

# Journal of Social and Economics Research Volume 6, Issue 2, December 2024

P-ISSN 2715-6117 E-ISSN 2715-6966

Open Access at: <a href="https://idm.or.id/JSER/index.php/JSER">https://idm.or.id/JSER/index.php/JSER</a>

# SYSTEMATIC LITERATURE REVIEW: OBSTACLES AND STRATEGIES FOR INCREASING THE COMPETENCY OF PAI TEACHERS IN HIGH SCHOOLS

## Nur Adilah<sup>1</sup>, Slamet Riyadi<sup>2</sup>, Suwardi<sup>3</sup>

1,2,3 Ekasakti University, Padang

Email: nuradilahumizizi@gmail.com1, slametriyadiabizizi@gmail.com2, suwardi531@gmail.com3

### ARTICLE INFO

#### \_\_\_\_

ABSTRACT

### Correspondent:

Nur Adilah nuradilahumizizi@gmail.c om

### Key words:

Islamic Religious Education teacher competency, constraints, strategies, Islamic Religious Education learning

Website: https://idm.or.id/JSER/inde x.php/JSER

Page: 1090 - 1103

Islamic Religious Education (PAI) teachers often face obstacles, such as limited training, minimal access to technology-based resources, and high administrative burdens. This analysis aims to identify the main obstacles and provide strategies to improve the competence of PAI teachers in Senior High Schools (SMA). The analysis was conducted using the Systematic Literature Review (SLR) method with the PRISMA approach. A total of 25 relevant scientific articles from leading databases, such as Scopus, Google Scholar, and Web of Science, published between 2018-2024 were analyzed in depth. The results of the analysis show that the obstacles faced by PAI teachers are the lack of practice-based training, limited digital learning resources, and low institutional support in adopting modern technology. Strategies that have proven effective in overcoming these obstacles include the development of practice-based training programs, the use of digital learning media, and the formation of learning communities to improve collaboration between teachers. Improving the competence of PAI teachers has a significant positive impact, such as increased student engagement in learning, stronger internalization of Islamic values, and the adoption of innovative learning methods that are relevant to student needs. This analysis provides an important contribution in designing policies and programs to improve the competence of Islamic Religious Education teachers that focus on technology integration and professional collaboration. The implications of these findings can support education providers in creating a sustainable and more effective learning ecosystem, so that it can improve the quality of Islamic Religious Education learning at the high school level and have a positive impact on the formation of student character.

Copyright © 2024 JSER. All rights reserved.

### INTRODUCTION

Islamic Religious Education (PAI) in Senior High Schools (SMA) plays an important role in forming students' character based on Islamic values (Masturin, 2022; Idris, 2023; Jumaah et al., 2023; Kurniawati & Fatimah, 2024). PAI teachers have a responsibility not only as teachers, but also as moral and spiritual educators who are

able to direct students to become individuals who are faithful, devout and have noble character. However, in practice, many PAI teachers face major challenges in improving their competence (Biantoro, 2019; Abbas et al., 2021; Aulia & Siregar, 2022; Hotimah et al., 2023; Taufik et al., 2024). Some of the obstacles that often arise include a lack of relevant and sustainable training, limited access to technology and modern learning resources, as well as high administrative burdens that reduce their focus on learning development (Doring & Madsen, 2022; Alzahrani & Alhalafawy, 2023; Kamalov et al., 2023; Badshah et al., 2023; Fitrianto & Saif, 2024). This condition is a serious concern, especially in an era where learning demands a more innovative and adaptive approach to student needs.

One of the issues that is currently of major concern is the integration of technology in learning, including PAI learning. PAI teachers are faced with the challenge of utilizing technology as an effective tool in the learning process (Meliani, et al 2022; Mun'im Amaly, et al 2022; Hakim, et al., 2023; Ikhwan, et al., 2023; Rasyidi & Al Idrus, 2024). In addition, curriculum policies that encourage project-based and collaborative learning require teachers to have higher competence in designing and implementing appropriate learning methods (Miller & Krajcik, 2019; Hussein, 2021; Martinez, 2022; Markula & Aksela, 2022; Zhao et al., 2023). However, the reality in the field shows that the majority of PAI teachers do not have sufficient skills to adopt technology or implement innovative learning methods (Li et al., 2021; Pillai et al, 2021; Bui, 2022; Sofi-Karim et al., 2023; Bizami et al., 2023). This condition is a significant obstacle in efforts to improve the quality of PAI learning in high school.

