INTEGRATION OF TECHNOLOGY IN ISLAMIC BOARDING SCHOOLS CURRICULUM IN INDONESIA: A SYSTEMATIC LITERATURE REVIEW ON INTEGRATIVE CURRICULUM MODELS AND INNOVATIONS IN LEARNING

Arbain Nurdin[1*], Saiful Anwar[2], Akhsanul In'am[3], Faridi[4], Moh. Nurhakim[5]

[1-5]*University of Muhammadiyah Malang, Indonesia; arbainnurdin@webmail.umm.ac.id*

Abstract: The purpose of this study is to describe the integrative curriculum model in Islamic Boarding Schools in Indonesia and to describe learning innovations by integrating technology in Islamic Boarding Schools in Indonesia. The design of this research is a systematic literature review of accredited articles starting from 2019-2025. The article is sourced from DOAJ, google scholar and scopus. The data was analyzed using descriptive analysis techniques. The researcher found 156 articles, then selected with a coding model using the Nvivo application, in the final stage 28 articles were found that were relevant to the TAPUPAS criteria and research questions. Based on the descriptive analysis, it was found that, first: the integrative curriculum model in Islamic boarding schools in Indonesia can be classified into two aspects, namely the integrative curriculum design aspect between the national curriculum and the Islamic Boarding School curriculum or the international curriculum. The implementation aspects include learning activities, materials, approaches and methods, as well as learning evaluation. The second research finding is forms of learning innovation by integrating technology in Islamic Boarding Schools in Indonesia in the form of the use of digital media and technology-based learning methods. Meanwhile, the implications for the effectiveness and quality of learning.

Keywords: Integration; Technology; Curriculum; Islamic Boarding School.

INTRODUCTION

The rapid advancement of technology in the 21st century has profoundly impacted various sectors, including education, necessitating a re-evaluation of traditional pedagogical approaches. This global shift has prompted educational institutions, including Islamic boarding schools, to consider integrating digital tools and methodologies to enhance learning experiences and prepare students for a technologically driven future (Indra, 2020). The contemporary educational design increasingly emphasizes the importance of an integrative curriculum and integration of technology. Curriculum integration is crucial as it holistically connects various aspects of learning, fostering a meaningful association across subject matters that reflect real-world complexities (Atwa & Gouda, 2014). This approach to curriculum integration involves blending topics across different content areas to explore problems and subjects relevant to learners (Norman & Wall, 2020).

This integration is crucial not only for improving learning effectiveness and providing personalized educational experiences but also for enabling these institutions to adapt to contemporary demands without compromising their core values (Oktaria et al., 2022). Furthermore, technology integration is paramount for preparing students to be active participants in the 21st century, enabling them to apply digital skills to problem-solving and learning (Chen et al., 2019). Studies show that

incorporating technology into the curriculum can lead to enhanced student performance, improved test scores, deeper comprehension, and increased student engagement and motivation (Taha & Salim, 2023).

In Indonesia, Islamic boarding schools are increasingly navigating the complexities of integrating modern curricula and technology while preserving their unique characteristics. Efforts to optimize the use of information technology and implement integrated quality management are recognized as critical factors for educational quality in these institutions (Permana et al., 2024). However, the landscape of technology adoption in Indonesian schools reveals challenges such as an unequal distribution of technological resources (Gai Mali et al., 2023). Despite these hurdles, digital technology-based learning offers an alternative for Islamic Boarding School, This demonstrates a growing recognition within Islamic education for the need to adapt to technological advancements (Rohman et al., 2021).

Islamic boarding schools can leverage technology to optimize administrative processes, expand their reach in preaching, and develop innovative learning media. This paradigm shift underscores the imperative for these institutions to strategically embed technological innovations into their curricula and operational frameworks, thereby ensuring relevance and competitive advantage in the evolving educational landscape (Khusumadewi, 2021). Despite the widely acknowledged benefits, the practical implementation of technology in educational settings, particularly within unique contexts like Islamic boarding schools, presents a myriad of challenges that require careful consideration and strategic planning (Zou et al., 2025).

Despite the growing body of literature, studies on technology integration and integrative curriculum models in Islamic boarding schools in Indonesia often face limitations. Challenges in implementing science-religion integration within subjects due to various reasons have also been noted by teachers (Sa'idah et al., 2023). More broadly, barriers to technology integration, such as a lack of computer facilities, software, adequate training, and technical support, are prevalent (Engkizar et al., 2018). These limitations highlight the need for further systematic review and investigation into effective and sustainable models for technology integration within the unique context of Indonesian Islamic boarding schools. Therefore, this study intends to review the literature thematically with two research questions, namely how is the integrative curriculum model in Islamic Boarding Schools in Indonesia? and how to innovate learning by integrating technology in Islamic Boarding Schools in Indonesia?.

