptual melalui studi kepustakaan dan analisis isi terhadap berbagai literatur yang relevan. Hasil penelitian menghasilkan suatu kerangka konseptual yang mengintegrasikan pembinaan spiritual (*tarbiyah*), pengembangan pengetahuan dan literasi digital (*ta'lim*), serta pembentukan karakter dan etika digital (*ta'dib*) sebagai respons terhadap tantangan pendidikan Islam kontemporer. Kontribusi utama penelitian ini terletak pada pengembangan model konseptual yang memperkuat teori pendidikan Islam sekaligus menjadi landasan bagi penelitian empiris dan inovasi kurikulum di era digital.

Kata Kunci: Pendidikan Islam; Era digital; *Tarbiyah*; *Ta'lim*; *Ta'dib*.

Introduction

The rapid advancement of digital technology has fundamentally transformed the educational landscape, including the provision of Islamic education (Hajar, 2024). The adoption of artificial intelligence, online learning platforms, social media, and various digital learning resources has created broader opportunities to improve the accessibility, flexibility, and effectiveness of educational processes (Alam & Mohanty, 2023). Nevertheless, this transformation has also generated challenges that extend far beyond technological adaptation. Islamic education is increasingly confronted with technology-driven learning, the widening dichotomy of knowledge, declining student character, weakening spirituality, and a shift in educational orientation from holistic human development toward the attainment of instrumental competencies (Munawarsyah, 2023). These conditions indicate that the challenges facing Islamic education in the digital era are not merely technological but also require a comprehensive reconstruction of its educational paradigm.

These multidimensional challenges have become a critical concern because the primary purpose of Islamic education is not only to produce learners with strong academic competence but also to cultivate individuals who achieve a balanced development of intellectual, moral, and spiritual dimensions (Surbakti et al., 2024). The rapid pace of technological advancement is often not accompanied by the reinforcement of values, placing educational processes at risk of losing their fundamental orientation (Teräs et al., 2020). Consequently, educational success is increasingly measured by academic achievement and technological proficiency rather than by students' character development and spiritual maturity (Ramli et al., 2024). This situation underscores that digital innovation does not automatically result in more meaningful education unless it is grounded in a paradigm capable of integrating knowledge development with value cultivation and character formation. Therefore, Islamic education requires an approach that can respond to contemporary changes while preserving its identity and fundamental educational objectives.

Addressing these challenges requires reconstructing the paradigm of Islamic education beyond curriculum development and the adoption of educational technology to encompass its underlying philosophical foundations. One relevant approach is to integrate the concepts of *tarbiyah*, *ta'lim*, and *ta'dib* into a unified and complementary framework. *Tarbiyah* emphasizes spiritual development and the cultivation of human potential (Abdalla, 2025), *ta'lim* focuses on knowledge development and intellectual literacy (Ridwan, 2025), while *ta'dib* promotes character formation and ethical conduct as the foundation for the responsible use of knowledge (Jamil et al., 2026). Integrating these three concepts enables Islamic education to respond more comprehensively to the challenges of the digital era by fostering not

only academic competence but also a balanced development of spiritual, intellectual, and moral dimensions throughout the educational process.

Research on Islamic education in the digital era has been conducted from various perspectives. Habib (2023) demonstrated that digital transformation enhances learning effectiveness and expands access to educational resources; however, the study primarily focused on technological utilization, leaving the philosophical dimension of education insufficiently addressed. Rahayu et al. (2023) found that strengthening character education and Islamic values has become increasingly urgent in response to technological advancement, yet their discussion tended to separate character development from the cultivation of knowledge and spirituality. Sahil et al. (2024) emphasized the importance of integrating scientific and religious knowledge within Islamic education but did not systematically relate this integration to the challenges of digital ethics and character formation. Collectively, these findings suggest that existing studies remain fragmented, highlighting the need for a conceptual framework capable of integrating the multiple dimensions of Islamic education into a coherent paradigm.

Against this background, the present study aims to reconstruct the paradigm of Islamic education in the digital era by developing an integrative framework of *tarbiyah*, *ta'lim*, and *ta'dib*. The significance of this study lies in the need for a conceptual model that not only explains the contemporary challenges confronting Islamic education but also establishes a systematic relationship between these challenges and their potential solutions. Unlike previous studies, which have generally examined these three concepts separately, this study integrates them into a single conceptual framework that positions spirituality, knowledge, and character as mutually reinforcing foundations of education. Through this approach, the study seeks to contribute to the theoretical advancement of contemporary Islamic educational thought while providing a conceptual foundation for future empirical research and educational innovation in the digital era.