Various previous studies have explored issues related to PAI teacher competency. Research by Khotimah et al (2024) entitled " Increasing The Competence of Islamic Religious Education Teachers from A Madrasah-Based Management Perspective", shows that the main obstacles in the professional development of PAI teachers are lack of access to quality training and minimal institutional support. This research concludes that PAI teacher professional development requires a sustainable and relevant training program. Furthermore, research by El Sabagh (2021) by title " Adaptive elearning environment based on learning styles and its impact on development students' engagement", revealed that the use of technology in PAI learning can increase student interest and involvement. However, limited teacher skills are the main challenge in its implementation. This research emphasizes the importance of technology training for PAI teachers. Another research by Rahman and Adila et al (2023), entitled " The Role of Teachers in The Development of Islamic Religious Education (PAI) Curriculum in Public Junior High Schools ", shows that the lack of innovative learning methods and the lack of supporting facilities are major obstacles for PAI teachers. This research recommends the development of more innovative learning models.

Although these studies provide important insights, there have been no studies that systematically analyze the obstacles and strategies for increasing PAI teacher competency in high school using a Systematic Literature Review (SLR) approach. This is the research gap that this research will fill. By analyzing the latest literature, this research aims to provide a more comprehensive picture of the main obstacles faced

by PAI teachers as well as strategies that can be implemented to improve their competence.

This analysis is novel in the approach used, namely using the SLR method to analyze obstacles and strategies for increasing the competency of PAI teachers in high schools. The main focus of this research is on technology integration, practice-based training program development, and collaboration between teachers, which have not been widely discussed in previous research. It is hoped that the results of this research can make a real contribution to the development of more inclusive and evidence-based educational policies to support the sustainable development of PAI teacher competencies.

The impact of this analysis is very significant, especially in improving the quality of PAI learning in high schools. By understanding the main obstacles and effective strategies, this research can help improve teachers' skills in using technology, strengthen innovative learning methods, and support the formation of better student character. This implication is very relevant for creating an educational ecosystem that supports more effective PAI learning and has a positive impact on students.

Based on this, this analysis is designed to answer three main questions.

- 1. What are the main obstacles faced by PAI teachers in improving their competence in high school?
- 2. What strategies are effective for increasing the competency of PAI teachers in high schools?
- 3. What is the impact of increasing PAI teacher competency on the quality of learning and character formation of students?

### **METHOD**

This analysis uses a Systematic Literature Review (SLR) approach to analyze obstacles and strategies for increasing the competency of Islamic Religious Education (PAI) teachers in Senior High Schools (SMA) (Alwizar et al., 2021; Arif & Abd Aziz, 2023; Rahman et al., 2024; Fadlillah & Kusaeri, 2024; Luqmi et al., 2024). The SLR method was chosen because it provides a structured and systematic framework for identifying, evaluating and analyzing relevant research results from various literature sources. This approach allows researchers to obtain a comprehensive picture of the topic under study, while ensuring that the analysis is based on valid empirical evidence.

The SLR process begins with the formulation of previously designed research questions. Next, a literature search was carried out using academic databases such as Scopus, Google Scholar, and ProQuest, using keywords such as "PAI teacher competencies," "PAI teacher obstacles," "competency improvement strategies," And "Islamic religious education in high school." The search focused on articles published in the last five years (2018–2023) to ensure relevance and recency of the data. The literature

obtained was then filtered based on inclusion and exclusion criteria. Inclusion criteria include articles that focus on PAI teacher competency, learning at the high school level, as well as strategies for increasing teacher competency. Meanwhile, exclusion criteria include articles that are not available in full text, are not relevant to the SMA context, or are not based on empirical research. Articles that pass this screening process are then evaluated further to ensure their quality and relevance to the research objectives.

Following the selection process, data from relevant articles were coded and analyzed thematically. Thematic analysis was used to identify patterns, themes, and categories that emerged from the literature reviewed. In the context of this research, the three main themes that are the focus of the analysis are the main obstacles in increasing PAI teacher competency, effective strategies for increasing this competency, and the impact of increasing competency on learning and student character formation. The results of this thematic analysis are arranged in the form of a narrative that answers the research questions systematically. In addition, to provide a clearer picture, the results of the analysis are also presented in table form containing the main findings from the literature studied. With this approach, it is hoped that research can produce an in-depth and useful synthesis for the development of educational policies and PAI learning practices in high schools. This SLR method not only provides a strong foundation for understanding the problems faced by PAI teachers, but also offers recommendations based on empirical evidence, making it relevant to be implemented in the educational context in Indonesia.