METHODS

This research is a systematic literature review with the stages of identifying, evaluating and describing all research literature results that are relevant to the research question. The guidance framework used is the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-analysis) diagram (Moher et al., 2009; Page et al., 2021). Meanwhile, the data analysis technique uses the Nvivo application with TAPUPAS criteria, namely transparency of the source of information; the data can be accessed by other researchers; literature relevant to the research question; useful data information for research; the original source of the article's information is clear and reliable; The information is accurate; and the data is specific (Hadi et al., 2020).

The first stage is to determine the research question, in this study there are two research focuses and include four answers as follows:

Table 1. Research Question

ID	Research Question	Motivation
RQ1	What is the integrative curriculum model at Islamic Boarding Schools in Indonesia?	Identify the design and implementation of integrative curriculum models in Islamic Boarding Schools in Indonesia
RQ2	How to innovate learning by integrating technology in Islamic boarding schools in Indonesia?	Identifying forms of learning innovation with technology and its implications in Islamic Boarding Schools in Indonesia

Figure 1 below is a framework for selecting articles that are appropriate and included in the research criteria:
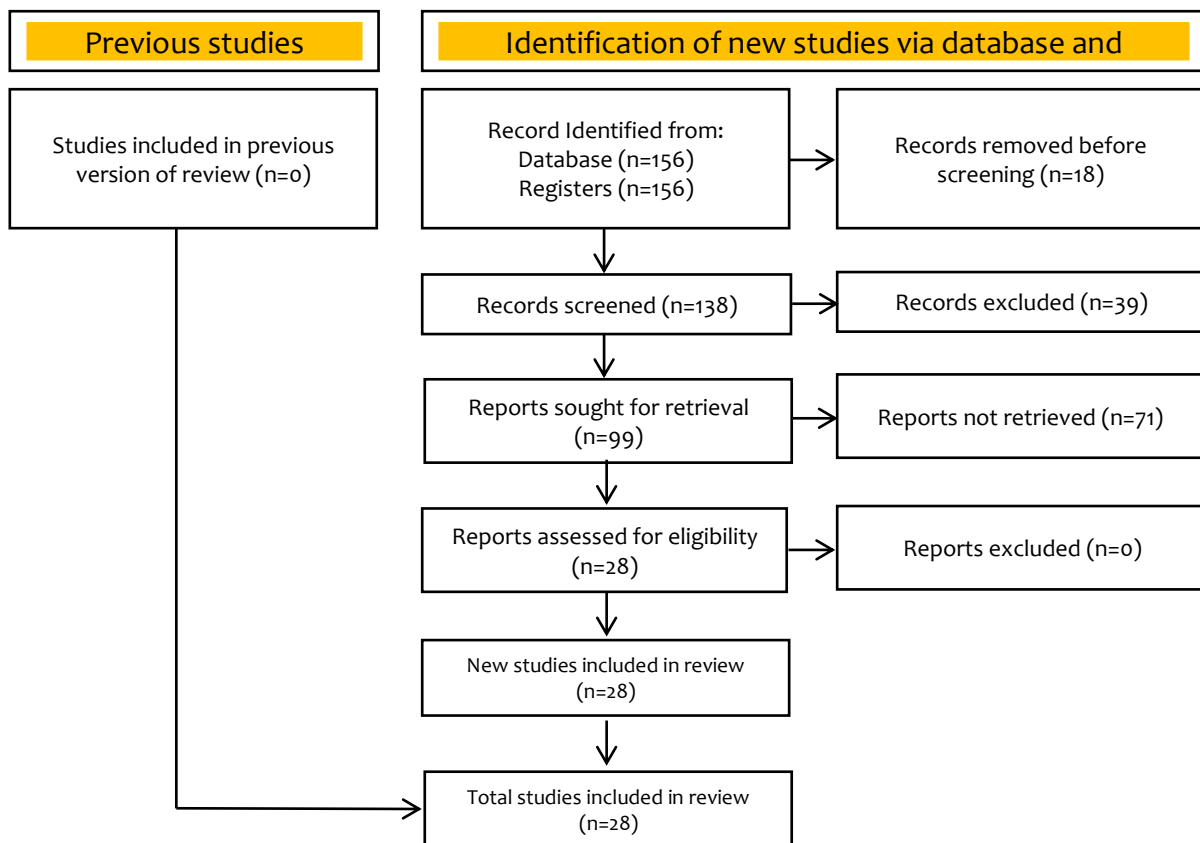

Figure 1. Prisma Flow Diagram Systematic Review (adapted from Page et al., 2021)

The sources for searching articles relevant to research questions are DOAJ, Google scholar and scopus. Meanwhile, the criterion for the year of publication of the article is 2019-2025. The next stage is to identify, evaluate and describe literature that is in accordance with the above criteria and can answer research questions, namely about the design or design of integrative curriculum and forms of learning innovation by integrating technology in Islamic Boarding Schools in Indonesia.

