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From Chalk to Click: Digital Skills Teachers Must Have Today

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A B S T R A C T

In the era of educational transformation, digital skills are a crucial aspect for teachers in supporting effective learning. Technological developments have changed the educational paradigm towards digitalization, where the teaching-learning process increasingly relies on various digital tools, software, and systems. However, many teachers still face challenges in mastering digital skills that match the needs and demands of modern learning, which has the potential to affect the quality of education in schools. This research aims to analyze the digital skills needed by teachers in the context of educational transformation. The method used is qualitative research with an in-depth interview and observation approach. The research participants consisted of teachers from various disciplines who taught in Junior High Schools (SMP), with the focus of research conducted at Budi Mulia Junior High School, Bogor. This research lasted from February to March 2025. The results of the study show that teachers need skills in the creation of digital learning modules, digital-based assessment systems, and the creation of learning content, such as animated videos. In addition, teachers need not only training related to the use of technology, but also effective pedagogical strategies in integrating technology into learning. Therefore, the training designed must include technical and methodological aspects so that teachers can optimize the use of technology in the learning process.

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INTRODUCTION

The contemporary education revolution is driven by significant technological breakthroughs and changes in the needs of society in the digital age. With increasing access to information and communication, conventional learning methods are starting to be considered less successful in educating students to face global issues.

Today's children have easier access to learning resources because they are usually more tech-savvy, including computers, tablets, and mobile phones. In addition to having technological capabilities, today's students are more likely to conduct online research independently, which allows them to study subjects outside of the official curriculum. Many of them are used to working in virtual teams, exchanging ideas, and discussing topics through collaborative platforms, which improves their social and communication skills. Students who are exposed to various digital information sources are also encouraged to be more creative in solving problems and more critical in analyzing and evaluating information.

Students have an easier time keeping up with the development of digital education because they can adapt to new learning techniques and technical improvements quickly. They choose dynamic and engaging teaching strategies that add excitement to the learning process, such as educational games, instructional films, and simulations.

Students can expand their knowledge and horizons, learn learning materials from around the world, and prepare for global issues by having an internet connection. This stage is referred to as the digital generation. Refer to the theory in (Effendy, 2024) mentioned that the digital generation is a group of people who were born and grew up in a very developed era of information and communication technology. They are known as digital natives, who have high abilities in using digital technology and the internet.

The digital native generation (GDN) requires an adaptive educational transformation, and this reality makes it difficult for teachers to acquire the skills needed to use digital media in the classroom. In a time when technology is evolving, educators must not only master digital devices, but also be able to incorporate them into creative teaching strategies.

Refers to (Tundreng et al., 2024), transformation in the world of education is now an urgent need in facing the ongoing development of the digital revolution. The conventional education system that has been implemented for many years needs to be adapted to the dynamics of the times that continue to change. Educational transformation is a fundamental change in the education system that aims to improve the quality, relevance, and effectiveness of learning (Afirilia et al., 2024).

Key dimensions of this transformation include increased access to information, the development of skills relevant to the 21st century, digital literacy, as well as various learning methods such as online, distance, personalization, and lifelong learning (Hasnida et al., 2023). Technological advances also enable global collaboration in education, where students and educators can interact and share knowledge without geographical limitations. In addition, the use of artificial intelligence and data analysis in learning further

increases the effectiveness and efficiency of the educational process, making it more adaptive to individual needs (Rochmawati et al., 2023).

Refers to (Lian & Amiruddin, 2022) Education transformation is responded by the government through the digitalization of education which refers to the use of technology in the teaching and learning process, such as the use of digital platforms, online learning, and the integration of artificial intelligence in education.

In his research (Scott, 2015) said that educational transformation plays an important role in creating individuals who are ready to face global challenges. One of the efforts to adapt to globalization is through steps to change in the education system and increase the role of teachers who are able to adapt to the development of the times and current needs. With more and more digital platforms available, teachers have a great opportunity to leverage this technology to increase learning effectiveness.

Given the rapid advancement of digitalization, educators must have the necessary skills to manage and use learning technologies effectively. While there are many digital tools and platforms available to help with the learning process, many educators are still hesitant to use them. This lack of confidence can degrade students' ability to learn at their best and interfere with learning effectiveness.