### RESULTS AND DISCUSSION

In this research, 25 relevant articles analyzing the competency of Islamic Religious Education (PAI) teachers in Senior High Schools (SMA) have been analyzed to provide a clearer picture of the obstacles and strategies for increasing PAI teacher competency. These articles were selected based on the relevance of the topic and the quality of the research in accordance with the focus of the study. Based on the analysis carried out, a number of important conclusions can be drawn regarding the challenges faced by PAI teachers and the approaches that can be used to overcome these challenges. In general, the results of the analysis show that the main obstacles faced by PAI teachers in high school are related to the lack of continuous professional training, limited ability to use learning technology, and limited facilities and infrastructure to support learning. Many studies emphasize that PAI teachers often do not have the opportunity to take relevant training that could improve their skills in teaching. Apart from that, the limited use of technology in learning is also a problem, because many PAI teachers are not yet skilled in utilizing digital tools that can improve the quality of learning.

Competency improvement strategies found in these articles focus heavily on developing practice-based training, collaboration between teachers, and increasing the use of technology in learning. Several studies have identified that practice-based training programs, such as workshops or courses that allow PAI teachers to directly

apply the material learned, are very effective in improving their abilities. Collaboration strategies between teachers have also proven effective, because they allow them to share experiences and successful learning methods. In addition, a number of articles highlight the importance of technology-based approaches such as the use of learning applications and digital platforms that enable teachers to access a wider range of learning resources.

From these results, it can be concluded that the impact of increasing PAI teacher competency on the quality of learning is very significant. Many studies show that when PAI teachers have better competence, both in pedagogical aspects and the use of technology, the quality of PAI learning in the classroom increases. This also has an impact on the formation of students' character, because more effective learning helps students to better understand and internalize the Islamic values taught.

Conclusions from 25 Analyzed Articles that *First* is the main obstacle faced by PAI teachers. Based on the 25 articles analyzed, most research agrees that the main obstacles faced by PAI teachers are a lack of relevant and sustainable training, limited skills in using technology, and a lack of facilities and infrastructure that support learning. PAI teachers often lack professional training that can help them develop their teaching abilities, especially in terms of the use of technology and modern learning methods.

Second Strategy for Increasing PAI Teacher Competency. Some of the strategies found in this research include practice-based training, use of digital platforms to enrich learning experiences, and collaboration between teachers to share effective learning methods. Training that involves direct practical application of the material studied has proven to be more effective in improving PAI teachers' abilities compared to training methods that are only theory-based. Collaboration between teachers is also the key to creating a more innovative and enjoyable learning environment. *Third* The Impact of Increasing PAI Teacher Competency on Learning and Student Character Formation. Increasing the competency of PAI teachers has a significant impact on the quality of learning and the formation of student character. Teachers who have better skills can deliver material more effectively, so that students can more easily understand and internalize the values contained in PAI learning. This has a positive impact on the character of students, who become closer to Islamic values, as well as increasing their motivation to study religious teachings more deeply. Analysis of these 25 articles provides a clearer picture of the obstacles, strategies and impacts of increasing PAI teacher competency in high school. Based on these findings, we can proceed to answer the three research questions that have been formulated.

# RQ1. What are the main obstacles faced by PAI teachers in improving their competence in high school?

Based on an analysis of 25 relevant articles, several main obstacles were found that Islamic Religious Education (PAI) teachers in Senior High Schools (SMA) faced in their efforts to improve their competence. These obstacles are varied, but can be

grouped into three main categories: lack of ongoing professional training, limited skills in the use of technology, and limited learning facilities and resources.

First, many studies show that the lack of continuous professional training is a major obstacle to the development of PAI teacher competency. Most PAI teachers in high schools do not have adequate access to training programs that can improve their teaching skills. Existing training often does not cover the practical aspects needed to develop pedagogical and didactic competencies that are relevant to current educational developments. In addition, the training provided tends to be sporadic and unsustainable, thus not providing sufficient opportunities for teachers to update their knowledge and skills regularly. This has an impact on teachers' limited ability to adapt effective learning methods, especially in facing challenges that continue to develop in the world of education.

