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The Influence of Digitalization, Digital Competency, Self-Efficacy on Teacher Educational Performance

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Abstract
The rapid advancement of digital technology has transformed educational practices and increased the demand for teachers' digital competence and self-efficacy in delivering effective instruction. This study aims to examine the relationships among digitalization, digital competence, self-efficacy, and teachers' teaching performance. A quantitative survey design was employed, involving 200 elementary school teachers in Indonesia. Data were collected through structured questionnaires and analysed using Partial Least Squares–Structural Equation Modelling (PLS-SEM) with SmartPLS to test the proposed relationships. The findings reveal that digitalization has a positive and significant effect on teachers' digital competence. Digital competence, in turn, significantly enhances teachers' self-efficacy, which contributes positively to teaching performance in technology-supported learning contexts. These results indicate that self-efficacy plays a mediating role in linking digital competence to teaching performance. The study underscores the importance of strengthening teachers' digital competence and confidence through targeted professional development, adequate technological infrastructure, and institutional support. Such efforts are essential to improve instructional quality and support teachers in responding effectively to the challenges of digital transformation in education.

Keywords: Digital Competence; Digital Learning; Digitalization; Self-efficacy; Teaching Performance

INTRODUCTION

The rapid development of information and communication technology has fundamentally transformed the landscape of education, reshaping how teaching and learning activities are designed, delivered, and evaluated. In recent years, digitalization has become an integral component of educational systems, particularly in response to demands for flexibility, accessibility, and efficiency in learning processes. In Indonesia, digitalization in education is increasingly positioned as a strategic agenda to support instructional innovation and improve educational quality across school levels (Nurdin & Salim, 2021). However, the growing presence of digital technologies in schools does not automatically guarantee improvements in teacher performance or learning outcomes (Amelia Rizky Idhartono, 2022).

Digitalization in education extends beyond the mere availability of technological tools and platforms. It encompasses the broader integration of digital systems into pedagogical practices, curriculum implementation, and instructional management. While digital technologies offer substantial potential to enhance teaching effectiveness, empirical evidence suggests that their impact on teacher performance remains inconsistent. Several studies indicate that technology adoption often emphasizes infrastructure and administrative efficiency rather than pedagogical transformation, resulting in limited instructional benefits when not accompanied by adequate human capacity development (Rahayu et al., 2021). This condition highlights a critical concern: digitalization may function primarily as an enabling environment rather than a direct determinant of teacher educational performance.

Previous research shows that these three variables are closely related to improving teacher performance. As an example, Rahayu et al. (2021) highlighting that digital literacy increases efficiency and accountability in implementing learning in the new normal period, which ultimately improves teacher performance. Furthermore Pramudito & Nugroho (2023) found that digital literacy influences teacher self-efficacy and performance, especially in junior high schools. Rahmawati & Santoso (2020) also explained that digital competence plays a role in increasing teachers' work motivation which has a positive impact on their performance. The discussion of these findings provides empirical justification that digitalization, digital competence, and self-efficacy play an important role in improving teacher education performance.

Each variable is operationally defined to facilitate measurement in the context of this quantitative research Digitalization: Measured by the level of use and integration of digital technology in the learning process, such as the use of online learning platforms, educational applications, and other digital tools (Firmansyah & Setiawan, 2023). Digital Competence: Includes teacher skills in using digital devices and applications to support the teaching and learning process. Measurements include the ability to operate technology, search for digital information, and technical skills in digital platforms (Zainudin & Rahman, 2019). Self-Efficacy Measured through the level of teacher confidence in their ability to implement technology in learning effectively and independently. This can be measured using a self-efficacy scale related to the use of educational technology (Setiawan & Hasyim, 2021). Teacher Education Performance: Measured through teacher effectiveness in managing learning, quality of interaction in the classroom, achievement of learning objectives, and student satisfaction with the learning process (Lestari & Supriyadi, 2022).

