

The Impact of Teacher Certification on Creativity in Islamic Primary Education

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Abstract. The study aimed to examine the influence of teacher certification on the creativity of Islamic religious education. Pendidikan Agama, Islam (PAI), teachers in the teaching and learning process at SDN 18, Bilah Barat. A quantitative ex post facto design with descriptive analysis was employed to investigate the relationship between certification and teacher creativity. The population comprised six grade students and one certified PAI teacher. From this population, a sample of 30 students was selected through cluster sampling. And the certified teacher was analyzed as the main subject. Data collection was conducted using validated instruments, including questionnaires, structured interviews and classroom observations to gather comprehensive insights into the variables under study. The hypothesis was tested using Chi Square analysis. The calculated chi square value ($X^2_{\text{calculated}} = 20.074$) exceeded the critical chi square value ($X^2_{\text{table}} = 3.841$) at significance level of 0.05 with one degree of freedom ($df = 1$) based on these results, the null hypothesis H_0 was rejected, and the alternative hypothesis H_a was accepted. The findings indicated that teacher certification had a significant impact on the creativity of PAI teachers in classroom settings. The results provided empirical evidence supporting the theoretical assumption that certification improves teacher professionalism and creativity. Certification was shown to motivate teachers to design and implement innovative teaching strategies. Contributing to more dynamic and engaging educational practices, this study highlighted the critical role of teacher certification in fostering creativity, particularly in the context of PAI, where teaching involves shaping students moral and spiritual values alongside academic knowledge.

Key words: teacher certification; teacher creativity; Islamic education; elementary school; educational development

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INTRODUCTION

Education has been universally recognized as a fundamental pillar of national development, contributing to the intellectual, moral, and social advancement of society (Tu & Akhter, 2023; Valdez-Juárez & García Pérez-de-Lema, 2023; Yektingtyas et al., 2024; Zhi & Wang, 2023). In Indonesia, education was constitutionally mandated to promote national enlightenment and enhance global competitiveness (Tahir et al., 2024; Tajabadi & Meihami, 2024). Besides its pivotal role, the country's education system faced persistent challenges in meeting both domestic and international quality benchmarks (Saidi et al., 2023; Salehudin et al., 2023). The Ministry of Education and Culture (Kemendikbud) emphasized the urgency of establishing a robust and adaptable educational framework capable of addressing the complexities of a rapidly evolving global environment (Papaja & Rojczyk, 2024; Park, 2023). Among the various factors influencing educational outcomes, teacher performance was widely acknowledged as a critical determinant, highlighting the necessity of sustained professional development initiatives.

Teachers served as the essentials of the educational process, with responsibilities extending beyond knowledge delivery to include fostering students' creativity, character, and critical thinking (Marangio et al., 2024; Marmoah et al., 2024). The role of teachers as agents of learning is emphasized, highlighting their central position in efforts to enhance the quality of national education (Liu et al., 2024; Lu et al., 2024). To fulfill these responsibilities, professional competence was a fundamental requirement for teachers (Huang et al., 2023; Khatami et al., 2023). However, equipping educators with the necessary skills and creativity to navigate the multifaceted challenges of contemporary education remains an ongoing issue (Chen et al., 2023; Fabia, 2024).

Creativity was a vital attribute of effective teaching, enabling educators to design engaging and innovative learning experiences that facilitated deeper student understanding (Acuña, 2024; Albay & Eisma, 2025). In the context of Islamic Religious Education (Pendidikan Agama Islam, PAI), creativity held heightened importance due to the dual objectives of imparting knowledge and cultivating students'

moral and spiritual values (Yulifar, 2023; Zielińska et al., 2024). The dual mandate necessitated the adoption of creative teaching strategies to ensure that religious education was both meaningful and relevant to students' lives (Troyan et al., 2023; Wang, 2024). Significant barriers, including limited resources, insufficient training, and rigid curricular frameworks, hindered the integration of creativity into pedagogical practices (Sumandya et al., 2023; Tejada et al., 2024).