Referring to the results of research in (Gusmana & Syamzaimar, 2025) Teachers face a variety of key challenges, such as limited digital competencies, inadequate infrastructure and facilities, and resistance to change. In addition, the lack of continuous professional training is also an obstacle. Difficulties in operating technological devices and utilizing digital learning platforms are the main obstacles in the implementation of technology-based learning methods. This challenge requires digital skills training for teachers.

Digital skills refer to the technical ability to make effective use of technological tools, which allows individuals to improve their performance, productivity, creativity, and professionalism (Rajagukguk, 2024). In other words, a teacher who is an expert in using digital media can design a more dynamic and engaging learning environment that supports student growth and development. To help students learn more efficiently and actively participate in the process, teachers can also use technology to help students collaborate, implement different teaching strategies, and provide feedback in person.

The responsibility of teachers in the modern digital era is not only to convey knowledge, they must also master various strategies, tactics, and digital-based teaching media (Sitompul, 2022). Teachers must be able to integrate technologies such as online learning platforms, artificial intelligence, gamification, and interactive digital tools to improve student understanding and engagement.

Refer to the results of the research (Siregar et al., 2024) is a fundamental need in the modern education system. With mastery of information and communication, the ability to create innovative learning content, and skills in solving various educational challenges, educators can create a learning environment that is more effective, inclusive, and ready to face the times.

Therefore, improving digital competencies for teachers must be a top priority in the transformation of education in the digital era.

Reporting from the Tular Nalar website in (Ardinah, 2021) In the world of education, there are various digital media that are commonly used to support the teaching and learning process. One of them is access to various internet sites such as Wikipedia, which provides extensive information, as well as video-sharing platforms such as YouTube that offer a variety of learning content. In addition, there are also articles, journals, and educational applications that enrich learning resources. Social media also plays an important role in education, with platforms such as Facebook, LinkedIn, Instagram, Pinterest, and Picasa facilitating information sharing. For the collaboration aspect, there are Wikipedia, SlideShare, and Google Drive that allow collaboration in the preparation of materials. On the other hand, online-based learning apps such as Ruangguru, Zenius, and Brainly help students understand various materials interactively. Meanwhile, for those who want to hone their language skills, there are options such as Memrise, Mondly, Tandem Language Exchange, Busuu, and Duolingo.

Still from the same site in the formal learning process, digital platforms such as Google Classroom, LinkedIn Learning, Docebo, Articulate, and Moodle have become effective tools for managing and organizing online classes. Not to forget, the Learning Management System (LMS) acts as a software specifically designed to organize various training and learning activities in a more structured and efficient manner.

With a variety of digital means that can be utilized, teachers need to analyze the most relevant media and according to learning needs. This analysis must consider the conditions and availability of resources, including the challenges and difficulties faced by teachers in accessing, operating, and integrating technology into the learning process.

Referring to the results of research in (Gusmana & Syamzaimar, 2025), teachers face various main challenges, such as limited digital competencies, inadequate infrastructure and facilities, and resistance to change. In addition, the lack of continuous professional training is also an obstacle. Difficulties in operating technological devices and utilizing digital learning platforms are the main obstacles in the implementation of technology-based learning methods. This challenge requires digital skills training for teachers. Deep (Haq et al., 2023) The main challenge in transforming education in the digital era lies in the availability of competent human resources and the readiness of adequate digital devices.

Teacher training is a process that is systematically designed to improve teachers' skills, knowledge, and competencies in managing the classroom effectively (Alifah & Rindaningsih, 2025). Through this training, educators are given the opportunity to learn various innovative teaching strategies, understand the latest developments in pedagogy, and master educational technology that can support the teaching and learning process.

The purpose of this study is to examine the digital competencies needed by educators in dealing with contemporary learning and educational changes. It is crucial for educators to not only understand digital technology but also be able

to successfully incorporate it into the teaching and learning process in an era where technology is taking over everyday life. By examining these skill requirements, this study aims to determine the essential elements that educators must master to design an engaging, relevant, and dynamic learning environment for students.

LITERATURE REVIEW

Digital skills are the ability to use digital devices, applications and information technology effectively and efficiently in everyday life, including in the context of work and education. Digital skills are a person's ability to understand, use, and utilize digital technology in various aspects of life, such as learning, working, and social interaction.