Method

This study employed a qualitative approach using a conceptual paper design to develop an integrative framework for Islamic education in the digital era through the synthesis of diverse theoretical perspectives. A conceptual approach was adopted because it enables researchers to identify key issues, integrate relevant concepts, and construct a theoretical model that can serve as a foundation for both future research and educational practice (Jaakkola, 2020). The study was conducted through library research by collecting and analyzing a wide range of relevant scholarly sources, including books, peer-reviewed journal articles, conference proceedings, and academic documents addressing Islamic education, digital transformation, *tarbiyah*, *ta'lim*, *ta'dib*, and contemporary educational theories. All sources were selected based

on their relevance to the research focus and their contribution to the development of the proposed conceptual framework.

The data were analyzed using the content analysis approach proposed by Krippendorff (2019). The analytical process involved identifying key concepts, categorizing major themes, interpreting the relationships among concepts, and synthesizing theoretical findings to construct a systematic conceptual framework. The resulting synthesis was then critically examined through comparison and integration across multiple theoretical perspectives, leading to the development of a conceptual model that illustrates the relationship between the challenges of Islamic education in the digital era and the integration of *tarbiyah*, *ta'lim*, and *ta'dib*. To enhance the credibility of the findings, each concept was critically compared across authoritative literature in Islamic education and contemporary educational theory, ensuring that the proposed framework is grounded in a comprehensive and coherent theoretical foundation.

Results and Discussion

Challenges and problems of Islamic education in the digital era

The rapid advancement of digital technology has fundamentally transformed the educational landscape, including Islamic education. The adoption of artificial intelligence, social media, learning management systems, and various digital learning platforms has expanded access to educational resources while simultaneously changing the ways learners acquire and process information. These developments have created a learning environment that is more open, dynamic, and networked. Through the theory of connectivism, George Siemens (2005) argued that knowledge in the digital era is distributed across networks connecting people, technology, and information, making the ability to establish connections and critically evaluate information a fundamental competency. For Islamic education, however, these developments present new challenges because educational processes can no longer focus solely on knowledge transmission but must also equip learners with the ability to evaluate and filter information in accordance with Islamic values.

Despite these opportunities, digitalization has also generated numerous challenges that affect the quality of Islamic education. The ease of access to information has been accompanied by the growing spread of misinformation, increasing dependence on technology, declining quality of teacher-student interaction, and emerging ethical issues associated with the use of artificial intelligence. Neil Selwyn (2016) argued that educational digitalization should not be viewed as an inherently progressive process, as it also involves issues of digital inequality, power relations, and broader social consequences that require critical examination. In the educational context, Punya Mishra and Matthew J. Koehler (2006), through the Technological Pedagogical Content Knowledge (TPACK) framework, explained that successful technology integration

depends on balancing technological knowledge, pedagogical knowledge, and content knowledge. Consequently, the challenge for Islamic education extends beyond providing digital learning technologies to ensuring that these technologies support meaningful educational processes oriented toward the holistic development of learners.

Beyond technological challenges, Islamic education also faces the transformation of its educational objectives. Rapid social change requires educational institutions not only to produce academically competent learners but also to cultivate character, critical thinking, creativity, collaboration, and social responsibility. Michael Fullan (2018) emphasized that educational transformation in the twenty-first century should promote *deep learning*, which integrates knowledge acquisition with character development and life competencies. This perspective suggests that Islamic education should respond to the digital era more comprehensively, not merely by digitalizing instructional processes but also by strengthening learners' moral, spiritual, and character development to ensure the responsible use of technology. This discussion provides the foundation for examining the internal challenges of Islamic education that necessitate a reconstruction of its educational paradigm in the following section.

The advancement of digital technology has not only transformed learning practices but has also demanded a paradigm shift in Islamic education. Although many Islamic educational institutions have adopted technology as a learning medium, its implementation remains largely confined to technical functions such as content delivery, assignment management, and learning assessment. In essence, however, Islamic education is concerned not only with the acquisition of knowledge but also with the cultivation of students' character and moral conduct. Azyumardi Azra (2012) argued that the modernization of Islamic education is inevitable, yet it must remain grounded in Islamic values to produce graduates who are capable of adapting to societal change without losing their Islamic identity. Therefore, digital transformation should be understood as an opportunity to strengthen the quality of Islamic education rather than merely replacing conventional instructional media with digital alternatives.