RESULT AND DISCUSSION

Based on the search for articles from three sources, namely DOAJ, google scholar and scopus between 2019-2025, 156 articles were found, after being selected and identified, there were 28 articles

that were included in the research criteria. These selected articles can answer two research questions with three key sentences in their search, namely the integration of technology in the Islamic Boarding School curriculum, technology in the Islamic Boarding School curriculum and technology in Islamic Boarding School. Table 2 is a summary of the article data analyzed and can answer both research questions.

Table 2. Summary of Analyzed Literature

No.	Author	Year	Context
1	Putra et al.	2019	Use of digital media at Modern Islamic Boarding School
2	Ridwan et al.	2019	Organizing learning at Islamic Boarding School
3	Darul Ilham & Suyatno	2020	Curriculum management at Islamic Boarding Schools
4	Ilyasin	2020	Integrative Study of Islamic Boarding School Curriculum
5	Anwar Sa'dullah et al.	2021	Curriculum management at International Islamic Boarding School
6	Mahyudin Ritonga et al.	2021	Curriculum planning management at Islamic Boarding School
7	Chusaini Mustas	2021	Transformation of students' information behavior in the digital era
8	Az-Zafi et al.	2021	Digitization of learning in Islamic Boarding Schools
9	Bajari et al.	2021	Android-based Healthy Islam application for students at Traditional Islamic Boarding School
10	Fadillah et al.	2021	Salaf curriculum integration strategy
11	Athallah et al.	2021	Integrated curriculum implementation
12	Murdianto	2021	Adaptive strategies at Islamic Boarding School
13	Lin Meriza et al.	2022	The existence of yellow book learning in the digital era
14	Mahyudin Ritonga et al.	2022	Utilization of technology to improve the quality of learning
15	Zainal et al.	2022	Islamic boarding schools change their education system without conflict
16	Munifah & Purwaningrum	2022	Development of school culture through digital turats learning
17	Ashari et al.	2022	Integrative curriculum management
18	Aziz et al.	2023	Islamic integrated curriculum model at Islamic Boarding School
19	Zakiya et al.	2023	Integrative curriculum management in modern Islamic Boarding School
20	Munzir et al.	2024	Dayah's strategy to produce quality students in the Modern era

21	Nasution et al.	2024	Learning technology-based Arabic language sciences at Islamic Boarding Schools
22	Subair et al.	2024	Application of multilingualism, technology and religious moderation in Islamic Boarding School
23	Arofah Minasari	2025	Utilization of digital media by students at International Islamic Boarding School
24	Muhamad Rikza Saputro dan Mahmud Arif	2025	The role of information technology in strengthening Islamic religious education in Islamic boarding schools
25	Taufikin et al.	2025	Utilization of digital content at Islamic Boarding School
26	Arifin et al.	2025	Integration of pesantren and school curriculum
27	Setyaningsih et al.	2025	Curriculum integration at Islamic Boarding School
28	Herningrum &Siregar	2025	Integrated curriculum management at Modern Boarding School

RQ1: What is the integrative curriculum model at Islamic Boarding Schools in Indonesia?

In this first research question, the researcher got various answers from various researches on curriculum integration design in Islamic Boarding Schools in Indonesia. The answer can be recorded in the results of research conducted by Ilham & Suyatno (2020) that the curriculum design carried out at the Muhammadiyah Boarding School (MBS) Prambanan Yogyakarta Islamic Boarding School (MBS) with an integrative pattern, namely combining the national curriculum with the typical MBS Islamic Boarding School curriculum which aims to provide science and technology to students as well as religious sciences. This integrative curriculum design has a role in determining educational goals.

The design of the integrated curriculum is also recorded in research conducted by Ilyasin (2020) that the curriculum at Nabil Husein Islamic Boarding School Samarinda has been integrated so that its graduates can have two competencies, namely mastery of general science and Islam. These two competencies can develop the emotional, social and intellectual intelligence of students. This design has an impact on the profile of Islamic Boarding School graduates who must have two different competencies but complement each other. Meanwhile, from the results of the research of Sa'dullah et al., (2021) Al-Izzah International Islamic Boarding School Batu has implemented an integrative curriculum model between the national curriculum and the Cambridge curriculum, while the organization is based on Islamic values which begins with mapping the potential of each student. These two Islamic boarding schools have designed an integrative curriculum, but the Al-Izzah Islamic boarding school chooses a combination of national and international curriculum.

