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The Influence of Teachers' Digital Competence on Teaching Performance in SDK Marga Bhakti

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Abstract

Introduction/Main Objective: The rapid development of digital technology has brought significant changes to learning practices in elementary schools and has reshaped the role of teachers in the teaching and learning process. Teachers are increasingly required to possess adequate digital competence in order to design effective learning activities, utilize digital learning media, and support students' learning needs in a technology-driven environment. This study aims to examine the influence of teachers' digital competence on teaching performance at SDK Marga Bhakti by considering the role of school system support in facilitating the implementation of digital technology in education.

Background of the Problem: Although the use of digital technology in schools has been encouraged through training programs and the provision of facilities, differences in the ability of teachers and parents to adapt to technology are still evident. Some teachers are able to integrate digital tools effectively into classroom activities, while others continue to rely on conventional teaching methods due to limited experience and assistance. In addition, the management and distribution of digital information in schools require supporting roles to ensure that technology utilization can be implemented consistently and sustainably.

Research Method: This study employed a descriptive qualitative approach. The research subjects consisted of the school principal, a teacher, and a school administrator at SDK Marga Bhakti. Data were collected through in-depth interviews, classroom observations, and analysis of learning-related documents. The data were analyzed in stages through data reduction, data presentation, and conclusion drawing to obtain a comprehensive understanding of the research findings.

Findings/Results: The results show that teachers' digital competence plays an important role in supporting teaching performance, particularly in lesson planning, the implementation of teaching and learning activities, and communication with students and parents. The use of digital technology contributes to more interactive learning and higher student engagement. Furthermore, technology utilization becomes more optimal when supported by the role of school administrators in managing digital systems and disseminating information.

Conclusion: This study concludes that the improvement of teachers' teaching performance depends not only on teachers' digital competence but also on school system support, including consistent policies, administrative support, and sustainable assistance in the use of digital technology.

Keywords: teachers' digital competence; teaching performance; elementary school education; technology-based learning

Introduction

The development of digital technology has brought major changes in various aspects of human life, including the field of education. Advances in information and communication technology have encouraged transformations in the ways people learn, teach, and manage educational systems. Schools, as formal educational institutions, are required to adapt to these developments so that learning processes remain relevant to contemporary needs and student characteristics *(OECD, 2019)*.

Digital transformation in education is not only related to the use of technological devices, but also includes changes in mindset, learning methods, and educational management systems. Digital technology enables broader access to information, more varied learning materials, and the creation of more dynamic learning interactions. In line with this, the use of digital technology in education is viewed as one effort to improve learning quality and the effectiveness of teaching and learning processes *(Redecker, 2017; UNESCO, 2018)*.

At the elementary education level, teachers play a very strategic role in the learning process. Teachers do not only function as deliverers of learning materials, but also as facilitators who guide students in understanding knowledge and developing basic skills. In the context of technology-based learning, teachers are required to possess digital competence in order to utilize technology appropriately and in accordance with students' needs *(Instefjord & Munthe, 2017)*.

Teachers' digital competence includes the ability to use technological devices, select and develop digital learning media, and integrate technology into the learning process pedagogically. Good mastery of digital competence enables teachers to design learning activities that are more engaging, interactive, and contextual, thereby supporting improvements in teaching performance *(Pettersson, 2018; Falloon, 2020)*.

However, in practice, teachers' levels of digital competence are not always the same. Differences in educational background, teaching experience, and opportunities to participate in training result in variations in teachers' ability to utilize digital technology. This condition affects differences in the quality of learning implemented in schools *(Krumsvik, 2014)*.

In addition to teachers' competence, the success of digital technology implementation in learning is also influenced by the readiness of the school system as a whole. This readiness includes school policies, administrative support, and the availability of human resources capable of managing digital information effectively. Previous studies emphasize that institutional support and school management play a crucial role in ensuring that digital technology integration can be implemented consistently and sustainably in educational settings (UNESCO, 2018; OECD, 2019).

In this regard, the role of school administrators becomes an important part of supporting the implementation of digital technology in the school environment. School administrators play a role in managing digital-based administrative systems, distributing information, and facilitating communication between schools, teachers, and parents. The existence of well-managed support systems helps create work efficiency and supports the sustainability of digital technology implementation in schools *(UNESCO, 2018)*.

Various previous studies show that teachers' digital competence has a significant relationship with learning quality and teaching performance. Teachers with good digital competence tend to be better able to create innovative learning and encourage active student engagement in the learning process *(Tondeur et al., 2018; Gil-Flores et al., 2017)*.