At the same time, Islamic education also faces epistemological challenges. The rapid advancement of science and technology has often not been accompanied by an equivalent capacity to integrate religious and secular knowledge in a balanced manner. As a result, educational practices continue to exhibit a dichotomous orientation, leading learners to acquire fragmented knowledge. Ismail Raji al-Faruqi (1982) criticized this condition through the concept of *Islamization of Knowledge*, emphasizing the importance of developing an educational system grounded in *tawhīd* so that all disciplines evolve within an Islamic value framework. Likewise, M. Amin Abdullah (2020), through the integration–interconnection paradigm, argued that

Islamic studies, social sciences, natural sciences, and technology should be viewed as complementary fields capable of addressing the complexities of modern life. Accordingly, the challenge of Islamic education in the digital era lies not only in technological mastery but also in developing an integrative epistemological paradigm.

In addition to epistemological concerns, Islamic education also faces significant challenges in character formation. The ease of accessing information through the internet and artificial intelligence is often not matched by the ability to use technology responsibly. This condition may foster pragmatic attitudes, declining standards of communication ethics, and weakened moral awareness. Syed Muhammad Naquib al-Attas (1991) described this phenomenon as the *loss of adab*, referring to the erosion of proper conduct that underlies many educational crises. This perspective was further reinforced by Wan Mohd. Nor Wan Daud (1998), who argued that Islamic education must be grounded in the Islamic worldview so that the pursuit of knowledge consistently aims to cultivate individuals who are faithful, knowledgeable, and morally upright. In the educational context, Abdurrahman al-Nahlawi (1995) explained that education (*tarbiyah*) is a comprehensive process encompassing the balanced development of spiritual, intellectual, moral, and social dimensions. These perspectives indicate that Islamic education in the digital era should not focus solely on improving academic competence but must also foster learners' character as the foundation for the wise and responsible use of technology.

Table 1. Synthesis of the challenges and problems of Islamic education in the digital era

Aspect	Challenges of the digital era	Problems in Islamic education
Learning	The use of AI, digital platforms, and network-based learning	Learning remains focused on knowledge transmission without adequately integrating character formation and spiritual development.
Epistemology	Information explosion and the rapid advancement of knowledge	The dichotomy between religious and secular knowledge continues to hinder the development of integrative learning.
Character	Misinformation, digital ethics, and the misuse of technology	<i>Adab</i> formation and digital ethics have not yet become integral components of educational practice.
Spirituality	The growing dominance of pragmatic and materialistic orientations	The strengthening of spiritual values has not progressed in parallel with the adoption of digital technology.
Educational objectives	The demand for twenty-first-century competencies	Educational objectives have not yet fully balanced knowledge, skills, character, and Islamic values.

Source: Developed by the authors.

Table 1 demonstrates that the challenges confronting Islamic education in the digital era are interconnected across technological, epistemological, character, spiritual, and educational dimensions. While technological developments have stimulated various educational innovations, these innovations have not been accompanied by a corresponding transformation of the Islamic educational paradigm. Consequently, technology tends to be employed primarily as an instrumental tool, whereas the educational function of fostering holistic human development has yet to be fully realized.

The synthesis also reveals that many of the challenges facing Islamic education stem from the lack of integration among knowledge, spirituality, and character within a unified educational system. Technological proficiency without the reinforcement of Islamic values may produce learners who excel academically but lack moral integrity and social responsibility. Conversely, strengthening Islamic values without fostering the capacity to adapt to technological advancement may leave learners ill-equipped to navigate the complexities of the digital society. Therefore, Islamic education requires a balanced approach that integrates the development of twenty-first-century competencies with the internalization of Islamic values throughout the educational process.

Overall, this section demonstrates that the challenges confronting Islamic education in the digital era are multidimensional and cannot be addressed through fragmented approaches. Educational transformation requires changes that extend beyond technological innovation to encompass paradigm reconstruction, epistemological integration, spiritual development, and character formation. Accordingly, Islamic education must adopt an approach capable of harmonizing these dimensions in order to remain relevant in the digital era while preserving the fundamental values upon which it is founded.