Another integrated curriculum design was found by Aziz et al., (2023) who described the results of their research on the Islamic integrated curriculum model implemented in Islamic boarding schools in the Blitar area. The integrated curriculum model is the integration of the national curriculum with

the hidden curriculum of Islamic boarding schools. The implementation of this integrated curriculum has a positive impact on the formation of the religious character of students and has received a good response from the guardians of the students. Meanwhile, the research findings of Zakiya et al., (2023) describe that the design of the integrative curriculum model at the Diniyyah Pasia Modern Islamic Boarding School, namely integrating the madrasah curriculum with Islamic Boarding School curriculum, has been well organized, but it is necessary to consider the workload of teachers and the materials provided to students, so that the implementation of the mu'adalah education unit curriculum can be used as an alternative to the integrative curriculum model that has been implemented.

Some of the integrative curriculum designs above focus on the combination of the national curriculum with the Islamic Boarding School curriculum and the international curriculum. The next two research findings focus more on curriculum design that is integrated with technology, such as research conducted by Mustas (2021) has concluded that in the Mambaus Sholihin Gresik Islamic Boarding School, it focuses on developing a curriculum that is responsive to technological developments, so that students are given facilities that can be used in order to improve information behavior from various sources of information. In addition, research conducted by Munzir et al., (2024) concluded that traditional Islamic Boarding School or traditional dayah education has begun to design a curriculum integrated with technology so that it is able to produce quality graduates or students in the modern era, this design is beginning to be realized in learning that utilizes technology in it. The design of the integrated curriculum ultimately forms an educational goal, as the results of research by Zainal et al., (2022) who found that the development of an integrative curriculum in the Islamic Boarding School environment is part of a strategy to produce graduates who excel in the fields of religious science and science and technology.

At the stage of implementing the integrative curriculum, several Islamic Boarding Schools do it with a variety of strategies. As described by Fadillah et al., (2021) the strategy of integrating the salaf curriculum with the madrasah curriculum can be implemented in intracurricular and extracurricular activities. An integrative curriculum also does not mean adding subject matter, only integrating tahfidz materials, yellow books and school resource empowerment, strategies like this can produce quality students. Meanwhile, at An-Naja Boarding School Junior High School in Bandung, the stages of implementation of the integrative curriculum are found as follows: planning of integrated curriculum content and goal planning and organization, implementation of curriculum programs and supervision, as well as evaluation stages based on inputs, processes and results (Athallah et al., 2021).

The implementation of an integrated curriculum is also carried out at Al-Ihsan Islamic Boarding School in Riau in the form of the implementation of a special learning model that is more contextual in the form of creating learning clubs and tutoring, the purpose of which is so that students are able to adapt and successfully follow the learning process (Setyaningsih et al., 2025). Meanwhile, at the Arafah Modern Islamic Boarding School and the Nurul Haq Modern Islamic Boarding School in Kerinci. The implementation of the integrative curriculum is carried out with a different approach. The Arafah Modern Islamic Boarding School uses an interdisciplinary approach that connects religious subject matter with general subject matter. The Nurul Haq Modern Islamic Boarding School uses a multidisciplinary approach that internalizes Islamic religious values in each subject (Herningrum & Siregar, 2025).

The integrative curriculum model is also seen in the management of its curriculum components, based on a study by Ashari et al., (2022) that integrative curriculum management includes integrated curriculum objectives, standardized subject matter, the incorporation of academic calendars, and evaluation processes with contextual dimensions, inputs, processes and results. The three aspects of management are included in the integrative curriculum model that is designed. The results of this study are also strengthened by the findings of research from Arifin et al., (2025) which describe the stages of curriculum integration starting from planning, implementation to evaluation. At the planning stage, the alignment of objectives and subject matter is carried out. The implementation stage is to unite the academic calendar and the evaluation stage of supervising with regular meetings for teachers.

RQ2: How to innovate learning by integrating technology in Islamic Boarding Schools in Indonesia?

The second research question focuses on forms of learning innovation that integrate technology in Islamic Boarding Schools in Indonesia. This question was answered by Putra et al., (2019) with the results of their research related to the use of digital media in the citizenship learning process in the modern Islamic Boarding School environment. The implication is that it can develop the competence of students in managing information resources or learning, as well as being able to search and use the information they get through the help of digital media. The results of other research also show that the Darul Ulum Islamic Boarding School in Kudus also innovates by adapting the use of technology in the learning process. The technology used is like social media, namely Facebook, WhatsApp, YouTube and Instagram. The use of this technology has a positive impact on Islamic Boarding School such as Islamic Boarding School branding can be affordable and known to more people (Zafi et al., 2021).