METHODOLOGY

This study uses a qualitative method by selecting ten teachers from various disciplines as samples. The selection of samples was carried out purposively to ensure the diversity of perspectives obtained (Harahap, 2020). Data was collected through interviews and in-depth observations. Interviews are conducted to produce more detailed and personalized information, while observations are conducted to observe and get a real picture of how teachers creatively integrate digital media to enhance students' learning experience (Fiantika et al., 2022). This research was carried out at Budi Mulia Junior High School, Bogor, during the period from February to March 2025. With this approach, it is hoped that a comprehensive understanding of the needs of teachers' digital skills in the current educational context can be obtained. Furthermore, the researcher recorded important points during the interview for analysis. Interview transcripts and data analysis use thematic analysis techniques to identify patterns, themes, and insights.

RESULT DAN DISCUSSION

After going through a methodical data collection process that included focus groups and in-depth interviews, the study successfully identified a number of digital capabilities that instructors need in the context of contemporary learning. The responses of the 10 participating teachers provided important new information about the requirements and difficulties they faced when incorporating technology into their lessons. The study's key findings will be presented in this section, which will be followed by a thorough examination of the perspectives and experiences of instructors with digital skills.

Understanding of Digital Technology in Learning

During observations in the classroom, the researcher found that all teachers still use conventional technology in learning, because the media used is still limited to using markers, printed books, projectors without digital activities, and the use of printed images. The researcher explored the findings of observations through in-depth interviews about teachers' understanding of digital technology that can support learning effectively. Participants' answers

vary. Some teachers mentioned that digital understanding in learning is only limited to using technology to type materials and use projectors. Some teachers said that understanding technology means knowing various learning application platforms, especially classroom, zoom, or interactive presentations using PowerPoint. However, most teachers do not have a broad and in-depth understanding of the potential of digital technology that can be optimally utilized to support a more interesting, interactive, and effective learning process for students.

The researchers also identified the apps used in the study, and all participants mentioned that they did not use any apps. In fact, interview questions were developed to find out how often teachers use digital media in learning, and most participants answered almost never.

Referring to the results of previous research in (Zai et al., 2024) The presence of technology in the learning process is very beneficial. Technology provides a variety of services and features that make classroom learning more engaging and interactive, thereby increasing students' interest in learning.

The same thing was conveyed in (Miasari et al., 2022) Educational technology has a positive impact on the learning process at all levels, from elementary school to college. It allows students to experience new and different learning experiences. The integration of technology in education makes the learning process more advanced and effective, improving the quality of the student experience that was previously unavailable.

In addition to making the learning process more sophisticated and efficient, the use of technology in education has raised the standard of student experience, which may have been difficult to achieve in the past. A variety of learning resources, including online courses, video tutorials, and discussion forums, are now available to students, broadening their horizons and enhancing their understanding of the material. In addition, teachers can change their teaching strategies according to each student's learning needs and preferences thanks to technology, which makes teaching more individualized and flexible.

Based on these findings, teachers need to continue to hone their understanding of digital utilization in learning to the advanced level or high category (Rahman et al., 2024), where teachers are able to integrate various digital technologies into learning, implement technology-based learning strategies, create digital content, use various software applications related to interactive learning.

In addition, teachers who are experts in using digital technology can provide engaging and relevant digital materials that can help students better understand the material. Teachers can offer a more dynamic and engaging learning experience by providing a variety of resources, such as interactive presentations, instructional films, and web-based learning modules.

Utilizing a wide range of interactive learning-related software applications is another important aspect of this capacity. These tools not only allow students to collaborate and actively participate in the learning process, but also give teachers the opportunity to present material in a more engaging way. Therefore, in order to provide a responsive and relevant learning environment,

the development of teachers' digital competencies emphasizes not only technical abilities but also critical and creative thinking.

Digital media has various important functions in the context of education, communication, and information. Teachers can utilize various digital media to create more effective and engaging interactive learning. Some of the digital media that can be used in learning include: a) Interactive Digital Media, combining various digital file formats such as text, images (vectors or bitmaps), graphics, sounds, animations, videos, and interactive elements that are digitally packaged to convey information in a more interesting way. b) Digital Videos and Animations, help increase the attractiveness of learning by presenting the material visually and dynamically, so that it is easier for students to understand. c) Podcasts, in the form of audio recordings that can come from television, radio, or performances, which can be used as a flexible learning resource for students. d) Augmented Reality (AR), Combining real-world elements with virtual objects, providing a more interactive and immersive learning experience. e) Virtual Reality (VR), allows simulation of environments that are difficult to present in the real world, so that students can understand concepts more deeply through hands-on experience. f) Game-Based Learning, utilizing games that are specifically designed to support the learning process, increase student involvement, and help understanding concepts through interesting game mechanics (Hendra et al., 2023).