Second, limited skills in using learning technology are also a significant obstacle. As part of the digital era, the use of technology in learning has become very important, especially to increase student interactivity and engagement. However, many PAI teachers still find it difficult to use technology effectively in the learning process. Several articles state that these limited digital skills are caused by a lack of adequate training regarding the use of technological aids in PAI teaching. Although most PAI teachers have basic knowledge of technology, they often do not have sufficient skills to optimally integrate technology in the context of Islamic learning. This causes the learning process to be less interesting and less than optimal, even though technology can be a very effective tool for increasing students' understanding of PAI material.

Third, limited facilities and learning resources are also significant obstacles for PAI teachers in improving their competence. Many schools, especially those in remote areas, do not have adequate facilities to support quality learning. Facilities such as comfortable classrooms, interactive learning media, and stable internet access are often unavailable or limited. Without adequate facilities, PAI teachers find it difficult to implement more dynamic and innovative learning methods. Apart from that, limited resources also have an impact on the quality of teaching materials that can be prepared by teachers. Without access to sufficient resources, such as reference books, journals, or digital learning materials, teachers cannot develop teaching materials that are varied and appropriate to student needs.

Overall, these obstacles are interrelated and influence each other, creating a cycle that is difficult to break. PAI teachers who do not have access to adequate training may not be able to develop the necessary technology skills, and without adequate technology, they will have difficulty accessing quality learning resources. Therefore, to effectively improve PAI teacher competency, there needs to be greater attention to ongoing professional training, improving technological skills, and providing adequate facilities and resources for teachers in all high schools.

# RQ2. What strategies are effective for increasing the competency of PAI teachers in high schools?

Based on an analysis of 25 relevant articles, a number of effective strategies for improving the competency of Islamic Religious Education (PAI) teachers in Senior High Schools (SMA) were identified and proven to have a significant impact in improving the quality of learning. These strategies can be divided into several main categories that include professional development, collaboration between teachers, and the use of technology in learning.

### Continuous Professional Development

One of the most effective strategies is ongoing professional development through practice-based training programs and workshops. Based on the findings in the articles analyzed, training that is carried out regularly and is practice-based allows PAI teachers to hone their skills directly in the learning context. This training not only provides theoretical knowledge, but also provides opportunities for teachers to apply this knowledge in real situations. For example, training that teaches teachers how to use active learning methods, such as group discussions or case studies, has a positive impact on teachers' ability to deliver material that is more interactive and interesting to students. This practice-based training program also includes training in managing the classroom more effectively, which is important for overcoming challenges in PAI learning in high school.

### Collaboration Between Teachers

Another strategy that has proven effective is collaboration between teachers. Research shows that when PAI teachers share experiences and learning methods, they can enrich their skills in a more effective way. This collaboration can be carried out in the form of a working group or learning community between PAI teachers, where they can discuss the challenges they face in class and find solutions together. Collaboration also allows teachers to provide each other with input on teaching methods that have proven successful in their respective classes, as well as helping them overcome the sense of professional isolation that PAI teachers often experience, especially in areas that lack resources.

### Use of Technology in Learning

The use of technology in learning is also a very effective strategy in increasing the competency of PAI teachers. Many studies show that technology can enrich students' learning experiences and improve teachers' teaching skills. In this context, the use of digital learning platforms, mobile applications and social media allows PAI teachers to access various learning resources that can broaden their horizons. Apart from that, technology also gives teachers the opportunity to apply more varied learning methods, such as distance learning, video-based learning, and the use of interactive applications that attract students' interest. The use of this technology not only

increases student engagement, but also helps teachers to be more creative in delivering material.

### Task and Project Based Approach

Task and project-based approach strategies have also proven effective in improving PAI teacher skills. This approach encourages teachers to design learning activities that focus not only on teaching theory, but also on developing students' skills through practical assignments and projects that are relevant to their daily lives. Several articles analyzed highlight the importance of using this approach to improve teachers' skills in managing classes and teaching Islamic values in a more applicable way. By involving students in projects based on religious values, teachers can more easily instill Islamic character in students.

Overall, these strategies complement each other and can be implemented simultaneously to achieve maximum results in increasing the competency of PAI teachers in high schools. Continuous training programs, collaboration between teachers, use of technology, and task and project-based approaches can create a more innovative and effective learning ecosystem. Therefore, to significantly improve PAI teacher competency, it is important to integrate these various strategies in educational policies and professional development programs at the school level.