Nevertheless, most of these studies have been conducted at secondary and higher education levels, while studies that specifically examine the relationship between teachers' digital competence, teaching performance, and school system support in the context of elementary education remain relatively limited. This condition indicates the existence of a research gap that needs to be further explored *(Tondeur et al., 2018)*.

Therefore, this study aims to examine the relationship between teachers' digital competence and teaching performance with school system support at SDK Marga Bhakti. This study is expected to contribute to the development of school policies and the sustainable improvement of teachers' digital competence.

In addition to learning aspects, the use of digital technology in elementary schools is also strongly influenced by the readiness of the overall school environment. This readiness includes the capability of human resources, school administrative systems, and school culture in accepting the use of digital technology. Schools with supportive systems and environments tend to be better able to optimize the use of technology in learning and administrative activities, allowing teachers to focus more on the teaching process. In this context, cooperation among principals, teachers, and school administrators becomes important, where principals determine policies, teachers implement classroom learning, and school administrators manage digital systems and information flows. Good cooperation among school elements can help create a learning environment that is more adaptive to technological developments and supports improvements in teachers' teaching performance.

Research Methods

Type and Research Approach

This study used a descriptive qualitative approach. This approach was chosen because the research aims to gain an in-depth understanding of the relationship between teachers' digital competence and teaching performance based on experiences, perspectives, and real practices occurring in the school environment. The descriptive qualitative approach allows researchers to describe phenomena as they are according to field conditions without involving statistical measurement or numerical hypothesis testing *(Creswell, 2014)*.

Research Location and Subjects

This research was conducted at SDK Marga Bhakti. The research subjects were selected purposively based on their roles and involvement in the learning process and school system management. The research subjects consisted of the school principal, a teacher, and a school administrator.

The selection of the principal was based on his or her role in policy-making and support for the use of digital technology in schools. Teachers were selected because they are directly involved in the learning process and the application of digital technology in classrooms. School administrators were selected because they play a role in managing digital-based administration and distributing information that supports learning activities and school communication.

Data Collection Techniques

Data collection techniques in this study were conducted through in-depth interviews, observation, and documentation. The use of multiple data collection techniques aimed to

obtain more comprehensive data and to enhance the validity of research findings through source and technique triangulation *(Miles, Huberman, & Saldaña, 2014*).

In-depth interviews were conducted with the school principal, teacher, and school administrator to obtain information regarding school policies, learning practices, the use of digital technology, and school system support. Interviews were conducted directly using open-ended question guidelines so that informants could convey their experiences and perspectives more freely and in depth.

Observations were carried out by directly observing classroom learning processes, particularly the use of digital learning media, teacher–student interactions, and the level of student engagement during learning activities. These observations aimed to obtain a real picture of the implementation of digital technology in learning activities.

Documentation was conducted by collecting and analyzing documents related to learning and school administration, such as lesson plans, digital learning media, and school communication platforms. Documentation data were used as supporting data to strengthen the results of interviews and observations.

Research Instruments

The main research instrument in this study was the researcher, who acted as the data collector and analyst. Supporting instruments included interview guidelines prepared separately for the principal, teacher, and school administrator according to their respective roles. In addition, observation sheets were used to record the implementation of digital technology-based learning, as well as lists of documents analyzed to ensure data consistency from various sources.

Data Analysis Techniques

Data analysis was conducted continuously and in stages from the data collection process to conclusion drawing. The data analysis technique referred to the qualitative data analysis model, which includes data reduction, data presentation, and conclusion drawing *(Miles et al., 2014)*.

Data reduction was carried out by selecting and focusing on data relevant to teachers' digital competence and teaching performance. Data presentation was organized in the form of narrative descriptions to facilitate understanding of patterns and relationships among data. Furthermore, conclusions were drawn through careful and repeated interpretation of the analyzed data to obtain accountable findings.

Data Validity

To ensure data validity, this study used triangulation techniques. Triangulation was conducted by comparing data obtained from interviews, observations, and documentation. This technique was used to increase confidence in research findings and to ensure the consistency of information obtained from various sources *(Creswell, 2014; Miles et al., 2014)*.

Results

Use of Digital Technology in the School Environment

Based on interview results with the school principal, the use of digital technology at SDK Marga Bhakti has been gradually encouraged through various policies and information technology-

based training. The school received support from the foundation in the form of applications and digital systems used to support learning activities and school administration. One form of technology utilization is the use of student attendance monitoring applications that can be accessed by parents, although their implementation is still at the development stage.

However, the principal also revealed that there are still obstacles in implementing digital technology, particularly related to the readiness of human resources. Not all educators and parents have adequate understanding of digital technology usage, so a gradual process of assistance and adjustment is needed.