The conceptual framework in this research describes the relationship between digitalization, digital competence, and self-efficacy as independent variables, each of which has an influence on teacher educational performance as the dependent variable digitalization serves as a technological basis in education that facilitates distance learning and increases accessibility, which influences teaching effectiveness (Firmansyah & Setiawan, 2023). Digital competency acts as a key factor in teachers' success in adapting technology in the classroom. This is measured by technical abilities and the integration of technology in learning, which strengthens teacher performance (Idhartono, 2022). Self-efficacy is a psychological factor that supports performance, where confident teachers are better prepared to use technology, which has an impact on learning effectiveness (Hasanah & Iskandar, 2020). The model illustrates that independent variables (digitalization, digital competence, and self-efficacy) can influence teacher performance in education directly or indirectly.

The research is expected to make a practical contribution to the development of education policy in Indonesia. Practical implications that can be taken include, providing regular training to improve teachers' digital competence to strengthen their ability to utilize technology in teaching, as recommended by Prasetyo & Wibowo (2022). Improved self-efficacy development programs that help teachers to be more confident in adopting new technology, as suggested by Setiawan & Hasyim (2021). Strengthening educational policies related to digital literacy in schools, considering that digitalization is now the main pillar in the learning process and increasing accountability (Rahayu et al., 2021).

One factor widely recognized as crucial in bridging the gap between digitalization and effective teaching practice is digital competence. Digital competence refers to teachers’ ability to operate, evaluate, and integrate digital technologies meaningfully into instructional processes. It

includes not only technical skills but also pedagogical and informational capacities that enable teachers to select appropriate digital tools, design interactive learning experiences, and assess student learning effectively (Zainudin & Rahman, 2019; Cahyono et al., 2020). Prior research consistently demonstrates that teachers with higher levels of digital competence tend to perform better in technology-supported learning environments, as they are more capable of aligning technological tools with instructional objectives (Idhartono, 2022; Lestari & Supriyadi, 2022). Consequently, digital competence emerges as a key professional capacity that determines whether digitalization contributes positively to teaching performance.

Beyond technical and pedagogical skills, psychological factors also play a decisive role in shaping teachers' engagement with digital technologies. Self-efficacy, defined as an individual's belief in their capability to perform tasks successfully, has been widely acknowledged as a strong predictor of professional behavior and performance (Bandura, as cited in Hasanah & Iskandar, 2020). In the context of educational technology, teachers with high self-efficacy are more confident in experimenting with new digital tools, more persistent in overcoming technical challenges, and more adaptive to changes in instructional demands. Empirical studies have shown that self-efficacy significantly influences teachers' willingness to adopt technology and their effectiveness in implementing digital-based learning strategies (Lestari & Supriyadi, 2022; Setiawan & Hasyim, 2021).

The interaction between digital competence and self-efficacy is particularly important in understanding teacher performance in digital learning contexts. Teachers who possess strong digital skills are more likely to experience successful technology integration, which in turn reinforces their self-efficacy through mastery experiences. This reciprocal relationship suggests that performance improvement in digital education is driven not solely by external technological provision but by the development of internal capacities and psychological readiness. Without sufficient competence and confidence, digital tools may remain underutilized or even perceived as burdensome, limiting their instructional value (Prasetyo & Wibowo, 2022).

Despite the growing body of literature on digitalization, digital competence, and self-efficacy, several gaps remain. Many previous studies tend to assume a direct positive relationship between digitalization and teacher performance, often overlooking the relative strength of internal factors such as competence and self-belief (Nurdin & Salim, 2021; Idhartono, 2022; Hasanah & Iskandar, 2020). Moreover, empirical research that simultaneously examines digitalization, digital competence, and self-efficacy within a single analytical model remains limited, particularly in the Indonesian educational context. This gap restricts a comprehensive understanding of which factors most strongly influence teacher educational performance in digitally mediated learning environments (Firmansyah & Setiawan, 2023; Zainudin & Rahman, 2019; Setiawan & Hasyim, 2021).