Reconstructing Islamic education through an integrative framework of tarbiyah, ta'lim, and ta'dib

Digital transformation has created significant opportunities for advancing Islamic education. However, the findings of this study indicate that the emerging challenges extend beyond the adoption of educational technology. The predominance of technically oriented learning, the dichotomy of knowledge, character degradation, spiritual disorientation, and the persistence of a fragmented educational orientation suggest that the fundamental problem lies in the lack of integration among the intellectual, moral, and spiritual dimensions within a unified educational paradigm. These findings reinforce Biesta's (2020) argument that education should not merely produce competent individuals (*qualification*) but should also foster personal identity (*subjectification*) and social responsibility (*socialisation*). While Mahmudulhassan et al. (2025) emphasized the importance of a holistic approach to Islamic education, the

present study extends this perspective by proposing an integrative framework that brings together *tarbiyah*, *ta'lim*, and *ta'dib* as a response to the complexity of contemporary challenges facing Islamic education in the digital era.

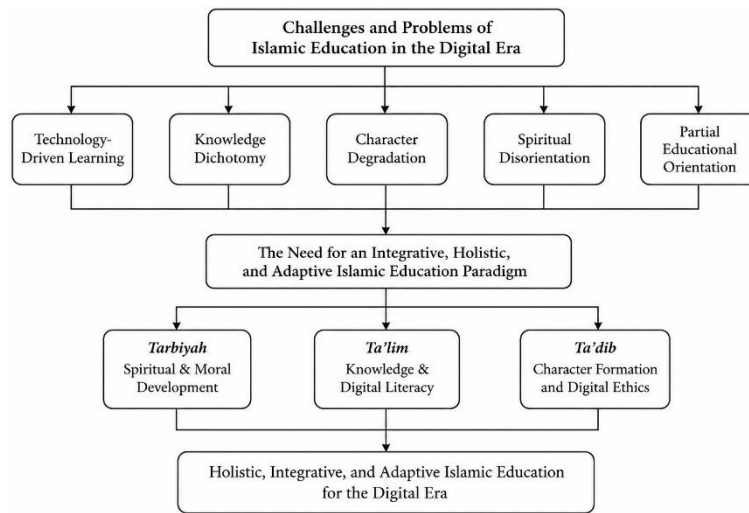


Figure 1. An integrative framework of *tarbiyah*, *ta'lim*, and *ta'dib* for Islamic education in the digital era.

Source: Developed by the authors.

Figure 1 presents the conceptual synthesis developed in this study by illustrating the relationship between the challenges confronting Islamic education and the educational paradigm proposed herein. The framework begins with the identification of five major challenges: *technology-driven learning*, *knowledge dichotomy*, *character degradation*, *spiritual disorientation*, and *partial educational orientation*. These interconnected challenges highlight the need for an Islamic educational paradigm that is integrative, holistic, and adaptive before being operationalized through three interrelated pillars – *tarbiyah*, *ta'lim*, and *ta'dib* – which collectively lead to an approach to Islamic education that remains relevant in the digital era. Bruner (1996) argued that learning is fundamentally a process of constructing meaning through relationships among concepts; therefore, visual representations not only simplify complex ideas but also clarify the logical connections among the components of a conceptual framework. Accordingly, Figure 1 serves not merely as an illustration but as a visual representation of the theoretical argument that constitutes the principal contribution of this study.

The findings further indicate that character degradation and spiritual disorientation are two challenges that cannot be addressed solely through improvements in educational technology or expanded access to digital information. For this reason, *tarbiyah* is positioned as the first pillar of the proposed conceptual framework because it emphasizes the holistic development of individuals by nurturing their spiritual, moral, and emotional dimensions. This perspective is consistent with Ki Hadjar Dewantara (1977), who viewed education as a process of humanizing individuals through the balanced development of their full human potential. Likewise, Nizariah et al. (2025) demonstrated that strengthening value-based education contributes to the

development of students who are more adaptable to social change. The present study extends this finding by positioning *tarbiyah* as the foundation for maintaining equilibrium between technological advancement, spiritual awareness, and moral responsibility, thereby ensuring that digital transformation does not undermine the essential purpose of Islamic education as a process of holistic human development.