In response to these challenges, the Indonesian government implemented teacher certification programs as a mechanism for enhancing teacher professionalism and performance (Sujana et al., 2023; Sumandya et al., 2023). Certification represented formal acknowledgment of competencies and was designed to encourage the adoption of innovative and effective teaching methodologies (Skrbinjek et al., 2024). Theoretically, certification aligned with motivational frameworks that proposed formal recognition as a driver of both intrinsic and extrinsic motivation, prompting educators to refine pedagogical approaches and embrace professional growth opportunities (Shal et al., 2024). Furthermore, certification programs provided structured training, equipping teachers with the skills required to address the dynamic demands of modern education (Okon, 2024).

Beside the theoretical benefits, the specific relationship between teacher certification and creativity remained inadequately explored (Maisyaroh et al., 2024; Novak et al., 2024). Research examined the impact of certification on teacher quality in general, focusing on improvements in competency and instructional effectiveness (Li, 2023; Maisyaroh et al., 2024). However, these studies rarely investigated how certification directly influenced creative capacities, particularly in the specialized context of PAI (Lestari et al., 2024; Li, 2023). A gap in the literature highlighted the necessity of further research to elucidate the role of certification in fostering creativity among educators.

Challenges faced by PAI teachers were particularly pronounced due to the complexity of religious education, which required the integration of cognitive, emotional, and spiritual dimensions (Kolyvas et al., 2024; Korucu-Kiş, 2024). Addressing these multifaceted demands called for innovative teaching practices that resonated with students' moral and ethical development while maintaining academic demand (Julia et al., 2023; Kim, 2023). Constraints such as limited access to professional development programs, outdated teaching methods, and insufficient resources often hindered the ability of PAI teachers to achieve these objectives (Julia et al., 2023). Certification, as a governmental initiative, was expected to bridge existing gaps by providing teachers with the necessary tools to design and implement creative teaching strategies (L. E. Hidayat et al., 2024; Javid et al., 2023).

At SDN 18 Bilah Barat, teacher certification was anticipated to enhance the creativity of PAI teachers, enabling the creation of engaging and dynamic learning environments. However, the extent to which certification influenced teacher creativity remained uncertain. Research on certification mostly emphasized effects on teacher competency and effectiveness, with limited focus on its role in fostering creativity (D. N. Hidayat & Mason, 2023; L. E. Hidayat et al., 2024). A lack of empirical evidence highlighted a critical gap in understanding, which formed the focus of the present investigation.

Research explored the impact of teacher certification on the creativity of PAI teachers at SDN 18 Bilah Barat. Specifically, investigations were directed toward understanding how certification influenced the ability to design and implement innovative teaching methods that enhanced student engagement and comprehension. The study contributed to the broader discourse on educational quality improvement by examining the intersection of certification and creativity.

METHODS

The study employed a quantitative approach with descriptive analysis, focusing on numerical data derived from events or phenomena that had already occurred (Saidi et al., 2023; Tajabadi & Meihami, 2024). An *ex post facto* quantitative method was utilized to identify correlations or causal relationships related to teacher certification and its impact on creativity. The research population consisted of grade VI students and Islamic religious education teachers at SDN 18 Bilah Barat. The research aimed to explore the relationship between teacher certification and the competencies and creativity of Islamic education teachers. The analysis included a focus on teacher practices and how certification influenced their instructional approaches. By adopting a formal and structured methodology, the study contributed to understanding the broader implications of certification programs. Besides its exploratory nature, the research maintained rigorous standards to ensure the reliability of its findings.