Teachers' Digital Competence in Learning Activities

Interview results with teachers show that teachers' ability to utilize digital technology in learning activities varies. Some teachers are accustomed to using digital devices such as laptops, LCD projectors, learning videos, and PowerPoint-based presentations in teaching and learning activities. The use of digital media helps teachers deliver learning materials in a more varied and interactive manner and provides opportunities for students to be more active in the learning process.

On the other hand, there are also teachers who still face obstacles in using digital technology. These obstacles are generally related to limited experience and a lack of assistance in learning new technologies. As a result, some teachers still tend to use conventional learning methods. Nevertheless, changes in teaching practices are felt by teachers who have utilized digital technology, particularly in terms of exploring learning materials and increasing student engagement.

Observation Results of the Learning Process

Based on classroom observations, the use of digital technology in learning has been implemented by most teachers at SDK Marga Bhakti. Teachers who have adequate digital competence were observed to utilize digital learning media, such as videos and visual presentations, to support the delivery of learning materials. The use of digital media had an impact on increased student activeness and enthusiasm during the learning process.

This finding is consistent with previous studies suggesting that digital media can support more interactive learning environments and encourage students' active participation, particularly at the elementary school level where visual and audio stimuli play an important role in maintaining attention (Pettersson, 2018; Tondeur et al., 2018).

However, observations also showed that teachers who are not yet accustomed to digital technology still prefer to use conventional learning approaches. This difference indicates that teachers' digital competence influences the variation of learning methods applied in the classroom.

Documentation Results and School Communication Patterns

The results of document analysis show that learning tools, such as lesson plans, have been prepared and distributed digitally through internal school communication media. Although the lesson plan format used still refers to the old format, digital document distribution facilitates coordination among teachers. In addition, communication between teachers and parents has been conducted through WhatsApp groups in each class to convey information related to activities and student development, although student grade reporting is still conducted using conventional methods.

The Role of School Administrators in Supporting Digitalization

Based on interview results, school administrators play a role in seeking and updating the latest information related to educational digital applications and systems that can be utilized by teachers in learning activities and human resource development. Administrators are also responsible for updating school data and distributing this information to teachers and education staff so that they do not lag behind technological developments and education policies.

School administrators revealed that challenges include limited understanding of certain digital tools and low interest among some teachers in continuously exploring digital technology. In addition, the use of digital technology is considered to help teachers' performance and communication with parents; however, these benefits have not been evenly experienced. Teachers and parents who already understand digital technology can utilize it well, while those who are not yet familiar require additional explanations and assistance, causing work processes to become slower.

Main Research Findings

Based on interview, observation, and documentation results, this study found that teachers' digital competence plays an important role in supporting teaching performance at SDK Marga Bhakti. The use of digital technology helps teachers deliver learning materials in a more varied manner, increase student engagement, and facilitate communication with parents. In addition, the role of school administrators is an important supporting factor in managing and distributing the school's digital systems, although further efforts are still needed to strengthen digital competence and provide continuous assistance so that technology utilization can run more optimally and evenly.

Table 1. Research Participants

Position/Role	Description of the Role in Research
Principal	Providing information related to school policies, support for the use of digital technology, and the role of leaders in encouraging the improvement of teachers' digital competence.
Teacher	Provide information about learning practices in the classroom, the use of digital technology in teaching activities, and its impact on teaching performance.
School Admin	Provide information on the management of digital-based administrative systems, distribution of educational technology information, and support for teacher performance and school communication.

Discussion

The Role of Teachers' Digital Competence in Teaching Performance

The results of this study indicate that teachers' digital competence plays an important role in supporting teaching performance at SDK Marga Bhakti. Teachers who are able to utilize digital technology in learning tend to be more flexible in planning and implementing teaching and learning activities. The use of digital media such as laptops, LCD projectors, learning videos, and visual presentations helps teachers deliver learning materials in a more varied and engaging manner, thereby encouraging active student involvement in the learning process. These findings emphasize that teachers' digital competence is not only related to technical mastery of devices, but also to pedagogical ability in integrating technology appropriately according to the characteristics of elementary school students.

The findings of this study are in line with various previous studies stating that teachers' digital competence is one of the key factors in improving learning effectiveness and teaching performance. Teachers with adequate digital competence are able to adjust learning strategies to students' needs and utilize technology as a tool to enrich learning experiences. Thus, the results of this study strengthen the view that the development of teachers' digital competence should be regarded as an important part of improving learning quality in elementary schools (Redecker, 2017; Tondeur et al., 2018).

In addition to teachers' digital competence, the results of this study also show that the role of school administrators is an inseparable supporting factor in the implementation of digital technology in schools. School administrators play a role in managing digital-based administrative systems, updating school data, and distributing information related to educational applications and technology to teachers and education staff. This role helps teachers obtain relevant and up-to-date information, so that the use of digital technology in learning can be more directed and coordinated.