Another issue identified in this study is the persistent dominance of technically oriented learning and the unresolved dichotomy of knowledge within Islamic educational practice. These conditions indicate that technological proficiency is not automatically accompanied by the capacity to understand, evaluate, and apply knowledge critically. Consequently, *ta'lim* is positioned as the second pillar of the framework, emphasizing intellectual development through digital literacy, reflective thinking, and epistemological responsibility. Freire (1970) regarded education as a process of liberation that empowers learners to become critical subjects capable of questioning reality rather than passively receiving information. In contrast to Martínez-Bravo et al. (2022), who conceptualized digital literacy primarily as technological competence, the present study reconceptualizes *ta'lim* as a mechanism for integrating knowledge acquisition, critical reasoning, and intellectual ethics. Through this approach, learners are expected not only to use technology effectively but also to generate knowledge that is meaningful, ethical, and socially responsible.

The third dimension of the proposed framework is *ta'dib*, which is positioned as the foundation for character formation and digital ethics in response to the complexities of twenty-first-century life. The findings reveal that character degradation is influenced not only by technological development but also by the insufficient internalization of values within educational processes. Accordingly, strengthening *ta'dib* should not be understood merely as the transmission of moral norms but rather as the cultivation of moral consciousness that guides learners in using knowledge and technology responsibly. Lickona (1991) emphasized that character education is a systematic process of enabling individuals to know, value, and practice what is good. The findings of this study reinforce those of Sakti et al. (2024), who identified character education as the foundation of learning, while extending this perspective by incorporating digital ethics, academic integrity, and responsible artificial intelligence use as integral components of the implementation of *ta'dib* in the digital era.

These three pillars should not be understood as independent components but rather as complementary elements that collectively establish a comprehensive paradigm for Islamic education. The findings suggest that the limitations of Islamic education do not stem from the absence of spirituality, knowledge, or character formation, but from the tendency to develop these dimensions separately, thereby weakening their interconnectedness. This perspective aligns with Delors et al. (1996), who argued that quality education should integrate the four pillars of learning: *learning to know, learning*

to do, learning to live together, and learning to be. Accordingly, the framework proposed in this study conceptualizes *tarbiyah*, *ta'lim*, and *ta'dīb* as mutually reinforcing components that foster a more holistic and sustainable educational process.

The integration of these three concepts further demonstrates that reconstructing Islamic education cannot be achieved solely through curriculum reform or the adoption of educational technology. The findings indicate that the required transformation is fundamentally paradigmatic, requiring a reconceptualization of the relationship among knowledge, human beings, and values throughout the educational process. Morin (1999) argued that the complexity of contemporary life demands an educational paradigm capable of integrating diverse domains of knowledge rather than separating them into isolated disciplines. Similarly, Maass et al. (2019) highlighted the importance of interdisciplinary approaches. Building upon these perspectives, the present study offers a more specific contribution by integrating *tarbiyah*, *ta'lim*, and *ta'dīb* into a conceptual framework that bridges the spiritual, intellectual, and moral dimensions required to address the challenges of Islamic education in the digital era.

The principal contribution of this study lies in the development of a conceptual framework that systematically explains the relationship between the challenges confronting Islamic education and the educational paradigm proposed in this study. Figure 1 functions not only as a visualization of the synthesized findings but also as a conceptual map illustrating how each identified challenge is addressed through the integration of the three foundational pillars of Islamic education. From Bourdieu's (1977) perspective, education constitutes a field in which *habitus* is formed, shaping the ways individuals think, act, and interpret social reality. The framework developed in this study extends this perspective by demonstrating that the formation of *habitus* in the digital era requires a balanced integration of spiritual development through *tarbiyah*, intellectual development through *ta'lim*, and character formation through *ta'dīb*. Consequently, the proposed framework offers not only a theoretical contribution to the reconstruction of the Islamic educational paradigm but also a conceptual foundation for curriculum development, instructional innovation, and future empirical research in Islamic education.

Conclusion

This study develops an integrative conceptual framework that brings together *tarbiyah*, *ta'lim*, and *ta'dīb* as a paradigm for reconstructing Islamic education in response to the challenges of the digital era. Unlike approaches that tend to examine these three concepts in isolation, the present study demonstrates that issues such as the predominance of technically oriented learning, the dichotomy of knowledge, character degradation, spiritual disorientation, and a fragmented educational orientation require a holistic and integrated response. The proposed framework highlights the

complementary roles of the three pillars: *tarbiyah* strengthens the spiritual and moral dimensions of education, *ta'lim* provides the foundation for intellectual development and digital literacy, and *ta'dib* fosters character formation, digital ethics, and academic responsibility. The integration of these three pillars establishes an Islamic educational paradigm that is more adaptive to technological advancement while preserving the fundamental purpose of education as the holistic development of the human person.