Addressing this gap, the present study aims to analyze the influence of digitalization, digital competence, and self-efficacy on teacher educational performance. Specifically, this research seeks to (1) examine the effect of digitalization on teacher performance, (2) assess the contribution of digital competence to teacher educational performance, and (3) identify the role of self-efficacy in enhancing teacher performance within the context of digital learning. By clarifying the relative impact of these factors, this study is expected to contribute theoretically by strengthening the understanding of performance determinants in digital education and practically by informing policies and professional development programs that prioritize competence and confidence development alongside technological investment. Based on the theoretical framework and empirical evidence discussed above, the following hypotheses are proposed:

H1: Digitalization has a significant effect on teacher educational performance.

H2: Digital competence has a positive and significant effect on teacher educational performance.

H3: Self-efficacy has a positive and significant effect on teacher educational performance.

RESEARCH METHODS

Research Design

This research uses a quantitative approach with methods Partial Least Squares Structural Equation Modeling (PLS-SEM) to test the relationship between variables digitalization, digital competence, self-efficacy, And teacher educational performance. This quantitative approach was chosen because it is suitable for measuring and analyzing relationships between variables objectively, using numerical data collected through structured questionnaires. PLS-SEM allows researchers to evaluate measurement models and structural models within a single analytical framework. In this study, the measurement model evaluation focuses on assessing the validity and reliability of indicators representing each latent construct, including digitalization, digital competence, self-efficacy, and teacher educational performance. Meanwhile, the structural model evaluation is conducted to examine the direct effects of each independent variable on teacher educational performance. This flexibility enables a comprehensive assessment of both the quality of the measurement instruments and the strength of the hypothesized direct relationships among the research variables.

Research Target/Subject

The population of this study consisted of elementary and secondary school teachers in Indonesia who have experience in using digital technology in the teaching and learning process. This population was selected because teachers at these levels play a crucial role in implementing digital-based learning and represent a foundational segment of the national education system. A purposive sampling technique was applied to select respondents who met the research criteria. The inclusion criteria were as follows: (1) teachers actively involved in the use of digital technology for instructional purposes, (2) teachers who had participated in digital competency development activities or training, and (3) teachers currently teaching at the elementary or secondary school level. Based on data screening and eligibility verification, a total of 200 valid responses were included in the final analysis. This sample size meets the minimum requirements for PLS-SEM analysis involving multiple latent variables.

Research Variables and Operational Definitions

This research consists of four main variables, namely digitalization, digital competence, self-efficacy, and teacher education performance. Each variable is defined operationally as follows:

Digitalization (DGTK)

Digitalization is defined as the level of use of digital technology in the learning process by teachers. This variable includes how often and effectively teachers utilize technology devices and digital applications in learning activities, both in the classroom environment and in distance learning. Digitalization indicators adapted from studies Firmansyah & Setiawan (2023), which measures the use of digital technology in distance learning, includes the following aspects:

- Frequency of use of technology devices (e.g., computers, tablets, projectors).
- Intensity of use of online learning platforms (e.g., Google Classroom, Zoom).
- Use of other learning support applications (e.g., quiz applications, digital discussion forums).

Digital Competency (DGTS)

Digital competency refers to teachers' skills and abilities in operating and utilizing digital devices efficiently and effectively in the teaching and learning process. This competency includes technical knowledge, managerial abilities and creativity in utilizing technology to improve the quality of learning. According to Know (2016) And Zainudin & Rahman (2019), digital competence is an important skill that supports digital-based education. Digital competency indicators in this research include:

- Ability to operate digital hardware and software related to learning.
- Skills in using learning applications to plan, manage and evaluate learning activities.
- Ability to search, evaluate and manage digital information to support learning.

