

The Influence of Teacher Certification on the Pedagogical Competence of Early Childhood Education Teachers in Karangawen District, Demak Regency

Dinina Dzawin Najah^{1*}, Diana²

¹Daycare Kota Semarang

²Department of Early Childhood Teacher Education, Faculty of Science of Education, Semarang State University, Indonesia

*Correspondence to: dininadzawinnajah@students.unnes.ac.id

Abstract: This study aims to determine the effect of teacher certification on teacher pedagogical competence (PAUD) in Karangawen District, Demak Regency. Teacher certification is expected to improve pedagogical competence, which includes understanding and implementing effective teaching methods for early childhood. This study uses a quantitative approach with a survey method with the population of this study being PAUD teachers who have been certified in Karangawen District, Demak Regency. The samples were taken from 30 PAUD teachers who had been certified in Karangawen District, Demak Regency, with a systematic nonprobability sampling. The data analysis technique used a simple linear regression test with a hypothesis test using the t-test, the coefficient of determination (R-Square). The results of the reliability test were 0.745. The data analysis used was the normality test using the Kolmogorov-Smirnov method with a significance value of $0.200 > 0.05$. Based on the simple linear regression test, it shows a significance value of 0.000, which is smaller than the probability value of 0.05. Thus, it can be concluded that hypothesis H_a stating that there is an influence of teacher certification on the pedagogical competence of PAUD teachers is accepted, and hypothesis H_o is rejected. The results of the R Square value of 0.998 or 99.8%, show that teacher certification has a significant effect on the pedagogical competence of PAUD teachers.

Keywords: teacher certification, pedagogical competence, PAUD teachers.

INTRODUCTION

Early childhood education encompasses the early stages of a child's life, which are considered crucial in laying the foundation for their growth and development. It involves various stimulating approaches that provide encouragement or stimulation to support children's physical and psychological development (Putri & Suryana, 2022). Additionally, the goal of early childhood education is to prepare children for continuing their education at the next level (Budyawati, 2023).

Teacher certification plays a role in ensuring quality and verifying that educators have met established competency standards, allowing them to contribute to the overall improvement of education quality. As educators, they also play a role as agents of change in achieving educational goals, in accordance with the national context. It is further reinforced in Article 28 of the Government Regulation of the Republic of Indonesia Number 19 of 2005 on National Education Standards and in Article 8 of Law of the Republic of Indonesia Number 14 of 2005 on Teachers and Lecturers. These regulations state that "the academic qualifications of educators involve a minimum level of education that must be proven by a diploma or a professional certification in accordance with applicable regulations, or in other words, a minimum education level of D4/S1". Furthermore, to become a professional teacher, the government has launched a certification program for all teachers in Indonesia (Map & Andriani, 2020).

Teacher certification is necessary to improve the quality standards of teachers, which in turn will continuously enhance the quality of the learning system and education in Indonesia. The government hopes to optimize teachers' performance through adequate competencies and social welfare. When teachers' performance reaches a good level of well-being, the quality of the teaching and learning process is also expected to improve. In this way, high-quality training can be achieved. Nevertheless, in addition

to professional competence, pedagogical skills are also a crucial aspect of the teaching and learning process.

Based on field data, 69 teachers have obtained certification, while 218 others remain uncertified. Certified teachers have a deep understanding of professional competencies, especially in teaching. Furthermore, they can design and implement learning activities while considering the objectives and desired outcomes. Additionally, teachers can apply their knowledge in teaching and positively impact uncertified teachers, ultimately enhancing the quality of teaching to achieve high-quality early childhood education goals.

There are four competencies that teachers need to understand: professional competence, social competence, personal competence, and pedagogical competence (Zyuro & Komalasari, 2020). One of the most crucial aspects is pedagogical competence. This competence includes the ability to manage the student learning process. It not only involves understanding students but also the ability to manage learning, which encompasses three key functions: planning, implementation, and evaluation of learning outcomes. (Mulyasa, 2009). The challenge in the field is that many teachers still struggle with planning, implementing, and assessing learning outcomes. Additionally, teachers face difficulties in utilizing available technology and have limited access to training and education. Therefore, teachers need to obtain teaching qualifications to enhance their competencies (Zyuro & Komalasari, 2020).

Pedagogical competence is understood not only as teaching in terms of interaction between teachers and students but also as involving the process of facilitation and continuous transformation management at individual, social, structural, and institutional levels. From this perspective, it is evident that pedagogical competence includes learning management, which encompasses various strategies and models for organizing the learning process. (Lestari, dkk., 2020). Pedagogical competence is not limited to individual responsibility but must be implemented in the learning process. Certified teachers are generally more effective in teaching children because they possess the necessary teaching skills (Natalia, 2020). This study focuses on exploring and examining the pedagogical competence of certified teachers in Karangawen District, Demak Regency.