# RQ3. What is the impact of increasing PAI teacher competency on the quality of learning and character formation of students?

Increasing the competency of Islamic Religious Education (PAI) teachers has a significant influence on the quality of learning and character formation of students in Senior High Schools (SMA). Based on the results of analysis from various studies, PAI teachers who have better competence are able to create a learning process that is more structured, interesting and in line with students' needs. These competencies include mastery of teaching materials, pedagogical abilities, use of technology in learning, and skills in guiding students to internalize Islamic values.

In terms of learning quality, competent PAI teachers can deliver material systematically and relevant to the context of students' daily lives. The use of innovative learning methods, such as case-based discussions, simulations, or the use of digital technology, helps students understand the material better. Teachers who are able to integrate technology, such as using interactive learning applications or visual media, have been proven to increase students' interest in learning. Apart from that, a varied approach to learning encourages students to be more actively involved, so that learning becomes more effective. This is in line with research findings by Fauziah (2024) which states that the use of digital media by PAI teachers increases student participation by up to 30%, while strengthening their understanding of the religious concepts being taught.

Apart from that, PAI teacher competency also contributes directly to the formation of student character. Teachers who have a deep understanding of Islamic values can

guide students to apply these values in everyday life. For example, learning accompanied by direct practice, such as religious mentoring programs, joint tadarus, or social service activities based on Islamic values, helps students to internalize values such as honesty, discipline, responsibility and empathy. Research by Yaumas et al.. (2023) shows that competent PAI teachers are able to increase students' awareness of the importance of noble morals and Islamic behavior in social life, which can be seen from increasing student participation in social religious activities at school.

Not only that, good interaction between PAI teachers and students also plays a big role in character formation. Teachers who are able to be role models in daily morals and behavior have a positive impact on students. This is reflected in research by Pujianti (2024) who revealed that the presence of PAI teachers who show empathy, patience and obedience in worship is an inspiration for students to emulate the same thing.

Overall, increasing the competency of PAI teachers has an impact on creating a learning environment that is conducive, enjoyable and meaningful. Competent teachers are not only able to improve students' cognitive learning outcomes, but also help them develop strong Islamic character. This shows that the role of PAI teachers is very important in forming a young generation who is intellectually intelligent and has noble character. Thus, increasing the competency of PAI teachers must be a priority in efforts to improve the quality of religious education in schools.

### **CONCLUSION**

Based on the results of the analysis and discussion above, it can be concluded that increasing the competency of Islamic Religious Education (PAI) teachers has a significant impact on the quality of learning and character formation of students in Senior High Schools (SMA). Competent PAI teachers are able to deliver material systematically and relevantly, use innovative learning methods, and utilize digital technology to create a more effective and interesting learning process. This not only increases students' understanding of the learning material, but also encourages their active involvement in the learning process. Apart from that, the competence of a good PAI teacher plays an important role in forming student character. Teachers who understand Islamic values in depth can be role models and guide students to internalize the values of honesty, discipline, responsibility and empathy. Direct practice-based learning activities, positive interactions between teachers and students, and teacher consistency in demonstrating noble morals help strengthen the formation of students' Islamic character. In conclusion, increasing the competency of PAI teachers not only contributes to the academic aspect, but also shapes students into individuals with noble character in accordance with Islamic values. Therefore, efforts to improve the competency of PAI teachers must be a main concern in supporting the achievement of quality and meaningful religious education

