TRACING THE TREND ON DIGITAL COMPETENCE OF ENGLISH TEACHER; THE CHARACTERISTIC AND STRATEGIC IMPROVEMENT

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Abstract : *The current development has turned students into digital natives, also known as the digital generation, which demands that educators upgrade their competencies to align with the present conditions. This research aims to understand the characteristics and strategies for developing digital competencies among educators. The study adopts a qualitative approach with a case study design. Data collection is conducted through participant observation, in-depth interviews, and documentation. The collected data is analyzed using the Miles, Huberman, and Saldana data analysis techniques. The research findings reveal that the digital competency characteristics educators possess consist of digital literacy skills, the ability to interact and communicate through digital media, the ability to address the impact of digital content, and the ability to solve problems based on digital media. The strategies employed to enhance digital competencies include professional training and development, collaboration and knowledge exchange, monitoring and feedback, access to resources and instructional materials, technology-based projects and assignments, and support from school administrators.*

Keywords : *Digital Competence; Teachers Ability; Strategic Improvement.*

Abstrak : *Perkembangan saat ini menjadi peserta didik menjadi generasi digital native atau biasa disebut dengan generasi digital sehingga menuntut tenaga pendidik untuk melakukan upgrade kompetensi terbarukan yang sesuai dengan kondisi saat ini. Penelitian ini bertujuan untuk memahami karakteristik dan strategi pengembangan kompetensi digital tenaga pendidik. Penelitian ini menggunakan pendekatan kualitatif dengan jenis studi kasus. Pengumpulan data dilakukan dengan menggunakan teknik observasi partisipan, wawancara mendalam, dan dokumentasi. Data yang telah terkumpulan dianalisis dengan menggunakan teknik analisis data Miles, Huberman, dan Saldana. Penelitian ini menghasilkan temuan bahwa karakteristik kompetensi digital yang dimiliki oleh tenaga pendidik terdiri dari kemampuan literasi digital, kemampuan berinteraksi dan berkomunikasi melalui media digital, kemampuan memberikan perlindungan terhadap dampak konten digital, dan kemampuan mengatasi masalah yang berbasis pada media digital. Sedangkan strategi yang digunakan dalam membangun kompetensi digital terdiri dari pelatihan dan pengembangan professional, kolaborasi dan pertukaran pengetahuan, pemantauan dan umpan balik, akses sumber daya dan bahan pelajaran, proyek dan tugas berbasis teknologi, serta dukungan kepala sekolah.*

Kata Kunci : *Kompetensi Digital; Kemampuan Tenaga Pendidik; Strategi Pengembangan.*

INTRODUCTION

The development and improvement of educational services that require attention are educators and educational personnel (Bachtiar, 2016). Teachers, as educators at the school or madrasah level, play a crucial role in enhancing the quality of graduates. A qualified teacher possesses inherent competencies in guiding, nurturing, conveying, and transferring knowledge to students. The competencies of teachers and lecturers encompass pedagogical competence, personality competence, social competence, and professional competence (Law No. 14 on Teachers and Lecturers), as well as spiritual competence and leadership competence (KMA No. 211 of 2011). Teachers and lecturers are not only expected to have the ability to transfer knowledge, design instructional materials, provide objective evaluations, and communicate effectively, but they should also possess leadership qualities, make wise decisions, serve as good role models, and have spiritual devotion as motivators to seek blessings and steadfastness, as well as humility in enhancing faith and devotion to Allah SWT. Fattah (2019) adds that lecturers should emulate the figure of the teacher, Prophet Muhammad SAW, because he had; 1) perfection in instincts; 2) perfection in character; 3) excellence in speech, and; 4) excellence in behaviour. Furthermore, McShane & Glinow (2008) explain that competencies are skills, knowledge, talents, values, directions, and other personal characteristics that drive superior performance.

Competence or ability is a crucial element of professional competence standards, alongside the code of ethics as a regulation of professional behaviour established within specific procedures and supervisory systems. Teacher competence involves the knowledge to perform tasks based on abilities, skills, and underlying values reflected upon and considered in thinking and acting to complete specific job requirements. Consistent thinking and continuous action, such as possessing knowledge, skills, and core values to fulfil job responsibilities and make an individual competent. Competence refers to a teacher's knowledge and skills in carrying out their professional duties (Ministry of National Education, 2006). Another perspective defines *competence* as the ability and effective and efficient actions in exploring, investigating, analyzing, thinking, paying attention to, and guiding individuals or others towards achieving goals (E Mulyasa, 2017). Furthermore, according to Arikunto (2007), the concept of competence is not just visible and demonstrable actions but also related to the potential to perform actions. When Bloom's taxonomy is related to Suharsimi's concept, it is connected to cognitive, affective, and psychomotor aspects.