Learning innovations are also carried out in traditional Islamic Boarding Schools by utilizing technological tools in the form of Islamic and health applications. Based on the results of development research conducted by Bajari et al., (2021) an android-based application has been developed related to Islam and health. The application developed has an impact on the effectiveness of the learning process and provides opportunities for teachers to teach health material to students. Other learning innovations are also recorded in the results of research conducted by Meriza et al., (2022) that learning the yellow book in Dayah (Islamic boarding schools in Aceh) still exists and has begun to change its learning pattern by using digital media as a secondary reference such as the use of the maktabah syamilah application when learning the yellow book takes place.

Other forms of learning innovation are also summarized in the context of learning models and methods applied during the learning process at Islamic Boarding Schools in Indonesia. As the results of research conducted by Ridwan et al., (2019) that the organization of learning in Islamic Boarding School can be seen from the practice of the learning interaction model that has changed and utilizes technology, this is a form of answer to the progress of the times. The next research finding conducted by Ritonga et al., (2021) is that the purpose and method of learning the yellow book and Arabic at Islamic Boarding School must be adjusted to the needs of students, so that students can utilize other book sources without limits by using technology. The results of Minasari, (2025) research also describe that in the Islamic Boarding School environment, modern learning methods have been implemented and integrated with technology, meaning that teachers utilize technology such as digital

media in the learning process so that the level of digital literacy of students increases, even though the Salafiyah Islamic Boarding School is still minimal.

Islamic boarding school strategies are an important part of learning innovation in the use of technology, as the results of research conducted by Murdianto, (2021) that Islamic boarding schools in the Lombok region have implemented various strategies as a first step in facing the digital world. There is the integration of technology in the learning process, the development of an integrated curriculum, and the improvement of the digital competence of teachers and students. At the Batang Kabung Islamic boarding school, it also takes steps and strategies in facing the digital world by revising a more responsive curriculum and preparing an education budget for facilities needed in technology-based learning. All of these steps are taken in order to produce students who are qualified and relevant to the demands of the times (Ritonga et al., 2022). These forms of learning innovation become an academic culture that must be preserved, The research findings of Munifah & Purwaningrum, (2022) are proof that the development of school culture carried out by the head of the madrasah is to organize technology based turats learning, organization starting from the design, implementation and evaluation of learning using technology.

Technology-integrated learning innovations carried out by Islamic Boarding Schools in Indonesia have implications for the effectiveness of the learning process. This is answered by research conducted by Nasution et al., (2024) hat the use of technology in learning Arabic language sciences in traditional pesantren environments has a positive impact on the effectiveness and efficiency of learning. Various technological tools are used such as computers, laptops, mobile phones and so on. In addition, it is strengthened by the results of research conducted by Saputro & Arif, (2025) that the Askhabul Kahfi and Roudlatul Muttaqin Islamic Boarding Schools in the city of Semarang have implemented online platforms, learning applications and digital resources in their learning process. This use has implications for the effectiveness of learning, although it does not eliminate traditional methods that have been practiced for a long time.

Another implication is also to the quality of learning and strengthening the value of religious moderation, following the results of research conducted by Subair et al., (2024) in Islamic Boarding Schools from various regions in Indonesia, that the application of multilingualism in the Islamic Boarding School environment can have a positive impact and strengthen the value of religious moderation, the application of multilingualism can also utilize technological tools, both software and hardware. As well as the results of research conducted by Taufikin et al., (2025) that digital content can have a significant impact on the quality of learning, this is proven by quantitative figures that 70% of students are able to understand the subject matter and 80% of students are interested in learning. The use of digital content is a learning model that can also be implemented in other Islamic boarding schools with policy support and infrastructure facilities.

CONCLUSION

Based on the discussion above, the research questions posed previously can be answered and concluded as follows: first, the integrative curriculum model in Islamic Boarding Schools in Indonesia can be identified in two aspects, namely curriculum design can be in the form of integration of the national curriculum with the curriculum of Islamic boarding schools or madrasah curriculum as well as international curriculum. In addition, curriculum design is also integrated with technology. Meanwhile, the implementation aspect of the integrative curriculum is in the implementation of

intracurricular and extracurricular learning activities, in the organization of subject matter, learning approaches and methods, and in the implementation of learning evaluations.

Second, forms of learning innovation by integrating technology in Islamic boarding schools in Indonesia include innovation and use of digital-based learning media as well as innovations in the application of various learning methods that are integrated with technology. Meanwhile, the positive impact of the learning innovation is the effectiveness and quality of learning.