Digital Skills that Teachers Have

To identify the skills possessed by teachers, the researcher analyzed the aspects of skills that had been mastered by teachers through observation. In terms of using learning platforms, teachers have mastered the operation of Zoom, Google Classroom, and Google Meet. However, the integration of digital technology in learning is still limited. For example, they are not skilled in video editing, basic coding, and optimal use of internet-based learning media. Some teachers have mastered video editing, and access to learning through the internet. The use of applications such as collaboration, game-based learning, interesting powerpoint editing like Canva, and the use of digital books such as flippingbooks, is still very low.

Opinion (Berliana, 2024), digital skills encompass a wide range of abilities related to the use and understanding of technology in various fields. When applied to teachers' digital skills, this means that they include abilities related to the use and understanding of technology to support the learning process. This includes the use of digital devices, educational applications, and the integration of technology in teaching methods.

The use of digital devices such as laptops, tablets, and smartphones is one of the most important components of teachers' digital literacy. These devices should be able to be used by teachers to access educational materials, interact with students, and supervise classroom management. In addition, a thorough understanding of educational applications is essential. These programs, which include evaluation tools, collaboration tools, and online learning platforms, can

assist educators in designing dynamic and engaging educational experiences for students.

Based on this understanding, it can be seen that teachers do not have adequate digital skills in aspects of the learning process. This is evident from the results of observations in the classroom, where teachers still rely on traditional media. They tend to use other people's learning content that can be accessed through creative content such as YouTube, without utilizing digital resources creatively or innovatively. This situation shows the need for better digital skills development among teachers to improve learning effectiveness.

For this situation, the researcher developed interview questions related to the main obstacles in developing digital skills. Various responses were found, including; Some say the lack of support from schools in establishing cooperation with other parties, such as industry and other educational institutions, can help improve teachers' digital skills. Some respondents said that the training carried out was not relevant to current needs, so it could not meet the expectations and needs of teachers in developing digital skills. Meanwhile, some others cited a lack of motivation from teachers to take part in digital training, because they did not see the immediate benefits of the training or did not have adequate basic skills to take part in digital training.

The role of school principals in implementing training strategies has a great influence on improving teachers' digital skills. In particular, technology-based training helps teachers master the use of digital tools more effectively. In addition, the coaching and mentoring approach provides personal guidance from more experienced colleagues, so that teachers can develop their competencies more optimally. Not only that, cooperation and sharing of best practices also encourage teachers to learn from each other's experiences, creating a collaborative and innovative environment in the learning process (Akhyar, 2025).

In order for the training to be in accordance with needs, it is necessary to conduct an in-depth needs analysis. In previous research (Puspita & Nurhalim, 2021) that the analysis is carried out with structured activities to evaluate the difference between the abilities possessed by individuals, both in terms of knowledge, skills, and attitudes, and the competency standards required by the organization.

The gap between current and required competencies can be found using a methodical needs analysis. This allows organizations to select appropriate training techniques and resources and create clear and relevant training objectives. Furthermore, a thorough analysis helps in setting training priorities, thus allowing for more effective use of available resources.

The motivation of the trainees greatly affects the achievement of the training objectives. In order for the motivation of the trainees to increase, it is necessary to have continuous professional development and not be carried out partially. In his research (Lestari et al., 2024) emphasizing that Continuous Professional Development programs that are systematically designed and supported by technology can strengthen teachers' pedagogical competence and support them in adapting to the dynamics of change in the world of education.

Training that is carried out simultaneously and tentatively affects the motivation of teachers to participate in the training program.

Teachers can continue to learn and develop in a number of areas, such as teaching methods, the use of technology in the classroom, and understanding students' needs, through integrated, continuous professional development. Teachers can use technology to connect with colleagues in different locations, access a variety of materials, and enroll in online courses, all of which can enhance the learning experience.

Therefore, it is imperative for educational institutions to create professional development initiatives that are comprehensive, sustainable, and sensitive to the needs of educators. This will increase the motivation and dedication of the instructors to the learning process in addition to their pedagogical skills, which will ultimately improve the overall standard of education.

Digital Skills Requirements

To identify the skills needs that teachers need, the researcher conducted interviews by designing what digital skills are most needed by teachers today, and whether there are specific digital skills that they want to learn further. All respondents wanted to develop skills in compiling learning modules, assessment, and value reporting. They also emphasized the importance of creating learning animation videos, content access, and collaboration apps between students, with a primary focus on the integration of technology in learning.