Self-Efficacy (EFKSD)

Self-efficacy is defined as teachers' confidence in their ability to use technology to support the learning process. Self-efficacy in this context refers to teachers' perceptions of their skills and readiness in adopting new technology and overcoming obstacles that arise when using technology in the classroom. Setiawan & Hasyim (2021) stated that self-efficacy is very important in the successful implementation of educational technology. Self-efficacy indicators include:

- Confidence in the ability to operate learning technology.
- Confidence in facing and resolving technical problems that may occur during learning.
- Comfort level in trying and adapting new learning applications.

Teacher Education Performance (KG)

Teacher education performance includes teacher effectiveness and productivity in carrying out teaching tasks, which is measured through learning effectiveness, quality of interactions with students, and learning outcomes. This variable assesses how well teachers can achieve learning goals using the help of digital technology. Teacher education performance indicators adapted from Lestari & Supriyadi (2022), and includes:

- Ability to convey material clearly and effectively.
- The quality of interaction between teachers and students, including in digital environments.
- Achievement of targeted learning outcomes, both in terms of knowledge, skills and attitudes.

Data Collection Instrument

The main instrument used to collect data from respondents is a questionnaire. Each variable in this study was measured using a 1-5 Likert scale, where 1 indicates "strongly disagree" and 5 indicates "strongly agree". This scale allows respondents to provide ratings that reflect their level of agreement or disagreement with the statements presented, providing numerical data that can be analyzed quantitatively. The questionnaire was prepared based on indicators from previous research to ensure the validity and reliability of the question items related to each variable. Each variable is represented by several question items as follows:

Digitalization

Questionnaire items for the digitalization variable focus on measuring how often and how teachers utilize digital technology in learning. This item is arranged based on indicators from Rahayu et al. (2021) which assesses the use of technology to increase transparency and efficiency in learning. Example items:

"I regularly use digital devices (computer, tablet) in the learning process."

“I often use online learning applications to support my teaching.”

Digital Competence

Questionnaire items for the digital competency variable include teachers' technical and managerial skills in using digital devices to manage the learning process. This indicator is adapted from Idhartono (2022) which highlights the importance of digital literacy in the Merdeka Belajar curriculum. Example items:

"I can operate digital devices needed for teaching and learning activities."

“I can search for and manage digital information that is relevant for learning.”

Self-Efficacy

Questionnaire items for the self-efficacy variable were designed to assess teachers' confidence in their ability to use technology in learning activities. Self-efficacy indicators were adapted from research Utami & Hidayati (2022) which shows the importance of self-efficacy in online learning. Example items:

“I am confident in using technology to facilitate learning.”

“I think, I can overcome technical obstacles when using digital devices.”

Teacher Education Performance

Questionnaire items for teacher educational performance variables are measured through learning effectiveness, quality of interaction with students, and achievement of learning outcomes. This indicator is compiled based on studies Harahap & Nasution (2021) which assesses teacher performance in technology-based learning environments. Example items:

"I can convey lesson material clearly and interestingly using digital technology."

“I feel my students can understand the material better with the help of digital technology.”

With this instrument, the data obtained is expected to provide a comprehensive picture of the influence of digitalization, digital competence, and self-efficacy on teacher education performance. Each item has been designed to cover aspects specific to the digital education context, ensuring that the data collected is relevant to the research objectives.

Table 1. Design instrument to measure four main variables:

Variable	Dimension/Sub-variable	Number of Items
Digitalization (D)	Access to technology, Integration in teaching	5
Digital Competence (DC)	Technical skills, Pedagogical digital skills, Problem-solving	6
Self-Efficacy (SE)	Confidence in using technology, Overcoming digital challenges	5
Teacher Education Performance (TEP)	Lesson delivery, Student engagement, Learning outcomes	6

Data Collection Procedures

Data collection in this research using questionnaire that consisted of closed-ended items measured on 5-point Likert. Data collection was carried out online using the following steps:

Online Questionnaire Distribution

Researchers distributed the questionnaire via an online survey platform (e.g., Google Forms or SurveyMonkey) that could be accessed by teachers who met the inclusion criteria. Online distribution of questionnaires was chosen because it is effective in reaching respondents from various regions in Indonesia and is more efficient in terms of time and cost. In addition, online methods make it easier to collect large amounts of data and support faster responses from respondents.