REFERENCES

Arifin, N., Ochocka, J., & Tabroni, I. (2025). Islamic Education Innovation: Integration of Pesantren and Schools Curriculum. *Edukasi Islami: Jurnal Pendidikan Islam*, *14*(02), 353–364. https://doi.org/10.30868/ei.v14i02.8271

Ashari, R., Sukrisna, C., Budiman, A., Zarkasyi, A., & Wajdi, M. B. N. (2022). The Integrative Curriculum Management with a Boarding System in High Schools. *QALAMUNA: Jurnal Pendidikan, Sosial, Dan Agama*, *14*(1), 483–496. https://doi.org/10.37680/qalamuna.v14i1.4398

Athallah, A. M. A., Suprijadi, D., & Azizah, S. N. (2021). Integrated Curriculum Implementation Management at Boarding School. *Al-Tanzim: Jurnal Manajemen Pendidikan Islam*, *05*(03), 86. https://doi.org/10.33650/al-tanzim.v5i3.2743

Atwa, H. S., & Gouda, E. M. (2014). Curriculum Integration in Medical Education: A Theoretical Review. *Intellectual Property Rights: Open Access*, *2*(2). https://doi.org/10.4172/2375-4516.1000113

Aziz, A., Setyawan, B. W., Purwowidodo, A., & Yasin, M. (2023). Islamic Integrated Curriculum Model to Strengthen Santri's Religious Character: A Case Study at Islamic Boarding School in Blitar. *Cendekia: Jurnal Kependidikan Dan Kemasyarakatan*, *21*(1), 63–79. https://doi.org/10.21154/cendekia.v21i1.6082

Bajari, A., Wahyudin, U., Koswara, I., & Erlandia, D. R. (2021). The Influence of Android-Based "Islam Sehat" Application for Traditional Islamic Boarding Schools' (TIBS) Students in Indonesia. *Kasetsart Journal of Social Sciences*, *42*(4), 862–870. https://doi.org/10.34044/j.kjss.2021.42.4.21

Chen, H. J., Liao, L. L., Chang, Y. C., Hung, C. C., & Chang, L. C. (2019). Factors Influencing Technology Integration in the Curriculum for Taiwanese Health Profession Educators: A Mixed-Methods Study. *International Journal of Environmental Research and Public Health*, *16*(14), 1–16. https://doi.org/10.3390/ijerph16142602

Engkizar, E., Muliati, I., Rahman, R., & Alfurqan, A. (2018). The Importance of Integrating ICT Into Islamic Study Teaching and Learning Process. *Khalifa: Journal of Islamic Education*, *1*(2), 148. https://doi.org/10.24036/kjie.v1i2.11

Fadillah, H., Trisnamansyah, S., Insan, H. S., & Sauri, S. (2021). Strategy of Integrated Salaf Curriculum in Madrasah Aliyah to Improve the Graduates' Quality. *Journal of Education Research and Evaluation*, *5*(4), 656. https://doi.org/10.23887/jere.v5i4.33007

Gai Mali, Y. C., Kurniawan, D., Januardi, J. I., Swara, S. J., Lokollo, N. C. E., Picauly, I. A., Paramitha, N. G., Tanore, J. A., Dewani, M. S., & Pakiding, R. W. (2023). Issues and Challenges of Technology Use in Indonesian Schools: Implications for Teaching and Learning. *IJIET (International Journal of Indonesian Education and Teaching)*, *7*(2), 221–233. https://doi.org/10.24071/ijiet.v7i2.6310

Hadi, S., Tjahjono, H. K., & Palupi, M. (2020). *Systematic Review: Meta Sintesis Untuk Riset Perilaku Organisasional* (D. W. P. Ranto (ed.); Issue Maret). Viva Victory.

Herningrum, I., & Siregar, A. D. (2025). Curriculum Integration Management in Islamic Education: A Case Study of Kerinci Modern Boarding School. *Tarbawi: Jurnal Keilmuan Manajemen Pendidikan*, *11*(1), 177–192. https://doi.org/10.32678/tarbawi.v11i01.11333

Ilham, D., & Suyatno, S. (2020). Pengembangan Manajemen Kurikulum dan Pembelajaran di Pondok Pesantren. *Jurnal Akuntabilitas Manajemen Pendidikan*, *8*(2), 186–195. https://doi.org/10.21831/jamp.v8i2.32867

Ilyasin, M. (2020). Transformation of Learning Management: Integrative Study of Islamic Boarding School Curriculum. *Dinamika Ilmu*, *20*(1), 13–22. https://doi.org/10.21093/di.v20i1.2006

Indra, H. (2020). Challenges and Response in Islamic Education Perspective in The Digital Media Era. *ATTARBIYAH: Journal of Islamic Culture and Education*, *5*(1), 31–42. https://doi.org/10.18326/attarbiyah.v5i1.31-42

Khusumadewi, A. (2021). Identification of Student (Santri) Problems on Islamic Boarding School (Pondok Pesantren). *Proceedings of the International Joint Conference on Arts and Humanities 2021 (IJCAH 2021)*, *618*(Ijcah), 990–993. https://doi.org/10.2991/assehr.k.211223.173