### **REFERENCES**

- Abbas, A., Suriani, S., & Muchlis, M. (2021). Strategy for shapeing the character of students based on PAI in school. *Linguistics and Culture Review*, *5*(S1), 867-877. https://doi.org/10.21744/lingcure.v5nS1.1471
- Adila, A. U., Sari, I. P., & Adiyono, A. (2023). The Role of Teachers in The Development of Islamic Religious Education (PAI) Curriculum in Public Junior High Schools. *Pedagogia: Scientific Journal of Education*, 15(1), 1-8. https://doi.org/10.55215/pedagogia.v15i1.8368
- Alwizar, A., Syafaruddin, S., Nurhasnawati, N., Darmawati, D., Zatrahadi, M. F., Wahyudi, H., & Istiqomah, I. (2021). Systematic analysis of literature review of Tafsir Tarbawi: implementation of Tafsir Tarbawi in Islamic education. *JPPI* (*Journal of Indonesian Educational Research*), 7(4), 729-737. http://dx.doi.org/10.29210/020212746
- Alzahrani, F. K., & Alhalafawy, W. S. (2023). Gamification for learning sustainability in the blackboard system: motivators and obstacles from faculty members' perspectives. *Sustainability*, 15(5), 4613. https://doi.org/10.3390/su15054613
- Arif, M., & Abd Aziz, M. K. N. (2023). Islamic Religious Education Learning Model in the 21st Century: Systematic Literature Review. *Indonesian Journal of Islamic Education* Studies (IJIES), 6(2), 237-262. https://doi.org/10.33367/ijies.v6i2.4417
- Aulia, E. R., & Siregar, B. (2022). The Role of Islamic Religious Education Teachers in Moral Development in MTs. Private Al-Azhar Medan Sunggal. *Britain International of Linguistics Arts and Education (BIoLAE) Journal*, 4(3), 232-240. <a href="https://doi.org/10.33258/biolae.v4i3.778">https://doi.org/10.33258/biolae.v4i3.778</a>
- Badshah, A., Rehman, G. U., Farman, H., Ghani, A., Sultan, S., Zubair, M., & Nasralla, M. M. (2023). Transforming educational institutions: harnessing the power of internet of things, cloud, and fog computing. *Future Internet*, 15(11), 367. <a href="https://doi.org/10.3390/fi15110367">https://doi.org/10.3390/fi15110367</a>
- Biantoro, O. F. (2019). Urgency of Islamic religious education teachers in character building for students in junior high schools. *Al-Hayat: Journal of Islamic Education*, 3(2), 178-199. <a href="https://doi.org/10.35723/ajie.v3i2.83">https://doi.org/10.35723/ajie.v3i2.83</a>
- Bizami, N. A., Tasir, Z., & Kew, S. N. (2023). Innovative pedagogical principles and technological tools capabilities for immersive blended learning: a systematic literature review. *Education and Information Technologies*, 28(2), 1373-1425. https://doi.org/10.1007/s10639-022-11243-w
- Bui, T. H. (2022). English teachers' integration of digital technologies in the classroom. *International Journal of Educational Research Open*, 3, 100204. <a href="https://doi.org/10.1016/j.ijedro.2022.100204">https://doi.org/10.1016/j.ijedro.2022.100204</a>
- Döring, M., & Madsen, J. K. (2022). Mitigating psychological costs—the role of citizens' administrative literacy and social capital. *Public Administration Review*, 82(4), 671-681. <a href="https://doi.org/10.1111/puar.13472">https://doi.org/10.1111/puar.13472</a>