In his research (Anas & Zakir, 2024) said that Artificial Intelligence accommodates the needs of teachers in learning, especially for personalizing learning, analyzing students' strengths and weaknesses, and providing real-time feedback. AI supports interactive teaching, data management, and functions as virtual tutors and facilitates distance learning and curriculum development, thereby easing the burden on teachers.

Referring to the news rri.co.id in (Shaputra, 2024) that there are Artificial Intelligence features that can be used by teachers in digitizing learning, including: a) Chatboots that teachers can use to help students ask questions quickly, Collecting data on student development and analyzing it to help teachers improve teaching methods. b) VR and AR that can be used to provide learning experiences for students such as digital museum visits or other digital content. c) Intelligent Tutoring Systems (ITS) can be used to collect data and analyze it so that teachers get an idea of the needs of students that match their talents.

Artificial Intelligence helps teachers tailor teaching, provide automated feedback, and automate administrative tasks. In addition, AI recommends resources, analyzes student progress, supports distance learning, and improves communication and detection of learning problems for appropriate interventions.

Therefore, teachers are expected to be proficient in using software in order to reap the many benefits offered by artificial intelligence (AI). To improve

teaching effectiveness, tailor resources to student needs, and handle administrative tasks more effectively, educators must also be adept at incorporating AI into the classroom. Teachers who are proficient in AI can also evaluate student progress data, provide automated feedback, and design a more individualized and dynamic learning environment. Therefore, in order to succeed in the era of technology-based education, it is crucial for instructors to receive training and improve their digital competencies.

Support and Challenges in the Use of Technology

In the last session of the interview, the researcher explored information about internal and external support in digital skills training for teachers. In addition, the researcher also traced how support is provided by schools in the use of digital technology in the teaching process and identified the main challenges faced by teachers in implementing digital technology in the classroom.

Respondents answered that teachers received support from schools for anyone who wanted to take part in training both online and offline, but it was still only an appeal. By utilizing the government assistance fund, the school seeks to accommodate the availability of software so that there are no obstacles because internet access is available, hardware and software are accommodated, and the source of funds resulting from training is accommodated.

The biggest challenge faced by teachers is the lack of time allocated for digital trainings. In his research (Nisa et al., 2024) Teachers' motivation and job satisfaction can be enhanced with training tailored to their specific needs and career goals. Teachers will be more passionate and engaged in their work when they receive the right support and have the opportunity to advance their careers.

Further in his research (Nisak & Rahmah, 2024) mentioned that digital training Teachers' pedagogical and technical skills, especially the use of digital media and online learning platforms, have greatly improved with information technology-based training.

The training program that teachers are required to follow is greatly influenced by various external factors that are beyond their control. Referring to the results of previous research in (Fatimah et al., 2024) The development of teachers' digital skills is also greatly helped by the support of the government and school leaders in the form of policies, initiatives, and incentives. The integration of technology in the classroom is made possible by a flexible and adaptive curriculum, and the professional development of teachers is fostered through collaboration between schools, educators, parents, and the community. The innate desire of teachers to learn new things and adapt to pedagogical and technological advances has a significant impact.

If all things considered, in this digital era, teachers' digital skills are essential to develop a successful and relevant learning process. Teachers can increase student engagement, encourage cooperation, and prepare students for future success by using technology with the right knowledge and skills.

Integration of Technology in Learning

Another important aspect of teachers' digital competencies is their ability to incorporate technology into their lesson plans. It involves the capacity to integrate technology with conventional teaching methods, such as incorporating digital devices to promote project-based learning, using multimedia in presentations, and using educational games and simulations to improve conceptual understanding. In this way, educators foster a creative and cooperative learning environment in addition to imparting knowledge.

The researcher made observations in the classroom during the learning process. Researchers found that technology integration has not been optimally integrated. Teachers carry out conventional learning methods, where teachers lecture and students listen. Learning materials have not made use of multimedia such as videos, interactive presentations, visual content, and animation.

To validate these findings, the researcher conducted interviews regarding skills in using learning and multimedia platforms. The participants responded that they had not mastered these skills, so the integration of multimedia in learning could not be carried out properly.