Meriza, I., Febriani, A., Tisa, M., & Nurdin, M. R. (2022). The Existence of the Yellow Book in the Digital Era: Study in Dayah Aceh. *FITRAH: Jurnal Kajian Ilmu-Ilmu Keislaman*, *8*(1), 21–36. https://doi.org/10.24952/fitrah.v8i1.4987

Minasari, A. (2025). Utilization of Digital Media Among Students at International Islamic Boarding Schools. *QALAMUNA: Jurnal Pendidikan, Sosial, Dan Agama*, *17*(1), 421–432. https://doi.org/10.37680/qalamuna.v17i1.5866

Moher, D., Liberati, A., Tetzlaff, J., Altman, D. G., Antes, G., Atkins, D., Barbour, V., Barrowman, N., Berlin, J. A., Clark, J., Clarke, M., Cook, D., D'Amico, R., Deeks, J. J., Devereaux, P. J., Dickersin, K., Egger, M., Ernst, E., Gøtzsche, P. C., … Tugwell, P. (2009). Preferred reporting items for systematic reviews and meta-analyses: The PRISMA statement. *PLoS Medicine*, *6*(7). https://doi.org/10.1371/journal.pmed.1000097

Munifah, M., & Purwaningrum, S. (2022). Leadership Strategy: Developing School Culture Through Digital Turats learning. *Cypriot Journal of Educational Sciences*, *17*(1), 68–80. https://doi.org/10.18844/cjes.v17i1.6682

Munzir, Lubis, L., & Arsyad, J. (2024). Salafiyah Dayah's Strategy in Producing Quality Students in the Modern Era. *JTP - Jurnal Teknologi Pendidikan*, *26*(2), 746–756. https://doi.org/10.21009/jtp.v26i2.49547

Murdianto, M. (2021). Adaptation Strategies of Islamic Boarding Schools in Lombok in Facing the Digital Age. *Scaffolding: Jurnal Pendidikan Islam Dan Multikulturalisme*, *3*(1), 76–92. https://doi.org/10.37680/scaffolding.v3i1.6300

Mustas, C. (2021). Information Behavior of Santri in the Digital Era: From Literacy to Multiliteracy. *Library Philosophy and Practice*, *2021*, 1–13.

Nasution, S., Asari, H., Al-Rasyid, H., Dalimunthe, R. A., & Rahman, A. (2024). Learning Arabic Language Sciences Based on Technology in Traditional Islamic Boarding Schools in Indonesia. *Nazhruna: Jurnal Pendidikan Islam*, *7*(1), 77–102. https://doi.org/10.31538/nzh.v7i1.4222

Norman, T. A., & Wall, A. (2020). Curriculum Integration: Walking the Walk. *Current Issues in Middle Level Education*, *25*(1). https://doi.org/10.20429/cimle.2020.250106

Oktaria, A., Khoirul, K., Fitriyenni, S., Paiman, P., & Irfan, M. (2022). Peran Pesantren dalam Era Digital. *Scaffolding: Jurnal Pendidikan Islam Dan Multikulturalisme*, *4*(3), 432–444. https://doi.org/10.37680/scaffolding.v4i3.2108

Page, M. J., McKenzie, J. E., Bossuyt, P. M., Boutron, I., Hoffmann, T. C., Mulrow, C. D., Shamseer, L., Tetzlaff, J. M., Akl, E. A., Brennan, S. E., Chou, R., Glanville, J., Grimshaw, J. M., Hróbjartsson, A., Lalu, M. M., Li, T., Loder, E. W., Mayo-Wilson, E., McDonald, S., … Moher, D. (2021). The PRISMA 2020 Statement: An Updated Guideline for Reporting Systematic Reviews. *The BMJ*, *372*. https://doi.org/10.1136/bmj.n71

Permana, H., Wahyudin, U. R., Nurlailsari, E., & Irwansyah, R. (2024). *Implementation of Integrated Quality Management in Islamic Boarding School Education* (Issue Bishss 2023). Atlantis Press SARL. https://doi.org/10.2991/978-2-38476-273-6_39

Putra, A. L., Muchtarom, M., & Rejekiningsih, T. (2019). Using Digital Media in Civics Education Learning Subject to Develop Santri's Digital Literacy at the Age of Technology Disruption. *International Journal of Engineering and Advanced Technology (ICRAET-18)*, *8*(5), 818–823. https://doi.org/10.35940/ijeat.E1115.0585C19

Ridwan, T., Ibrahim, N., & Sumantri, M. S. (2019). Islamic Boarding School Learning Organization: Analysis of Learning Dynamic, Organizational Transformation and Application of Technology. *International Journal of Engineering and Advanced Technology (IJEAT)*, *8*(5), 1054–1056. https://doi.org/10.35940/ijeat.E1149.0585C19

Ritonga, M., Purnamasari, S., Budiarti, M., Lahmi, A., Nurdianto, T., & Zulfida, S. (2021). The Management of Arabic Language and The Yellow Book Curriculum Planning at Islamic Boarding Schools in Respond to The Freedom to Learn Education System. *Journal of Management Information and Decision Sciences*, *24*(Special Issue 1), 1–10.