Respondent Recruitment Procedures

Respondents were invited to participate via social media, email, or educational discussion groups involving teachers, such as online teacher communities or professional discussion groups. Before respondents filled out the questionnaire, researchers provided information regarding the research objectives, inclusion criteria, and the benefits of their participation in this research.

Respondent Information and Consent

Before filling out the questionnaire, each respondent was given an explanation of the purpose of the research, the importance of their contribution, and the confidentiality of the data they would provide. Respondents were asked to give their consent to participate (informed consent) by agreeing to the statement at the beginning of the questionnaire. This is to ensure that respondents understand and agree with their participation in this research.

Data Collection Period

Data collection is carried out over a certain period, for example for one month, to ensure sufficient time for respondents who meet the criteria to participate. Researchers carry out regular monitoring and remind respondents who meet the criteria but have not filled out the questionnaire, in

order to achieve the desired sample size. The time for data collection was also adjusted so as not to collide with academic activities that might be the respondent's priority.

Verify Inclusion Criteria

Any data entered will be checked to ensure respondents meet the inclusion criteria, such as experience in using digital technology in learning. Data from respondents who do not meet the inclusion criteria will be deleted to maintain the validity of the research results.

Data Analysis Techniques

The data analysis technique in this research involves several stages, namely descriptive analysis, instrument validity and reliability testing, and analysis using PLS-SEM. The following is an explanation of each analysis stage:

Verify Inclusion Criteria

Descriptive analysis was carried out to provide a general overview of the demographic characteristics and background data of respondents, such as age, gender, education level, years of teaching, and experience in using digital technology for learning. This descriptive analysis aims to understand the profile of respondents and the distribution of existing data. The results of descriptive analysis are presented in table or graphic form which makes it easier to interpret the characteristics of the research sample.

Instrument Validity and Reliability Test

To ensure that the measurement instrument is valid and reliable, validity and reliability tests are carried out as follows:

- Validity Test: Using values Average Variance Extracted (AVE) to measure the convergent validity of each latent variable. AVE is expected to have a minimum value of 0.5, which shows that the variable indicators reflect the construct quite well. In addition, a discriminant validity test was carried out to ensure that each latent variable was truly different from one another.
- Reliability Test: The reliability of the instrument is tested using values Cronbach's Alpha and Composite Reliability (CR). Cronbach's Alpha and CR values greater than 0.7 indicate that the instrument has good internal consistency and is reliable in measuring the variables of this research, as explained by Sari & Yulianto (2020).

Analysis SEM-PLS

Method Partial Least Squares Structural Equation Modeling (PLS-SEM) used to test a structural model involving the relationship between latent variables, namely digitalization, digital competence, self-efficacy, and teacher education performance. PLS-SEM analysis stages include:

- Outer Model Evaluation (Measurement Model Evaluation)
  Evaluation of the measurement model is carried out to assess the quality of the relationship between the latent variable and its indicators. At this stage, testing is carried out:
  - Loading Factor: Each indicator is expected to have a loading value of more than 0.7 to show a strong correlation with the latent variable being measured.
  - Average Variance Extracted (AVE): To check convergent validity. AVE with a minimum value of 0.5 indicates that the indicators in each latent variable significantly reflect the construct.
  - Composite Reliability (CR): Used to ensure the internal consistency of indicators in measuring the latent variable in question.
- Inner Model Evaluation (Structural Model Evaluation)
  Inner model evaluation is carried out to test the relationship between latent variables in the model. This test is carried out through path coefficient analysis and t-statistic. The path coefficient shows the strength and direction of the relationship between latent variables, while the value t-statistic used to test the significance of this relationship. A significant path coefficient value indicates an influence between the independent variable and the dependent variable.