Refer to the results of the research (Ningtyas & Pradikto, 2025) Conventional teaching approaches, which rely mostly on lectures and homework, are less effective in capturing students' attention. This is especially evident in materials that demand active participation, creativity, and emotional involvement of students. On the other hand, an educational play-based learning approach offers a number of benefits when it comes to fostering a more engaging, entertaining, and relevant learning environment for students. Game-based digital media that can be integrated into learning is Game-Based Learning which can be used to improve students' understanding of literacy and numeracy aspects.

In addition, in (Arsyad et al., 2024) The audio-visual method can increase students' enthusiasm and understanding by using a combination of interesting sounds and images, while the lecture method, while useful, tends to be less effective because one-way communication makes students passive and makes it difficult for them to understand the material.

Based on the above findings, it can be understood that technology in learning is a competency in integrating various types of digital media into teaching and learning activities to increase efficacy, interactivity, and student involvement.

The use of media by teachers in the classroom is a hallmark of this technology integration. To accommodate a wide range of students' diverse learning styles, media can be audio, video, graphic, or animation. Digital media is also used to increase student participation to facilitate interactive learning between students and teachers as well as among the students themselves. Students will find it easy to access resources at any time and from any location thanks to digital media. Through the use of digital tool platforms such as discussion boards, document sharing software, and virtual classrooms, digital media integration can encourage collaborative learning.

Furthermore, technology integration can support students' needs according to their learning preferences and talents, thus enabling them to acquire digital skills that may be useful in the workplace in the future in addition to mastering the subject matter. Through various media, digital media allows educators to provide feedback more quickly and efficiently.

According to the findings of the study (Cuhanazriansyah & Dita, 2025), students' speaking, writing, reading, and listening skills can be improved through the use of digital learning resources such as Learning Management Systems (LMS), interactive educational applications, video-based media, and simulations, and artificial intelligence (AI)-based technologies. In addition, project-based learning approaches, online forums, virtual presentations, role-play simulations, and technology-based feedback have proven to be efficient ways to utilize these media. With the integration of such methods, students not only develop their communication skills, but also increase engagement and motivation in the learning process.

With gamification features that encourage student engagement, interactive educational apps provide a more engaging learning environment. While AI technology can offer a customized experience, tailoring content to each student's needs and abilities, video-based media and simulations help students understand complex ideas in a more practical and visual way.

Project-based learning strategies also give students the opportunity to apply what they have learned in practical situations, which fosters creativity and problem-solving skills. By allowing students to exchange ideas and discuss in a cooperative online setting, online forums and virtual presentations help students improve their communication skills. Role-playing simulations improve speaking and listening skills in relevant contexts by creating realistic learning scenarios.

CONCLUSION

Teachers in the digital era must have strong digital skills, but many still have difficulty mastering technological tools for teaching. Technology-based training has proven to be effective, but it is constrained by time, material incompatibility, and low teacher motivation. In order for training to be more effective, it needs to be tailored to the needs and professional goals of teachers. Support from the government, schools, and collaboration between educators and the community is essential in developing digital skills.

Teachers need skills in the creation of digital learning modules, digital-based assessment systems, and the creation of learning content such as animated videos. The use of Artificial Intelligence (AI) in learning can help personalize learning, analyze student development, and automate administrative tasks. With the use of technologies such as AI, VR, and AR, as well as the right policy support, teachers can create more interactive and relevant learning. Therefore, improving teachers' digital skills must be a priority in education policy.

RECOMMENDATION

To improve teachers' digital literacy, a relevant, technology-based, and tailored training program is needed to meet individual needs. This program must be flexible, accessible, and not interfere with the teaching schedule to be more

effective. In addition, support from educational institutions and government policies is needed, including in the form of regulations that support sustainable professional development and the provision of adequate technological infrastructure. To increase teacher motivation, it is important to build a learning community that allows them to share experiences and best practices, as well as provide incentives or rewards for those who are active in improving digital skills. The integration of technology in learning must also be improved, especially by utilizing artificial intelligence (AI), virtual reality (VR), and augmented reality (AR) to create a more interactive and engaging learning experience for students. In addition, cooperation with academic institutions, the technology sector, and society needs to be strengthened to enrich resources and training materials that are more relevant to current educational needs. By implementing this strategy, teachers' digital skills can develop significantly, allowing them to create more innovative, efficient, and time-appropriate learning.

FURTHER STUDY

Further research can focus on several aspects to support the development of teachers' digital skills more optimally. First, further studies are needed to identify the most effective technology-based training strategies that suit individual teachers' needs based on their level of digital competence and professional goals.

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