Ritonga, M., Sobhan, S., Bambang, B., & Khadidja, S. (2022). Utilizing Technology to Improve the Quality of Learning in Indonesia: Challenges and Consequences for Arabic Teachers. *Arabiyat : Jurnal Pendidikan Bahasa Arab Dan Kebahasaaraban*, *9*(1), 56–68. https://doi.org/10.15408/a.v9i1.24516

Rohman, A., Muda, L., Posangi, S. S., Yahiji, K., & Munirah, M. (2021). Alternative Approach Techniques to Support Home Islamic Boarding Schools Using Virtual Learning Technology. *Linguistics and Culture Review*, *5*(S4), 1386–1399. https://doi.org/10.21744/lingcure.v5ns4.1846

Sa'dullah, A., Haris, A., & Wahidmurni, W. (2021). Curriculum Management of Al Izzah Islamic International Boarding School Batu. *Nidhomul Haq : Jurnal Manajemen Pendidikan Islam*, *6*(3), 704–715. https://doi.org/10.31538/ndh.v6i3.1992

Sa'idah, E. M., Sri, M., & Edison, E. (2023). Scrutinizing Middle School Teachers' Knowledge and Perception on the Integration of Science and Religion. *AL-ISHLAH: Jurnal Pendidikan*, *15*(2), 1194–1203. https://doi.org/10.35445/alishlah.v15i2.3312

Saputro, M. R., & Arif, M. (2025). *Analysis of the Role of Information Technology in Strengthening Islamic Religious Education in Pesantren: A Study of Digital Transformation*. *7*(2), 803–828. https://doi.org/10.47006/ijierm.v7i2.474

Setyaningsih, R., Ramadhan, M. A., Ulfa, M., & Nur Fauziah, S. A. B. (2025). Curriculum Integration in Islamic Boarding School: A Case Study of Al-Ihsan Boarding School, Riau. *Nadwa Jurnal Pendidikan*, *19*(1), 65–84. https://doi.org/10.21580/nw.2025.19.1.25999

Subair, M., Syamsurijal, Rismawidiawati, Idham, Muslim, A., & Nur, M. (2024). Multilingualism, Technology, and Religious Moderation in Indonesian Islamic Boarding Schools. *International Journal of Language Education*, *8*(3), 550–563. https://doi.org/10.26858/ijole.v8i3.66498

Taha, T. B., & Salim, M. (2023). The Impact of Technology on Students' Psychological and Educational Performance. *JISA (Jurnal Informatika Dan Sains)*, *06*(01), 91–95. https://doi.org/10.31326/jisa.v6i1.1661

Taufikin, T., Nurhayati, S., Falah, A., Sholihuddin, M., & Badawi, H. (2025). Integrating Creative Digital Contenct in Pesantren: Improving Santri's Digital Literacy and Islamic Learning. *Edukasia Islamika: Jurnal Pendidikan Islam*, *10*(1), 35–54. https://doi.org/10.28918/jei.v10i1.10326

Zafi, A. A., Jamaluddin, D., Partono, Fuadi, S. I., & Chamadi, M. R. (2021). The Existence of Pesantren Based Technology: Digitalization of Learning in Pondok Pesantren Darul Ulum Kudus. *Jurnal Pendidikan Agama Islam*, *18*(2), 493–510. https://doi.org/10.14421/jpai.2021.182-15

Zainal, S., Manumanoso Prasetyo, M. A., Aziz Yaacob, C. M., & Jamali, Y. (2022). Adopting Pesantren-Based Junior High School Programs: the Pesantren Change Its Educational System Without Conflict. *Jurnal Ilmiah Islam Futura*, *22*(2), 260–276. https://doi.org/10.22373/JIIF.V22I2.13525

Zakiya, N., Irsyad, I., Rusdinal, R., & Nellitawati, N. (2023). Management Integrative Curriculum for Modern Islamic Boarding Schools Based on Kulliyatul Mu ' allimin Al Islamiyyah. *Nidhomul Haq: Jurnal Manajemen Pendidikan Islam*, *8*(3), 541–553. https://doi.org/10.31538/ndh.v8i3.4310

Zou, Y., Kuek, F., Feng, W., & Cheng, X. (2025). Digital learning in the 21st Century: Trends, Challenges, and Innovations in Technology Integration. *Frontiers in Education*, *10*. https://doi.org/10.3389/feduc.2025.1562391