Based on the definitions above, competence integrates three core elements inherent in an individual: knowledge, skills, and attitudes. Therefore, someone is considered competent if they possess the knowledge, skills, and attitudes to perform or accomplish something. Teacher competence is related to cognitive, affective, and psychomotor aspects. Several indicators of teacher competence in Indonesia consist of four competencies: personality competence, professional competence, pedagogical competence, and social competence (Mundiri & Ningtias, 2019). The National Education Act, Article 28, paragraph

3 point b, explains that the purpose of personality competence is to possess a noble character as an example for students, being firm, stable, mature, wise, and authoritative. Teachers should play a significant role in creating educational success, especially in the teaching and learning process. Therefore, the role of teachers is crucial in educating and shaping the character and personality of students.

At an unstable stage, students tend to imitate what they have seen and encountered during their brief or long-term presence in a particular place. Throughout six days of the week, students spend most of their time at school, constantly meeting and interacting with teachers. Teachers serve as substitutes for parents at home. The attitudes and role modelling of teachers become examples for students in school. The attitudes and role modelling of teachers serve as benchmarks in shaping the character and personality of students (Fauzi et al., 2018). This indicates that the personality competence of a teacher plays a significant role alongside parents in shaping the students' personal development.

In the current development, students have become a generation of digital natives, commonly known as the digital generation. This is because they have been exposed to technology since birth. Educators must respond to this and be able to identify the needs of students and education service users, which are closely related to the digital world (Suryanti & Wijayanti, 2018). Therefore, teachers nowadays are expected to possess pedagogical competence and other competencies that align with the competencies established by the government.

Hibana and Surahman (2021) state that in the current context, there are at least five competencies that teachers should master: first, educational competence (internet-based learning as an essential skill); second, competence in technological commercialization (supporting student innovation); third, competence in globalization (solving culturally-based problems); fourth, competence in future strategies (predicting future directions); and fifth, counsellor competence (keeping up with the challenges posed by the era). All of these competencies require the involvement of technology. In other words, the digitalization of learning is necessary to maximize learning outcomes. Educators are expected to adapt to the changing times. Ideally, educators should have a better grasp of technology than students. There will be a disconnect between teachers and students if they are not on the same page. Teachers are at 3.0, while students are at 4.0. The challenge for teachers is more significant because technological proficiency contributes to the quality of education, ultimately affecting graduates' quality (Goodwin, 2021). Furthermore, it is stated that the Fourth Industrial Revolution demanded equal access to education and equal quality of education (Akinde et al., 2017).

Teacher competencies during the Covid-19 pandemic involve mastery of literacy and ICT competencies. This is achieved through digital competencies, where the exploration of digital media is integrated into every educational institution's policy (Sudrajat, 2020). Literacy competence is a part of digital competence, where literacy competence for

educators, according to Asari et al. (2019), encompasses ten stages: access, selection, comprehension, analysis, verification, evaluation, distribution, production, participation, and collaboration. Mastery of technology or digital competence is necessary for educators to narrow the gap caused by the rapid pace of information (Suryanti & Wijayanti, 2018). Continuous training and interaction can reduce doubts and nervousness when directly engaging with technology. The digitalization of the education system is essentially a response to Education 4.0, in line with the Fourth Industrial Revolution, where the digitalization of the education system demands that teachers have an additional ability, which is Digital Competence (Hibana & Surahman, 2021).

Digital competence, according to Prayogi (2020), encompasses several forms, namely: information (literacy skills); communication (the ability to interact through technology and digital media); educational content creation (the ability to create digital learning content or media); security (the ability to protect against the impact of content or digital learning media); and educational problem solving (the ability to address issues related to technology-based learning). Ultimately, educators and students understand the positive and negative aspects of technology-based or digital learning and can maximize the available technology.