A cluster sampling technique was applied to select participants, focusing on class VIA as the research

sample. The sample included 30 students and an Islamic religious education teacher whose certification status formed the basis of analysis. Instruments used to collect data included questionnaires designed to evaluate teacher competencies and creativity. Structured interviews were conducted with the Islamic religious education teacher to gather detailed insights into the perceived impact of certification. Classroom observations complemented these tools by providing contextual evidence of teaching practices and their alignment with certification standards. Data collection methods were carefully designed to capture both quantitative and qualitative dimensions of the research objectives. The comprehensive approach aimed to ensure that findings were both valid and reliable.

The instruments and techniques used in the study were implemented systematically to maintain the integrity of the research process. Questionnaires were designed to measure key variables, while interviews provided a qualitative perspective on the challenges and benefits of certification. Observations focused on practical teaching scenarios to validate findings from other data sources. Beside identifying the correlation between certification and creativity, the study aimed to provide actionable insights for improving educational practices. The inclusion of multiple data collection methods ensured a multidimensional understanding of the research problem. Each stage of the process adhered to established scientific protocols, contributing to the credibility and generalizability of the findings. These methodological choices underscored the significance of certification as a factor in enhancing teacher creativity and competency.

RESULTS AND DISCUSSION

Descriptive Analysis of Certification and Creativity

The study conducted a descriptive analysis to summarize the data on teacher certification and creativity among Islamic Religious Education (Pendidikan Agama Islam, PAI), teachers at SDN 18 Bilah Barat. Certification scores ranged from a minimum of 30 to a maximum of 45, with a mean score of 40.60 and a standard deviation of 3.65. The low standard deviation indicated that responses were tightly clustered around the mean, reflecting consistent levels of certification among respondents. Frequency distribution analysis categorized the certification scores into three groups: “Good” (43.33%), “Enough” (43.33%), and “Less” (13%). The findings suggested that while most teachers rated certification positively, a segment of respondents perceived it as less effective or inadequate, pointing to areas where improvements could be made.

Creativity scores exhibited a similar pattern, ranging from 31 to 44, with a mean score of 38.23 and a standard deviation of 3.68. Frequency distribution categorized the creativity scores into “Good” (53.33%), “Enough” (30.00%), and “Less” (16.67%). While the majority of teachers were perceived as creative in their teaching practices, a notable proportion fell into the “Enough” and “Less” categories. The descriptive analysis demonstrated that higher certification scores tended to align with higher creativity scores. However, the presence of lower scores in both variables highlighted the need for targeted support, resources, or training to optimize the benefits of certification and enhance teacher creativity. **Figure 1** visually illustrates the mean scores and standard deviations for certification and creativity, emphasizing the alignment between the two variables.

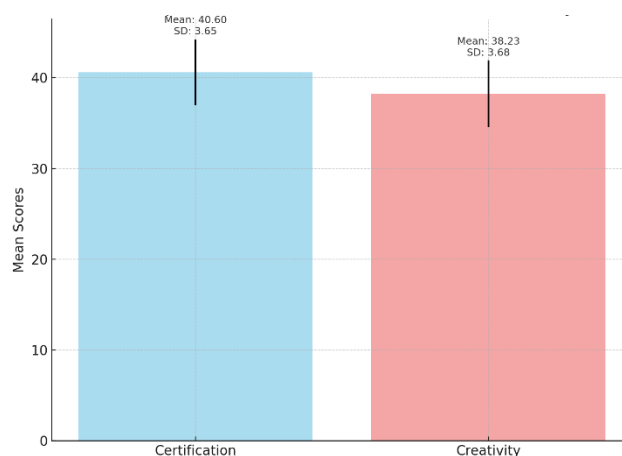


Figure 1. Mean Scores and Standard Deviations for Certification and Creativity

Chi-Square Hypothesis Testing

A chi-square analysis was conducted to test the hypothesis that certification influences teacher creativity. The chi-square test statistic ($X^2=20.074$) significantly exceeded the critical value of 3.841 at $df = 1$ and $p < 0.05$. This result led to the rejection of the null hypothesis (H_0) and acceptance of the alternative hypothesis (H_a), confirming a statistically significant relationship between certification and creativity. The findings aligned with the patterns observed in the descriptive and cross-tabulation analyses, providing robust evidence of the positive impact of certification on teacher creativity. **Figure 1** supports this conclusion by illustrating the mean scores and standard deviations for certification and creativity. Certification exhibited a relatively higher mean score (40.60) compared to creativity (38.23), highlighting the emphasis placed on certification as a professional development measure. The low standard deviations for both variables further reinforced the consistency and reliability of the data.