METHODS

The research method used in this study is a survey with a quantitative descriptive approach, which aims to describe the facts related to the influence of teacher certification on the pedagogical competence of early childhood education (PAUD) teachers. The population of this study consists of early childhood education (PAUD) teachers in Karangawen District, which has 95 institutions with a total of 287 teachers. This study will focus on the Karangawen District area. The sampling technique used is systematic sampling within non-probability sampling, with 30 teachers selected as respondents. For data collection, several methods are employed, including observation, questionnaires, interviews, documentation, and research instruments. The data validity in this study is ensured through validity and reliability tests. Data analysis involves normality testing, simple linear regression testing, and hypothesis testing.

RESULT AND DISCUSSION

Sho This research was conducted on certified teachers in Karangawen District, Demak Regency. The research results, based on the data, show that there are 69 certified teachers in Karangawen District, accounting for 24% of the total teachers. Although the percentage is still low, certified teachers in Karangawen District continue to have a positive impact on the quality of early childhood education. Based on the results of the questionnaire distribution, the average total score of respondents' answers is 28.33,

with a maximum score of 32, a minimum score of 24, and a range of 8.

Table 1 Descriptive Statistic Test

	N	Range	Minimum	Maximum	Mean	Std. Deviation
Kompetensi Pedagogik	30	8	24	32	28.33	2.123
Valid N (listwise)	30					

The research was conducted to determine the impact of teacher certification on the pedagogical competence of early childhood education (PAUD) teachers. Based on the validity and reliability tests conducted during the instrument trial phase, the results were found to be reliable, valid, and suitable for use.

Table 2. Anova

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	130.428	1	130.428	15.274	.000 ^b
	Residual	.239	28	.009		
	Total	130.667	29			

Teacher certification has been proven to have a significant positive impact on the pedagogical competence of early childhood education (PAUD) teachers. This is evident from the results of a simple linear regression test, which shows an F-value of 15.274 with a significance level of 0.00, which is smaller than 0.05. Therefore, the alternative hypothesis (H_a), stating that teacher certification affects the pedagogical competence of PAUD teachers, is accepted, while the null hypothesis (H_0) is rejected.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.999 ^a	.998	.998	.092

Figure 1. Linear Regression Test

The research results indicate that teacher certification has a significant impact on the pedagogical competence of early childhood education (PAUD) teachers. Based on the statistical test, the coefficient of determination (R Square) was found to be 0.998. This indicates that teacher certification contributes 99.8% to the improvement of PAUD teachers' pedagogical competence.

Teacher certification plays a crucial role in enhancing pedagogical competence. Teachers who have undergone the certification process show improvements in several indicators of pedagogical competence, such as organizing developmental aspects according to the characteristics of early childhood, analyzing play theories based on developmental aspects and stages, as well as addressing the needs, potential, talents, and interests of young children. Designing early childhood development activities based on the curriculum, implementing educational development activities, utilizing technology, information, and communication for the purpose of conducting educational development activities, fostering the potential of young children for

self-actualization, conducting and preparing assessment reports, as well as evaluating the process and learning outcomes of early childhood education.

This finding is in line with the opinion of (Hamzah., 2023), which states that improving the quality of teacher certification programs has a positive impact on the teachers' work environment. The better the regulations and follow-up measures governing teacher certification, the more teachers' performance improves. Furthermore, based on interviews with several teachers at MTs Negeri Model Makassar, they generally expressed expectations of an improvement in their work quality compared to before they were certified. However, some mentoring teachers stated that their work experience did not differ significantly before and after certification. They felt that the certification requirements were already part of their usual responsibilities, similar to how they previously handled student education.

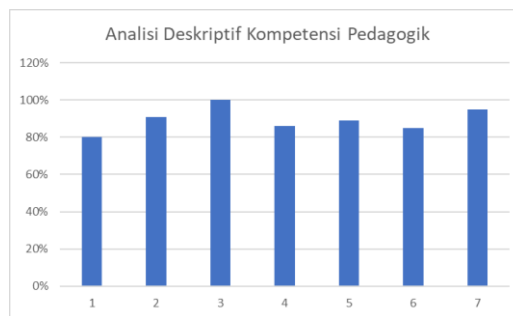


Figure 2. Descriptive Analysis of Pedagogical Competence

Based on the diagram above, it can be concluded that teacher certification has a highly positive impact on pedagogical competence, particularly in designing early childhood development activities based on the curriculum. The highest percentage achieved is 100%, indicating that teachers can effectively design learning programs tailored to children's interests and needs. This is evident in child development programs aligned with themes and developmental aspects, as well as structured play activity plans in the form of annual, semester, weekly, and daily programs. Meanwhile, the lowest percentage, at 80%, is associated with teachers' ability to organize the learning process according to the characteristics of early childhood. Although this is still categorized as excellent, it suggests that there is room for improvement, particularly in ensuring that every aspect of early childhood development is well-structured. Despite the fact that certification has significantly enhanced teaching abilities, there remains a need for educators to focus more on addressing each child's developmental needs. Teachers must ensure that every child has access to the most supportive learning environment tailored to their unique characteristics. Therefore, long-term training programs and professional development opportunities are essential to help educators overcome these challenges and further improve teaching standards in early childhood education (PAUD).