The principal contribution of this study lies in the development of a conceptual model that systematically connects the challenges of Islamic education in the digital era with an integrative framework of *tarbiyah*, *ta'lim*, and *ta'dib*, thereby offering a new perspective for advancing contemporary Islamic educational theory. Nevertheless, this study is limited by its conceptual, literature-based approach, and the effectiveness of the proposed framework has not yet been empirically validated. Future research is therefore encouraged to develop measurement instruments and implementation models capable of evaluating the validity and effectiveness of the framework across different educational levels using quantitative, qualitative, or mixed methods approaches. Empirical validation in diverse educational contexts is expected not only to strengthen the conceptual validity of the proposed framework but also to generate practical recommendations for curriculum development, instructional strategies, and Islamic educational policies that are more responsive to the evolving demands of the digital era.

References

- Abdalla, M. (2025). Exploring tarbiyah in Islamic education: A critical review of the English- and Arabic-language literature. *Education Sciences*, 15(5), 559. <https://doi.org/10.3390/educsci15050559>
- Abdullah, M. A. (2020). *Multidisiplin, interdisiplin, & transdisiplin: Metode studi agama dan studi Islam di era kontemporer*. IB Pustaka.
- Alam, A., & Mohanty, A. (2023). Educational technology: Exploring the convergence of technology and pedagogy through mobility, interactivity, AI, and learning tools. *Cogent Engineering*, 10(2). <https://doi.org/10.1080/23311916.2023.2283282>
- Al-Attas, S. M. N. (1991). *The concept of education in Islam: A framework for an Islamic philosophy of education*. International Institute of Islamic Thought and Civilization.
- Al-Faruqi, I. R. (1982). *Islamization of knowledge: General principles and workplan*. International Institute of Islamic Thought.
- Al-Nahlawi, A. (1995). *Principles of Islamic education* (A. M. Oweimah, Trans.). International Institute of Islamic Thought.
- Azra, A. (2012). *Pendidikan Islam: Tradisi dan modernisasi di tengah tantangan milenium III* (2nd ed.). Kencana.

- Biesta, G. (2020). *Educational research: An unorthodox introduction*. Bloomsbury Academic.
- Bourdieu, P. (1977). *Outline of a theory of practice*. Cambridge University Press.
- Bruner, J. (1996). *The culture of education*. Harvard University Press.
- Delors, J., Al Mufti, I., Amagi, I., Carneiro, R., Chung, F., Geremek, B., Gorham, W., Kornhauser, A., Manley, M., Padrón Quero, M., Savané, M. A., Singh, K., Stavenhagen, R., Suhr, M. W., & Nanzhao, Z. (1996). *Learning: The treasure within*. UNESCO Publishing.
- Dewantara, K. H. (1977). *Karya Ki Hadjar Dewantara: Bagian pertama – Pendidikan*. Majelis Luhur Persatuan Tamansiswa.
- Freire, P. (1970). *Pedagogy of the oppressed*. Continuum.
- Fullan, M. (2013). *Stratosphere: Integrating technology, pedagogy, and change knowledge*. Pearson.
- Habib, M. (2023). Digital transformation strategy for developing higher education in conflict-affected societies. *Social Sciences & Humanities Open*, 8(1), 100627. <https://doi.org/10.1016/j.ssaho.2023.100627>
- Hajar, A. (2024). Navigating globalization: Reforming Islamic education for the 21st century. *Sinergi International Journal of Islamic Studies*, 2(1), 53–65. <https://doi.org/10.61194/ijis.v2i1.599>
- Jaakkola, E. (2020). Designing conceptual articles: Four approaches. *AMS Review*, 10(1–2), 18–26. <https://doi.org/10.1007/s13162-020-00161-0>
- Jamil, S., Indianto S., D., Atika, F. N., & Amroeni. (2026). Epistemology of ta'dib in Islamic education (Critical analysis to prevent bullying and empowering students' ethics). *Al-Mudarris (Jurnal Ilmiah Pendidikan Islam)*, 9(1), 173–186. <https://doi.org/10.23971/mdr.v9i1.11239>
- Koehler, M. J., & Mishra, P. (2009). What is technological pedagogical content knowledge (TPACK)? *Contemporary Issues in Technology and Teacher Education*, 9(1), 60–70.
- Krippendorff, K. (2019). *Content analysis: An introduction to its methodology* (4th ed.). SAGE Publications.
- Lickona, T. (1991). *Educating for character: How our schools can teach respect and responsibility*. Bantam Books.
- Maass, K., Geiger, V., Ariza, M. R., & Goos, M. (2019). The role of mathematics in interdisciplinary STEM education. *ZDM*, 51(6), 869–884. <https://doi.org/10.1007/s11858-019-01100-5>