Correlation Between Certification and Creativity

To explore the relationship between certification and creativity, a cross-tabulation analysis was conducted. The results showed that teachers with “Good” certification ratings were predominantly associated with “Good” creativity ratings. Specifically, 26 teachers with “Good” certification scores also demonstrated “Good” creativity, while 34 teachers with “Enough” certification ratings were distributed across “Good” and “Enough” creativity categories. The data also highlighted a few cases where respondents with “Good” certification scores fell into the “Enough” or “Less” creativity categories, suggesting potential moderating factors such as resource availability, institutional support, or individual teaching styles.

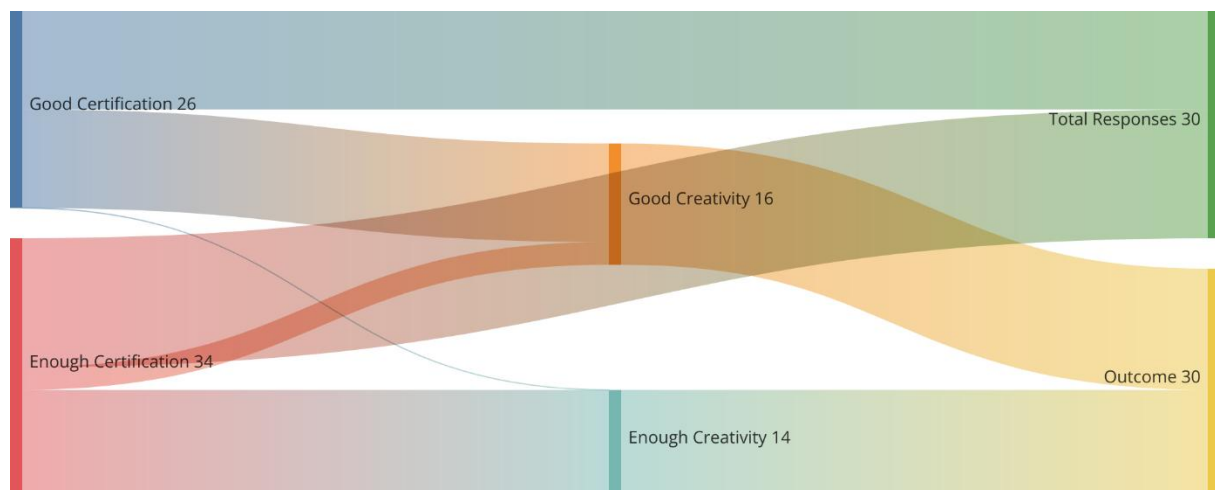


Figure 2. Sankey Diagram of Certification and Creativity Responses

Figure 2 visually depicts this relationship through a Sankey diagram, which maps the flow of responses between certification and creativity categories. The diagram illustrates that higher certification levels frequently corresponded with higher creativity levels. However, the variability observed in some cases suggests that external factors may influence teacher creativity, emphasizing the need for further investigation into contextual variables.

Reliability and Validity of Instruments

The reliability and validity of the instruments used to measure certification and creativity were rigorously tested. Pearson correlation analysis confirmed the validity of the instruments, with all items meeting the threshold criteria ($r_{\text{calculated}} > r_{\text{table}}$ at $p < 0.005$). Certification achieved a Cronbach's Alpha value of 0.761, indicating high reliability, while creativity achieved a Cronbach's Alpha value of 0.721, demonstrating acceptable reliability. These reliability scores indicated that the instruments were consistent and robust for assessing the variables.