Wulandari (2020) notes that during the Covid-19 pandemic, there has been a decline in learning achievement among students, as reflected in various aspects of their development. Technology skills, communication, and information are considered foundational in digital competence (Rejeki, 2022). It is often said that technology can replace books, but teachers cannot be replaced (Notanubun, 2019). This forms the basis for the characteristics of 21st-century teachers, where a teacher's character is transformed with every technological change and digitization. Digital competence, according to Crittenden & Peterson (2019), requires educators to have the awareness to consciously and effectively transform the learning system to be more relevant to the desired conditions of students and society. Based on the discussions above, this research aims to understand the characteristics and strategies for developing digital competence in Madrasah education.

METHOD

This research adopts a qualitative approach using a case study design. Therefore, the study focuses intensively on a specific object studied as a case. As a case study, the data collected comes from various sources, and the findings of this research only apply to the investigated case, which is centred on the characteristics and strategies for developing digital competence in teachers. The case study is one of the qualitative research methods based on understanding human behaviour and values, beliefs, and scientific theories. Case studies typically involve data collection methods such as archives, interviews, questionnaires, and observations. However, this research collects data solely through observation, in-depth interviews, and documentation.

The collected data was analyzed using the data analysis techniques of Miles, Huberman, and Saldana. According to Miles, Huberman, and Saldana, qualitative data analysis is divided into three activities; 1) Data condensation, 2) Data display, and 3) Drawing and verifying conclusions (Miles et al., 2014). Data validity checking is conducted through prolonged engagement, persistent observation, and triangulation.

RESULT AND DISCUSSION

1. The Characteristics of Teachers' Digital Competence

In its development, four pillars of literacy help enhance society's understanding of the digital space to support digital transformation. These four essential literacy pillars aim to introduce and provide an understanding of information and communication technology devices, namely digital skills, digital culture, ethics, and safety. Teachers should also master these four competencies to support literacy-based learning. The need for teachers to have digital competencies as a foundation for accurate and reliable information that can support the learning process (Silvana et al., 2019). The digital era demands that teachers play a more active role in education.

Based on the research findings, it was discovered that the characteristics of digital competence possessed by teachers in MAN (Islamic Senior High School) in East Kalimantan consist of information (digital literacy skills), communication (the ability to interact using technology and information media), digital content creation (the ability to create digital learning content or media), security (the ability to protect against the impact of digital content or learning media), and problem-solving (the ability to address issues related to digital media-based learning). In this context, teachers use the internet due to civilization, which humans should utilize to engage in civilized activities.

To interact in this era, a similar level of importance is placed on digital literacy as with other areas of knowledge because the millennial generation, growing up with unrestricted access to technology, has a different way of thinking than previous generations. Content in the media containing fake news, deception, hate speech, and even radicalism can disrupt the existing digital ecosystem by shaping the understanding of individual users. Therefore, in dealing with various information, the ability to interpret messages and communicate effectively with others is a crucial aspect of digital literacy. The process of creating, collaborating, communicating based on ethics, and understanding when and how to use technology effectively are digital competencies needed today. Digital literacy education needs to be pursued by all stakeholders, including parents, teachers, educational institutions, and the government, in providing guidance, direction, and instructions to create a society with critical and creative thinking patterns, thus building a conducive social and community life.

Stephen W. & Foss (2009) stated that the emergence of instant information began with the availability of the Internet. The revolution in the field of electronic media occurred

due to the transformation of information media from traditional broadcasts to electronic media networks. New media research has emerged regarding globalization and media convergence, with the Internet becoming an alternative medium for delivering information without the technical constraints of traditional broadcasting models. McLuhan added that in the new media era, the Internet and cyber studies have shifted the audience's attention to digital media, marking the development of new information and communication technologies (Marshall, 2011).

Therefore, the ability of digital information literacy is one of the characteristics of digital competence that teachers must possess to support the learning process. The utilization of information and communication technology and digital literacy has become an innovation applied in the world of education. Individuals with low technological literacy will need help to cope with the rapidly advancing information and communication technology, especially in education. It is a known fact that there is often an imbalance between accessing digital media and using it to obtain information (Shavab, 2020). Individuals who are not balanced in these abilities are at risk of obtaining information that does not correspond to reality. This should be avoided as it can deteriorate individuals' knowledge and attitudes. Using technology wisely is one way to avoid falling into misinformation. Individuals with digital literacy will generally understand how to utilize digital media to obtain information (Sumiati & Wijonarko, 2020). Karsoni Berta Dinata (2021), in his research titled "Digital Literacy in Online Learning," explains that digital literacy plays a crucial role in supporting the success of online learning. Students with strong digital literacy skills will strive to seek and filter accurate information. Good digital literacy skills will broaden students' opportunities to communicate, think critically, and achieve success in their learning journey.