- Mahmudulhassan, M., Elbanna, M., & Abuzar, M. (2025). The philosophical foundations of holistic education in the 21st century (Challenges and obstacles to the development of Islamic education). *Jurnal Pedagogy*, 18(1), 1–9. <https://doi.org/10.63889/pedagogy.v18i1.305>
- Martínez-Bravo, M. C., Sádaba Chalezquer, C., & Serrano-Puche, J. (2022). Dimensions of digital literacy in the 21st century competency frameworks. *Sustainability*, 14(3), 1867. <https://doi.org/10.3390/su14031867>
- Morin, E. (1999). *Seven complex lessons in education for the future*. UNESCO Publishing.
- Munawarsyah, M. (2023). Islamic education in the modern era: Analysis of student character and their role in facing the challenges of Industry 4.0. *HEUTAGOGIA: Journal of Islamic Education*, 3(2), 141–154. <https://doi.org/10.14421/hjie.2023.32-01>
- Nizariah, N., Suhendrayatna, S., Aulia, M., & Sulastri, S. (2025). Fostering character education through community-based socialpreneurship initiatives among high school students in Banda Aceh. *Aptisi Transactions on Technopreneurship (ATT)*, 7(3), 890–903. <https://doi.org/10.34306/att.v7i3.694>
- Rahayu, W., Zukri, A., Maimunah, A., Mayang Sari, D., Jannah, R., & Ikhlas, M. (2023). Character education in Islamic education: Strengthening and implementing in the digital age. *At-Tarbawi: Jurnal Kajian Kependidikan Islam*, 8(2), 125–138. <https://doi.org/10.22515/attarbawi.v8i2.7498>
- Ramli, M. F., Ariffin, A. S., Yamin, F. M., Iqbal, S., & David, J. (2024). Nurturing student academic performance: Unveiling the impact of smart classroom, perceived ease of use, self-efficacy, and Islamic spiritual values. In *Contributions to Management Science* (Vol. Part F2529, pp. 443–460). https://doi.org/10.1007/978-3-031-48770-5_36
- Ridwan, E. H. (2025). Identifying tarbiyah, ta'lim, and ta'dib as a grand design for character education for the younger generation. *Mauriduna: Journal of Islamic Studies*, 6(4), 676–697. <https://doi.org/10.37274/mauriduna.v6i4.36>
- Sahil, J., Zubaidah, S., Corebima, A. D., Gofur, A., & Saefi, M. (2024). The practice of science and religion integration: Evidence from an Indonesian Islamic school. *JPBI (Jurnal Pendidikan Biologi Indonesia)*, 10(1), 12–26. <https://doi.org/10.22219/jpbi.v10i1.31020>
- Sakti, S. A., Endraswara, S., & Rohman, A. (2024). Revitalizing local wisdom within character education through ethnopedagogy approach: A case study on a preschool in Yogyakarta. *Heliyon*, 10(10), e31370. <https://doi.org/10.1016/j.heliyon.2024.e31370>

- Selwyn, N. (2016). *Education and technology: Key issues and debates* (2nd ed.). Bloomsbury Academic.
- Siemens, G. (2005). Connectivism: A learning theory for the digital age. *International Journal of Instructional Technology and Distance Learning*, 2(1), 3–10.
- Surbakti, S. S. B., Harahap, R., & Hasanah, U. (2024). Future perspectives on the Islamic personality model: Integrating spiritual, moral, intellectual, social, personal, and behavioral dimensions for holistic development. *Journal on Islamic Studies*, 1(1), 17–35. <https://doi.org/10.35335/7adqms82>
- Teräs, M., Suoranta, J., Teräs, H., & Curcher, M. (2020). Post-Covid-19 education and education technology ‘solutionism’: A seller’s market. *Postdigital Science and Education*, 2(3), 863–878. <https://doi.org/10.1007/s42438-020-00164-x>
- Wan Daud, W. M. N. (1998). *The educational philosophy and practice of Syed Muhammad Naquib al-Attas: An exposition of the original concept of Islamization*. International Institute of Islamic Thought and Civilization.