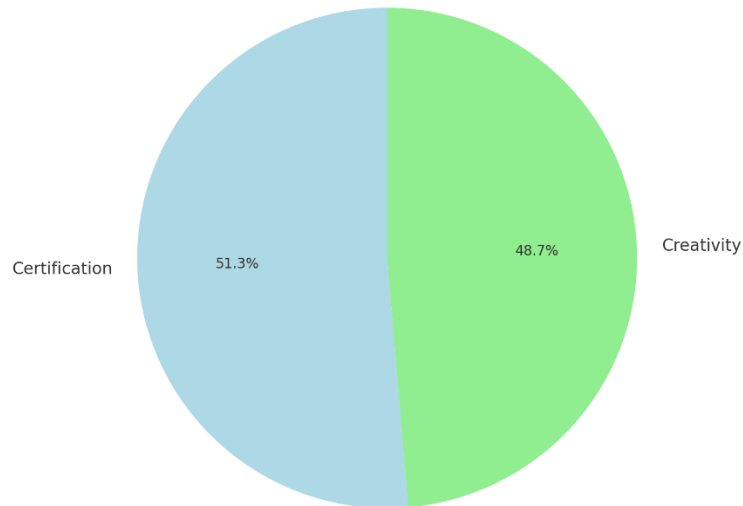


Figure 3. Proportion of Reliability Scores for Certification and Creativity

Figure 3 provides a visual representation of the reliability proportions, with certification accounting for 51.3% and creativity for 48.7%. The near-equal proportions demonstrated the consistency of the instruments, ensuring the accuracy and credibility of the data collected.

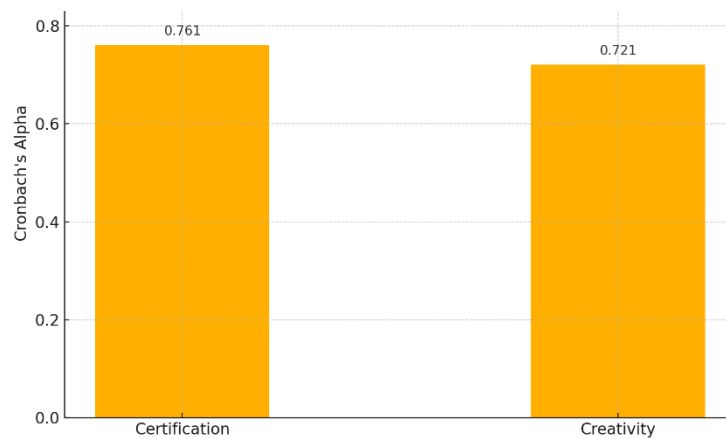


Figure 4. Proportion of Reliability Scores for Certification and Creativity

Figure 4 further compares Cronbach's Alpha values for certification and creativity, highlighting the slightly higher reliability of the certification instrument. The results validated the instruments' effectiveness in capturing nuanced information about certification and creativity.

The findings from the descriptive and inferential analyses provided compelling evidence supporting the role of certification in enhancing teacher creativity. Certification was shown to positively influence creativity by motivating teachers to adopt innovative strategies and improve their teaching practices. These results align with theoretical frameworks emphasizing the importance of professional development in fostering teacher creativity and effectiveness. Certification, as a structured recognition of teacher competencies, appears to equip educators with the skills and confidence needed to implement creative teaching methods (Fidan, 2023; García-López et al., 2023; Gumasing & Castro, 2023).

In the context of Islamic Religious Education, where teaching involves shaping students' moral and spiritual values alongside academic knowledge, creativity is particularly important. The study highlighted certification programs as valuable tools for enhancing creativity in this specialized teaching context. However, variability in creativity scores suggests that additional factors, such as institutional support and access to resources, may moderate the relationship between certification and creativity. Addressing these factors through further research and programmatic improvements could optimize the impact of certification on teacher performance (Affuso et al., 2023; Vuong, 2023; Yin et al., 2024).