- Path Coefficients: Each path between the independent variable (digitalization, digital competence, self-efficacy) and the dependent variable (teacher educational performance) is estimated to assess the direct influence between the constructs.
- t-Statistic dan p-Value: Used to test the significance of the influence of each latent variable on other latent variables. Mark t above 1.96 ($p < 0.05$) indicates a significant effect at the 5% significance level.

- R-Square (R^2)

  Mark R-Square (R^2) used to measure the amount of variance in the dependent variable that is explained by the independent variables in the structural model. R^2 shows how much digitalization, digital competence, and self-efficacy are able to explain teacher educational performance. The higher the R^2 value, the greater the proportion of variance in teacher educational performance explained by the independent variables. An R^2 greater than 0.5 generally indicates a good model, as explained in the study Syahrul & Rahmatullah (2023).

RESULTS AND DISCUSSION

Result

Evaluation of the Structural Model (Inner Model)

Data analysis obtained a overview of the relationship presented in the PLS-SEM image between latent variables, which are Digitalization (FGTS), Digital Competence (DGTK), Self-Efficacy (EFKSD), and Teacher Performance (KG).

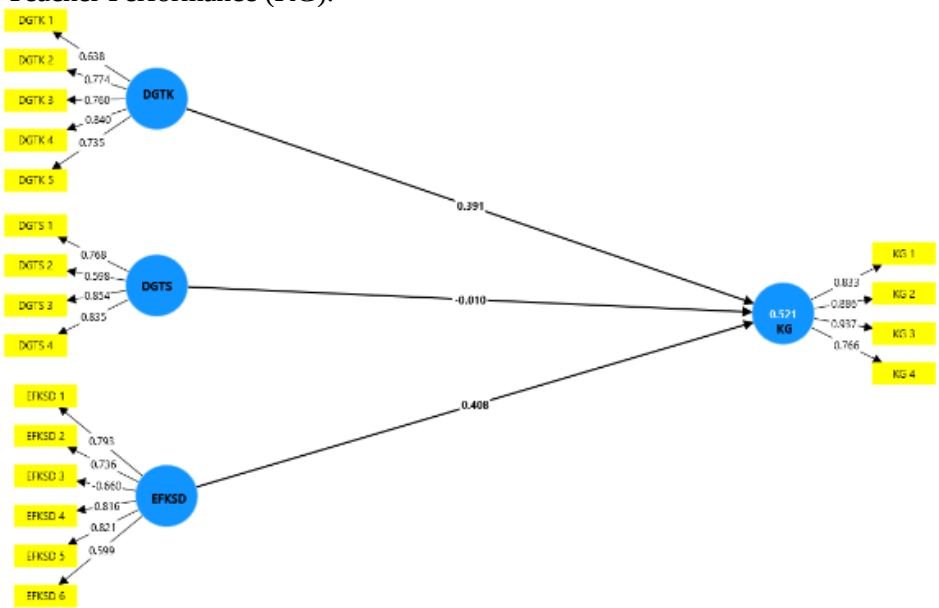

Figure 1. PLS-SEM Analysis Results

The figure 1 displays the direction and strength of the influence of each latent variable on the Teacher Performance variable, which is represented by path coefficients on each arrow. Furthermore the R^2 value for the Teacher Performance (KG) variable is 0.521, which indicates that 52.1% of the variation in Teacher Performance can be explained by three independent variables (Digitalization, Digital Competence, and Self-Efficacy).