- El-Sabagh, H. A. (2021). Adaptive e-learning environment based on learning styles and its impact on development students' engagement. *International Journal of Educational Technology in Higher Education*, 18(1), 53. <a href="https://doi.org/10.1186/s41239-021-00289-4">https://doi.org/10.1186/s41239-021-00289-4</a>
- Fadlillah, N., & Kusaeri, K. (2024). Optimizing Assessment for Learning in Islamic Education through Authentic and Diagnostic Assessment: A Systematic Literature Review. *Journal of Education: Journal of Research Results and Literature Review in the Field of Education, Teaching and Learning*, 10(2). <a href="https://doi.org/10.33394/jk.v10i2.11555">https://doi.org/10.33394/jk.v10i2.11555</a>
- Fauziah, M. (2024). Islamic Religious Education (PAI) History Learning Innovations. *EDUTEC: Journal of Education And Technology*, 8(1), 1-8. <a href="https://doi.org/10.29062/edu.v8i1.936">https://doi.org/10.29062/edu.v8i1.936</a>
- Fitrianto, I., & Saif, A. (2024). The role of virtual reality in enhancing Experiential Learning: a comparative study of traditional and immersive learning environments. *International Journal of Post Axial: Futuristic Teaching and Learning*, 97-110. https://doi.org/10.59944/postaxial.v2i2.300
- Hakim, L., Irsali, A. N. R., & Watsiqoh, T. N. (2023). The Innovation of Information and Communication Technology in Contextual Teaching and Learning Models Based PAI Learning. *Progressiva: Journal of Islamic Thought and Education*, 12(02), 275-290. <a href="https://doi.org/10.22219/progresiva.v12i02.28525">https://doi.org/10.22219/progresiva.v12i02.28525</a>
- Hotimah, L. H., Hasyim, U. A. A., & Dewi, Y. A. S. (2023). Implementation of Islamic Religious Education in Cultivating Morals in Elementary School Students. *Assyfa Journal of Multidisciplinary Education*, 1(1), 05-09. <a href="https://doi.org/10.61650/ajme.v1i1.513">https://doi.org/10.61650/ajme.v1i1.513</a>
- Hussein, B. (2021). Addressing collaboration challenges in project-based learning: The student's perspective. *Education Sciences*, 11(8), 434. <a href="https://doi.org/10.3390/educsci11080434">https://doi.org/10.3390/educsci11080434</a>
- Idris, M. (2023). The Role of Character Development in Islamic Religious Education: An Islamic Values-Based Approach at one of the MAN Schools in South Sulawesi. West Science Interdisciplinary Studies, 1(08), 640-648. <a href="https://doi.org/10.58812/wsis.v1i08.187">https://doi.org/10.58812/wsis.v1i08.187</a>
- Ikhwan, M., Fuadi, M., Mailizar, M., & Jannah, M. (2023). The Utilization of Information Technology for the Professional Development of Islamic Education Teachers in Indonesia. *Progressiva: Journal of Islamic Thought and Education*, 12(02), 209-222. <a href="https://doi.org/10.22219/progresiva.v12i02.31169">https://doi.org/10.22219/progresiva.v12i02.31169</a>
- Jumaah, J., Masnun, M., & Supardi, S. (2023). The Internalization of The Values of Freedom to Learn in the Learning of Islamic Religious Education (PAI) at Public Senior High School (SMAN) 1 of Wanasaba in the Academic Year of 2023/2024. Educational Professional Scientific Journal, 8(3), 2024-2031. https://doi.org/10.29303/jipp.v8i3.2115
- Kamalov, F., Santandreu Calonge, D., & Gurrib, I. (2023). New era of artificial intelligence in education: Towards a sustainable multifaceted revolution. *Sustainability*, 15(16), 12451. <a href="https://doi.org/10.3390/su151612451">https://doi.org/10.3390/su151612451</a>

- Khotimah, H., Manshur, U., Zaini, A. W., Sanjani, M. A. F., & Suhermanto, S. (2024).

  Increasing The Competence of Islamic Religious Education Teachers from A Madrasah-Based Management Perspective. *Managere: Indonesian Journal of Educational Management*, 6(1), 13-26.

  <a href="https://doi.org/10.52627/managere.v6i1.388">https://doi.org/10.52627/managere.v6i1.388</a>
- Kurniawati, W., & Fatimah, M. (2024). The Role of Islamic Religious Education Teachers in Instilling Character Values in Students at SMAN 1 Ngemplak. *Didactics: Educational Journal*, 13(001 Des), 469-478. <a href="https://doi.org/10.58230/27454312.1414">https://doi.org/10.58230/27454312.1414</a>
- Li, Q., Li, Z., & Han, J. (2021). A hybrid learning pedagogy for surmounting the challenges of the COVID-19 pandemic in the performing arts education. *Education and Information Technologies*, 26(6), 7635-7655. <a href="https://doi.org/10.1007/s10639-021-10612-1">https://doi.org/10.1007/s10639-021-10612-1</a>
- Luqmi, F. Z., Patimah, S., Pahrudin, A., & Rohmatika, R. V. (2024). Artificial Intelligent in the Development of Islamic Education Learning in the Digital Age: A Literature Review Analysis. *TADRIB: Journal of Islamic Religious Education*, 10(1), 303-312. https://doi.org/10.19109/bwcn7114
- Markula, A., & Aksela, M. (2022). The key characteristics of project-based learning: how teachers implement projects in K-12 science education. *Disciplinary and Interdisciplinary Science Education Research*, 4(1), 2.https://doi.org/10.1186/s43031-021-00042-x
- Martinez, C. (2022). Developing 21st century teaching skills: A case study of teaching and learning through project-based curriculum. *Cogent Education*, 9(1), 2024936. <a href="https://doi.org/10.1080/2331186X.2021.2024936">https://doi.org/10.1080/2331186X.2021.2024936</a>
- Masturin, M. (2022). Development of Islamic Religious Education Materials Based on Religious Moderation in Forming Student Character. *Munaddhomah: Journal of Islamic Education Management*, 3(4), 346-355. https://doi.org/10.31538/munaddhomah.v3i4.310
- Meliani, F., Muhyiddin, D. S., Ruswandi, U., Arifin, B. S., & Suzana, S. (2022). Challenges of Using Technology in Islamic Religious Education Learning (Application of Flipped-Classroom in Class X PAI Subjects at SMA Plus Pagelaran Subang). *Islamic Education: Journal of Islamic Education*, 11(001), 41-57. https://doi.org/10.30868/ei.v11i4.3536
- Miller, E. C., & Krajcik, J. S. (2019). Promoting deep learning through project-based learning: A design problem. *Disciplinary and Interdisciplinary Science Education Research*, 1(1), 7. <a href="https://doi.org/10.1186/s43031-019-0009-6v">https://doi.org/10.1186/s43031-019-0009-6v</a>
- Mun'im Amaly, A., Ruswandi, U., Muhammad, G., & Erihadiana, M. (2022). PAI (Islamic Religious Education) teacher in facing the millenial era challenges. *Al-Tadzkiyyah: Journal of Islamic Education*, 13(1), 47-62. <a href="https://dx.doi.org/10.24042/atjpi.v13i1.9438">https://dx.doi.org/10.24042/atjpi.v13i1.9438</a>
- Pillai, K. R., Upadhyaya, P., Prakash, A. V., Ramaprasad, B. S., Mukesh, H. V., & Pai, Y. (2021). End-user satisfaction of technology-enabled assessment in higher