Contribution to the Research Gap and Novelty of Findings

The study was conducted to explore the influence of teacher certification on creativity among Islamic Religious Education (PAI) teachers at SDN 18 Bilah Barat. The findings addressed a significant gap in the existing literature by focusing specifically on how certification impacts creativity, an area often overlooked in prior studies. While earlier research predominantly highlighted the role of certification in improving general teaching competencies (Kadek Maya Komala Sari & Nasriani, 2021), the research provided a more nuanced perspective by examining its effect on creativity—a critical factor in fostering innovative and engaging learning environments. The results, which demonstrated a statistically significant relationship between certification and creativity, offered empirical support for the hypothesis that professional certification programs could extend beyond improving technical competencies to enhancing creative teaching practices (Iqbal et al., 2023; Jaurigue et al., 2023; Junça Silva & Pinto, 2024).

The results underscored the novelty of the findings, particularly within the context of Islamic Religious Education, where creativity is essential for balancing cognitive, moral, and spiritual instruction. Unlike general subjects, PAI requires teachers to employ creative methods to make religious teachings relevant and meaningful to students. By confirming that certification is associated with increased teacher creativity, the study emphasized the potential of certification programs as transformative tools for educational improvement. These findings contribute to the theoretical discourse on professional development and provide practical implications for designing certification programs that prioritize creativity alongside competency (Layek & Koodamara, 2024; Mandan et al., 2024; Meirinhos et al., 2023).

Critical Analysis of Results

The descriptive and inferential analyses revealed that teacher certification significantly influenced creativity, with a chi-square value of $\chi^2 = 20.074$, far exceeding the critical value of 3.841 at $p < 0.05$. The positive correlation observed between certification and creativity aligns with the theoretical framework of professional motivation, which suggests that formal recognition, such as certification, fosters both intrinsic and extrinsic motivation among educators (Ryan & Deci, 2000). This motivation likely prompts teachers to explore innovative strategies and implement creative approaches in their teaching practices. However, the variability observed in creativity scores among teachers with similar certification levels suggests that certification alone may not fully account for differences in creativity. Factors such as institutional support, access to resources, and individual teaching styles could serve as moderating variables in the relationship between certification and creativity (Moch et al., 2024; Pan et al., 2023; Pham et al., 2024).

The study also highlighted that while the majority of respondents rated certification and creativity positively, a subset of teachers demonstrated "Enough" or "Less" creativity despite having "Good" certification ratings. This finding indicates that certification programs may need to incorporate specific modules focused on creative teaching methodologies to maximize their impact. Furthermore, the relatively lower mean score for creativity compared to certification suggests that creativity remains a challenging area for some educators, potentially due to rigid curricular structures or a lack of exposure to innovative teaching techniques. These insights suggest that while certification is an important factor, its effectiveness in enhancing creativity depends on additional contextual and programmatic elements (Rony et al., 2024; Slemp et al., 2024; Udin et al., 2023).

Implications for Educational Policy and Practice

The results of the study carry significant implications for educational policy and practice, particularly in the context of Islamic Religious Education. The strong correlation between certification and creativity underscores the need for certification programs to go beyond competency-based assessments and include components that explicitly address creativity. For example, incorporating workshops on creative problem-solving, lesson design, and student engagement strategies into certification training could help teachers develop the skills needed to foster creativity in their classrooms. Additionally, the findings suggest that policymakers should prioritize ongoing professional development opportunities for certified teachers to sustain and enhance their creative capacities (Hamman et al., 2023; Harrell et al., 2023; Hill, 2024).