Path Coefficient and R-Square (R^2)

Based on the structural model, the path coefficient shows the direct influence between the independent variable and the dependent variable. The following is an interpretation of the path coefficient results based on the image:

- Digital Competency (DGTK) on Teacher Performance (KG): The path coefficient of 0.391 shows a significant positive influence of Digital Competence on Teacher Performance. This indicates that the higher the digital competence possessed by teachers, the higher their performance in learning.
- Digitalization (DGTS) on Teacher Performance (KG): The path coefficient of -0.010 indicates that digitalization has a very weak and insignificant negative influence on teacher performance. This shows that, in this model, the use of digital technology generally does not have a significant impact on improving teacher performance.
- Self-Efficacy (EFKSD) on Teacher Performance (KG): The path coefficient of 0.408 indicates a positive and significant influence of Self-Efficacy on Teacher Performance. This means that teachers who have high self-efficacy tend to have better performance in using digital technology for learning.

The R^2 value for the Teacher Performance (KG) variable of 0.521 indicates that the three independent variables (Digitalization, Digital Competence, and Self-Efficacy) together can explain 52.1% of the variation in Teacher Performance. This is a moderate R^2 value, indicating that the model has fairly good predictive ability.

Interpretation of Hypothesis Test Results

Based on the path coefficient results and significance obtained from PLS-SEM analysis, the following is the interpretation for each hypothesis in this research:

- Hypothesis 1: *Digitalization has a significant effect on teacher educational performance.*
  The results show that Digitalization (DGTS) has a path coefficient of -0.010 with a very weak and insignificant influence on Teacher Performance (KG). Therefore, this hypothesis is not accepted, which means that digitalization in the form of the use of digital technology is generally not significant in improving teacher performance in this context.
- Hypothesis 2: *Digital competence has a positive and significant effect on teacher educational performance.*
  With a path coefficient of 0.391, Digital Competency (DGTK) shows a significant positive influence on Teacher Performance. This means that the hypothesis is accepted, indicating that the digital competencies possessed by teachers have a positive and significant impact on their performance in the learning process.
- Hypothesis 3: *Self-efficacy has a positive and significant effect on teacher educational performance.*
  The path coefficient of 0.408 indicates that Self-Efficacy (EFKSD) has a significant positive influence on Teacher Performance. Therefore, this hypothesis is accepted, which means that teachers' confidence in their ability to use technology plays an important role in improving learning performance.

Overall, these results show that Digital Competence and Self-Efficacy play an important role in improving Teacher Performance, while Digitalization in general form does not have a significant effect.

Interpretation of Hypothesis Test Results

To conclude the main findings of this research, the following is a summary of the influence of each latent variable on Teacher Performance:

- Digital Competency (DGTK): Has a significant positive influence on Teacher Performance, with a path coefficient of 0.391. This shows that digital competence is an important factor in improving teacher performance in the digital era.
- Digitalization (DGTS): Does not have a significant influence on Teacher Performance, with a path coefficient of -0.010. This suggests that general use of digital technology may be less relevant without adequate skills and self-efficacy.
- Self-Efficacy (EFKSD): Has a significant positive influence on Teacher Performance, with a path coefficient of 0.408. This suggests that self-confidence in the ability to operate technology plays an important role in teacher educational performance.

Discussion

The first objective of this study was to analyze the influence of digitalization on teacher education performance. The PLS-SEM results revealed that the path coefficient from Digitalization (DGTS) to Teacher Performance (KG) was -0.010, indicating a very weak and statistically insignificant effect. This finding implies that the mere availability and use of digital technologies do not automatically lead to improved teaching outcomes. This result contrasts with the optimistic view that digitalization, by itself, can enhance teaching efficiency and effectiveness. While technology provides opportunities for innovation, its potential remains untapped without adequate training, pedagogical integration, and sustained support. This aligns with Rahayu et al. (2021), who found that gaps in digital literacy hinder the efficiency and accountability of educational implementation, especially during the new normal period. The current finding suggests that digitalization should be seen as an enabling environment, not a direct determinant of performance.