However, differences in digital readiness among teachers and parents remain a significant challenge. Some teachers and parents still experience difficulties in understanding and using digital systems, which affects the effectiveness of technology implementation in schools. Similar findings have been reported in previous research, indicating that unequal levels of digital competence among educational stakeholders can slow down the integration of technology and require continuous mentoring and support (OECD, 2019; Hatlevik & Christophersen, 2021).

Teachers' intentions and willingness to integrate digital technology into learning are also influenced by their perceptions, attitudes, and previous experiences with technology. Studies on technology acceptance indicate that teachers are more likely to adopt digital tools when they perceive them as useful and easy to use within their teaching context (Scherer & Teo, 2019; Scherer, Siddiq, & Tondeur, 2019). Furthermore, the challenges of technology integration in schools are not only technical, but also pedagogical and cultural, requiring adaptation in teaching practices and school routines (Voogt et al., 2015).

Overall, this discussion shows that improving teachers' teaching performance through the use of digital technology requires synergy between teachers' digital competence and school system support. Collaboration among principals as policy makers, teachers as learning implementers, and school administrators as digital system managers is key to creating effective and sustainable technology-based learning environments in elementary schools.

Thus, supporting factors such as training and collaboration among teachers become important elements in improving teachers' digital competence.

School Support and Its Impact on Technology Implementation

Support from schools and foundations plays a strategic role in encouraging the use of digital technology. The results of this study show that the existence of technology-based training and the provision of supporting applications, such as student attendance monitoring systems, help strengthen technology implementation in schools. Although there are still constraints related to human resource readiness and parents' understanding, these efforts indicate a positive direction of development.

When compared with previous research findings that emphasize the importance of policies and institutional support in the success of technology integration, the results of this study strengthen the view that school support is an essential prerequisite for improving teachers'

digital competence (Redecker, 2017). Without such support, the use of technology tends to be individual and unsustainable.

Implications of Digital Competence for the Learning Process

Observation results indicate that the use of digital technology has an impact on increasing student activeness in learning, especially at the elementary school level, where students tend to have a high level of curiosity. Digital media-based learning encourages more dynamic interactions between teachers and students. However, these findings also reveal that the use of technology has not been fully integrated into all aspects of learning, such as lesson planning and learning outcome reporting, which are still conducted using conventional approaches.

These findings show that teachers' digital competence does not only affect teaching performance in the classroom, but is also related to broader learning management. This indicates the need for continuous development of digital competence so that the use of technology does not stop at learning media usage, but also includes learning planning and evaluation.

Conclusion

This study aims to examine the relationship between teachers' digital competencies and teaching performance in SDK Marga Bhakti by paying attention to the support of the school system. Based on the results of interviews, observations, and document analysis, this study shows that teachers' digital competencies play an important role in supporting teaching performance, especially in learning planning, implementing the teaching and learning process, and communication between schools and parents. Teachers who are able to utilize digital technology tend to find it easier to develop a variety of learning methods, use more interesting learning media, and create a learning atmosphere that encourages student activity. The use of digital technology also helps teachers in managing learning administration and facilitating coordination with schools.

However, the results of the study also show that the optimization of the use of digital technology in learning does not only depend on the digital competence of teachers alone, but is greatly influenced by the support of the school system. The role of school admins has proven to be an important supporting factor in managing the digital administration system, updating educational technology information, and distributing information to teachers and education staff. Obstacles are still found in the limited understanding of digital technology in some teachers and guardians, which leads to the need for additional assistance and has an impact on the effectiveness of the implementation of digital systems. This research has limitations in the number of subjects and the context of the schools studied, so the results of the research cannot be generalized widely. Therefore, further research is recommended to involve more diverse subjects and school contexts, as well as encourage school policies that support the strengthening of teachers' digital competencies and the role of school administrators in a sustainable manner to improve the quality of learning in elementary schools.

Furthermore, the results of this study indicate that the application of digital technology in learning in elementary schools still needs to be strengthened in the aspects of the system and mentoring. Although teachers' digital competence has made a positive contribution to teaching performance, the effectiveness of technology utilization has not been fully evenly distributed due to differences in the level of technology understanding, limited continuous technical support, and the readiness of the school administration system. Therefore, improving the quality of technology-based learning needs to be supported by consistent school policies, strengthening the role of school admins, and sustainable and contextual mentoring strategies.

The integrated approach is expected to ensure that the use of digital technology is not only administrative, but actually supports the improvement of the quality of learning in elementary schools.

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