His finding aligns with the research of Popila Rikma Nusa, (2020) , which states that teacher certification has a significant impact on the pedagogical competence of early childhood education (PAUD) teachers, as they are involved in various long-term research projects. The study indicates that teacher certification can enhance student quality through the development of pedagogical competence. The results further confirm that certification has a substantial effect on pedagogical competence at the PAUD level, potentially even exceeding initial predictions, as evidenced by the remarkably high coefficient of determination.

Teacher certification is a crucial step in ensuring that educators possess the necessary skills to support effective teaching, particularly in the context of Early Childhood Education (PAUD) programs. Pedagogical competence is assessed by measuring teachers' ability to plan, implement, and evaluate instruction in accordance with the developmental needs of young children.

CONCLUSION

Based on the research findings, teacher certification has been proven to have a significant positive influence on the pedagogical competence of early childhood education (PAUD) teachers. This is evident from the results of the simple linear regression test, which shows that the F-value is 15.274 with a significance level of $0.00 < 0.05$. It can be concluded that the alternative hypothesis (H_a), which states that teacher certification affects the pedagogical competence of PAUD teachers, is accepted, while the null hypothesis (H_o) is rejected. Furthermore, the coefficient of determination (R Square) is 0.998, indicating that teacher certification significantly influences the pedagogical competence of PAUD teachers by 99.8%. This finding can be used to assess pedagogical competence, which includes: organizing aspects of development according to the characteristics of early childhood, analyzing play theories in line with developmental aspects and stages, identifying the needs, potential, talents, and interests of young children, designing early childhood development activities based on the curriculum, conducting educational development activities, utilizing technology, information, and communication for effective learning implementation, fostering children's potential for self-actualization, as well as conducting assessments, evaluations, and reporting on early childhood learning processes and outcomes.

REFERENCES

- Adi, B. S., Irianto, D. P., & Sukarmin, Y. (2022). Teachers' perspectives in motor learning with traditional game approach for early childhood. *Cakrawala Pendidikan*, 41(1), 1–11.
- Akbari. (2020). Kompetensi Pedagogik Guru Taman Kanak-kanak ditinjau dari Kualifikasi Akademik: Penelitian Ex post factor Pada Guru Taman Kanak-kanak Wilayah Tegallega Kota Bandung Tahun Ajaran 2018/2019. *Psychology*.
- Barsah, A., Sudarso, A. P., & Sunarsi, D. (2020). Analisis Pengaruh Pengajaran dan Sertifikasi Guru terhadap Kompetensi Guru pada Sekolah Menengah Kejuruan Di Wilayah Parung Panjang Kabupaten Bogor. *Journal of Education, Humaniora and Social Sciences (JEHSS)*, 3(2), 650–657.
- Budiutomo, T. (2021). Rekonstruksi Kebijakan Sertifikasi Guru Oleh : Program Doktor Ilmu Hukum Fakultas Hukum Universitas Islam Sultan Agung (UNISSULA).
- Budyawati, L. P. I., Atika, A. N., & Sudariyatna, B. P. (2023). Pengaruh Sertifikasi Guru terhadap Kompetensi Profesional Guru di TKMNU Sunan Giri Balung Jember. *Jurnal PG-PAUD Trunojoyo : Jurnal Pendidikan Dan Pembelajaran Anak Usia Dini*, 10(2), 111–123.
- Damayanti, Y. (2021). Program studi pendidikan bisnis fakultas ekonomi universitas negeri jakarta 2020. Analisis Faktor-Faktor Yang Mempengaruhi Ekspor Crude Palm Oil (Cpo) Indonesia Ke Uni Eropa.
- Daryanto, D. (2013). Standar Kompetensi dan Penilaian Kinerja Guru Profesional. Penerbit Gava Media, Yogyakarta.
- Fadhil, M. (2019). Pengaruh Pembiayaan Modal Kerja terhadap Pendapatan Usaha Mikro, Kecil dan Menengah pada Koperasi Syariah Mitra Niaga. Universitas Islam Negeri Ar-Raniry Banda Aceh.