- education: A coping theory perspective. *Education and Information Technologies*, 26(4), 3677-3698. https://doi.org/10.1504/IJLC.2023.127719
- Pujianti, E. (2024). Integrating Neuroscience Perspectives in Islamic Religious Education: Strategies for Developing Islamic Character in Students. *At-Ta*<sup>1</sup>*dib*, 19(2), 241-261.https://doi.org/10.21111/attadib.v19i2.12666
- Rahman, I., Kaema, M. T., Nurhapipah, N., Nelwati, S., Sabri, A., & Rahmanda, R. (2024). Systematic Literature Review: Analysis of Project-based Learning Models from Elementary to High School. Al-Ashri: Ilmu-Ilmu Keislaman, 9(2), 53-66. <a href="https://ojs.stai-bls.ac.id/index.php/Al-Ashri/article/view/119">https://ojs.stai-bls.ac.id/index.php/Al-Ashri/article/view/119</a>
- Rasyidi, A. H., & Al Idrus, S. A. J. (2024). Exploration of pai teacher challenges and opportunities; case study of implementation the independent learning curriculum, in east lombok elementary schools. *Educational Professional Scientific Journal*, 9(1), 506-514. https://doi.org/10.29303/jipp.v9i1.2058
- Sofi-Karim, M., Bali, A. O., & Rached, K. (2023). Online education via media platforms and applications as an innovative teaching method. *Education and Information Technologies*, 28(1), 507-523. <a href="https://doi.org/10.1007/s10639-022-11188-0">https://doi.org/10.1007/s10639-022-11188-0</a>
- Taufik, M., Setiawan, M. N. K., & Mahmud, M. E. (2024). PAI Teacher Qualification Standards as the Main Pillar in Islamic Character Education. *International Journal of Health, Economics, and Social Sciences (IJHESS)*, 6(4), 1141-1151. <a href="https://doi.org/10.56338/ijhess.v6i4.2354">https://doi.org/10.56338/ijhess.v6i4.2354</a>
- Yaumas, N. E., Yemmardotillah, M., Sari, M., Nisa, F. K., Mulyawati, H., & Nasir, A. A. B. A. (2023). Student Assessment of the Personality Competence and Social Competence of Islamic Religious Education Teachers. *International Journal of Islamic Studies Higher Education*, 2(1), 28-40.https://doi.org/10.24036/insight.v2i1.105
- Zhao, L., Zhao, B., & Li, C. (2023). Alignment analysis of teaching-learning-assessment within the classroom: how teachers implement project-based learning under the curriculum standards. *Disciplinary and Interdisciplinary Science Education Research*, 5(1), 13. <a href="https://doi.org/10.1186/s43031-023-00078-1">https://doi.org/10.1186/s43031-023-00078-1</a>