In practice, the study highlights the importance of providing teachers with the resources and support

necessary to implement innovative teaching methods. School administrators could play a crucial role in this regard by fostering a culture of creativity through collaborative planning sessions, peer mentoring programs, and access to teaching materials that encourage experimentation. Furthermore, the study's focus on Islamic Religious Education demonstrates the unique challenges and opportunities associated with teaching moral and spiritual values. By addressing these challenges through targeted interventions, certification programs can help PAI teachers create more dynamic and impactful learning environments (Anglin, 2024; Ardi et al., 2023; Xi, 2024).

The broader implications of the findings extend to other educational contexts and disciplines. The demonstrated relationship between certification and creativity suggests that similar strategies could be applied in other subject areas to enhance teacher performance and student outcomes. As educational systems worldwide grapple with the need for more innovative and engaging teaching practices, the insights from the study provide a valuable framework for integrating creativity into professional development programs (Ndembera et al., 2024; Xiao & Hew, 2024; Yu, 2023).

Broader Connections to Educational Challenges

The findings are particularly relevant in the context of global educational challenges, where creativity is increasingly recognized as a key competency for both teachers and students. The United Nations Educational, Scientific, and Cultural Organization (UNESCO, 2017) emphasized the importance of creativity in achieving Sustainable Development Goal 4, which focuses on inclusive and equitable quality education. Within this framework, the results of the current study highlight the potential of teacher certification programs to contribute to global educational goals by equipping teachers with the skills needed to foster creativity in their classrooms.

Moreover, the study addresses the broader issue of teacher preparedness in adapting to the complexities of modern education. As teaching environments become more dynamic and diverse, the ability to innovate and engage students becomes increasingly critical. The research demonstrates that certification programs can play a pivotal role in preparing teachers to meet these challenges, particularly in specialized contexts such as Islamic Religious Education. By aligning certification programs with global educational priorities, policymakers and stakeholders can ensure that teachers are equipped not only with technical skills but also with the creative capacities needed to drive meaningful educational change.

Recommendations for Future Research and Limitations

While the study provided valuable insights into the relationship between certification and creativity, certain limitations must be acknowledged. The relatively small sample size may limit the generalizability of the findings to broader populations. Future research should expand the sample size and include teachers from diverse educational settings to validate and extend the results. Additionally, qualitative studies could complement the quantitative findings by exploring teachers' perceptions and experiences with certification and creativity in greater depth. Such studies could provide richer insights into the specific aspects of certification programs that contribute most to enhancing creativity (Basuki, 2023; Da'as, 2023; Dogbe et al., 2024).

Further research could also investigate the role of contextual factors, such as school culture, leadership support, and access to resources, in moderating the relationship between certification and creativity. Exploring the intersection of these factors would provide a more comprehensive understanding of how certification influences teacher creativity and identify strategies for maximizing its impact (A. Ahmad et al., 2023; M. Ahmad et al., 2023; Mansell, 2024). Additionally, longitudinal studies could examine the long-term effects of certification on teacher creativity and student outcomes, offering valuable perspectives on the sustainability of professional development initiatives.

CONCLUSION

The study demonstrated a significant relationship between teacher certification and creativity among Islamic Religious Education (PAI) teachers at SDN 18 Bilah Barat, addressing a critical gap in the literature by emphasizing the role of certification in fostering innovative teaching practices. The findings revealed that certification positively influences creativity, with certified teachers more likely to adopt engaging and dynamic instructional methods, particularly in the context of moral and spiritual education.

By confirming the reliability and validity of research instruments and employing robust statistical analyses, the research contributes to understanding how professional development programs can enhance teacher performance beyond technical competencies. The results underscore the need for certification programs to incorporate creativity-focused components and for educational institutions to provide ongoing support for innovative teaching approaches. Future research should explore the long-term impact of certification on creativity and other pedagogical competencies across diverse educational settings, while addressing contextual factors that moderate these effects. Insights gained from the study have practical implications for policymakers, educators, and stakeholders aiming to improve teaching quality and align professional development with the evolving demands of education.

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