The second objective was to assess the relationship between digital competence and teacher self-efficacy. The findings support the notion that digital competence serves as a foundation for teachers' confidence in integrating technology. Digital competence encompasses not only technical skills but also the pedagogical ability to select and apply technology effectively in different classroom contexts. This is in line with the ICT literacy framework suggested by Sani (2016) and supported by Amelia Rizky Idhartono (2022), who emphasized the importance of integrating digital literacy into the curriculum. Teachers with strong digital competence are more likely to experience mastery in technology integration, which, according to Bandura's self-efficacy theory, directly strengthens their belief in their abilities. Consequently, such teachers are more resilient in adapting to technological changes and more willing to experiment with innovative teaching strategies.

The third objective was to identify the impact of self-efficacy on teacher performance in using learning technology. The analysis showed a significant positive relationship, with a path coefficient of 0.408, indicating that teachers who believe in their capability to use technology effectively tend to achieve higher performance levels. This supports the findings of Lestari & Supriyadi (2022), who demonstrated that self-efficacy positively influences teacher performance in technology-based learning environments. The implication is that self-efficacy acts as a motivational driver, influencing not only the willingness to adopt technology but also persistence in overcoming obstacles. Teachers with high self-efficacy are more proactive in seeking digital solutions, adapting lesson plans, and engaging students through interactive digital content.

When comparing these results to previous studies, it becomes evident that digital competence and self-efficacy are stronger predictors of teacher performance than digitalization alone. Zainudin and Rahman (2019) emphasized the direct influence of digital competence on teacher performance, a finding echoed in this study. Furthermore, this research extends the understanding by highlighting the reinforcing cycle between competence and self-efficacy: skill mastery enhances confidence, and confidence motivates further skill development and more creative technology use.

From a theoretical standpoint, the results reinforce Bandura's self-efficacy theory, where belief in one's ability significantly influences behavior and achievement. In educational practice, this means that even in a well-digitalized school environment, performance gains will not materialize without targeted interventions to build competence and confidence. Additionally, digital literacy theory, as discussed by Prasetyo & Wibowo (2022), supports the need for structured training that equips teachers with both technical know-how and pedagogical strategies for technology integration.

Although this study focuses on elementary school teachers in Indonesia, the findings can be generalized to other educational contexts with similar technological and professional development challenges. Across different regions and school levels, it is likely that digitalization without capacity-building efforts will yield minimal direct impact on performance. However, investments in enhancing digital competence and self-efficacy are expected to produce substantial improvements in teaching quality in the digital era. The results highlight that educational policymakers and school administrators should prioritize programs that simultaneously build digital competence and self-efficacy. This could include continuous professional development, peer mentoring, and creating supportive digital learning communities. Furthermore, technological investments must be accompanied by pedagogical training, ensuring that digital tools are applied meaningfully to improve learning outcomes.

CONCLUSION

This study provides clear empirical evidence that digitalization significantly contributes to the development of teachers' digital competence, thereby confirming the first research assumption that technological transformation serves as an important contextual driver of professional capability. The findings further demonstrate that teachers' digital competence has a positive and significant effect on self-efficacy, indicating that mastery of digital tools strengthens teachers' confidence in managing and delivering technology-enhanced learning. In line with the proposed hypotheses, self-efficacy is also shown to positively influence teaching performance, underscoring its role as a critical psychological resource in instructional practice.

Importantly, the results reveal that self-efficacy functions as a mediating mechanism linking digital competence and teaching performance. This confirms the central research proposition that technological skills alone are insufficient to improve teaching performance without being supported by teachers' beliefs in their own capabilities. Theoretically, these findings reinforce an integrated perspective that combines technological and psychological dimensions in explaining teacher performance in the digital era. Practically, the study suggests that teacher development initiatives should not only focus on enhancing digital competence but also intentionally cultivate self-efficacy through continuous training, mentoring, and institutional support. Future research is encouraged to test this model across different educational levels and contexts to strengthen its generalizability.

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