In addition to information literacy skills, which are characteristic of digital competence among teachers in MAN (Islamic Senior High School) in East Kalimantan, communication skills (the ability to interact using technology and information media) are also evident in teachers' behaviour during the learning process. These abilities are applied in the learning process through technology and information media applications. The commonly used media by teachers in MAN East Kalimantan include Zoom, Google Meet, Google Classroom, YouTube, and social media platforms such as WhatsApp. These applications are used as supporting tools in the learning process, allowing teaching to occur beyond time and space constraints.

Communication skills, or the ability to interact using technology and information media, are essential for educators. Kristiawan, as quoted by Ike Yustanti and Dian Novita, emphasizes the importance of planning innovative and creative teaching techniques using technology-based or Computer-Assisted Instruction. Kustandi & Sutjipto (2013) explain that advancing science and technology encourages efforts to utilize technological advancements in the learning process. Technology-based learning media is crucial in supporting students' learning success.

Gerlach and Ely, as cited by Azhar Arsyad, proposed three characteristics of media based on the guidelines for instructional media usage to anticipate learning conditions where teachers may be unable or less effective in performing them (Arsyad, 2011). These three characteristics or attributes of instructional media are Fixative Property, Manipulative Property, and Distributive Property. Fixative Property refers to the media's ability to record, store, preserve, and reconstruct an event or object. An event or object can be rearranged using photography, videotapes, audio tapes, computer disks, and film (Cassidy, 2016). With this fixative characteristic, media allows the transportation of a specific event or object without considering time. This attribute is crucial for teachers because recorded or stored events or objects in media format can be used anytime.

Similarly, students' activities can be recorded for later analysis and critique by peers, either individually or in groups. Manipulative Property refers to the media's capability to transform an object, event, or process to overcome spatial and temporal constraints. For example, a larva becoming a cocoon and then transforming into a butterfly can be presented in a shorter time frame (or accelerated using time-lapse recording techniques).

Conversely, an event or occurrence can be slowed down in its playback to obtain a precise sequence of that event or occurrence. Distributive Property refers to media that enables the transportation of an object or event through space and simultaneously presents it to many students with relatively similar experiential stimuli regarding that event. For instance, video, audio, and computer disks can be distributed to any desired location at any time. Once information is recorded in any media format, it can be reproduced as many times as needed and be simultaneously used in various places or repeatedly used in one place. The consistency of the recorded information will be ensured to be the same or nearly the same as the original (Farias-Gaytan et al., 2021).

Another characteristic of digital competence among teachers in MAN (Islamic Senior High School) in East Kalimantan is the ability to create digital content or develop digital media for learning purposes. This ability is demonstrated through creating digital learning materials, such as instructional videos or simple media like PowerPoint presentations and others. The use and creation of these instructional media align with the current needs of students who consider the Internet an integral part of their daily lives. Therefore, in the digital era like today, the role of technology-based communication and information in learning materials is considered crucial. With the presence of information technology and the Internet, learning materials must be transformed according to the characteristics of the target learners. It is well-known that students in undergraduate programs today were mostly born between 1995 and 2010, known as Generation Z. This generation was the transition from Generation Y when technology was rapidly advancing. Generation Z's mindset tends to focus on instant gratification and speed (Jacobs, 2019). Their lives are heavily dependent on information and communication technology. As summarized by the website generationz.com.au, the characteristics of Generation Z include thinking globally,

communicating digitally, enjoying socialization, being mobile, and appreciating visual elements. Therefore, it is unsurprising that this generation prefers actively engaging through applications such as Facebook, WhatsApp, Instagram, YouTube, and others.

The learning process of the current generation indicates that their thinking, interaction, and behaviour activities involve more significant use of information and communication technology (Chen & Lee, 2018). Due to generational differences, strategies, methods, and effective learning content for previous generations may generally be less effective when applied to Generation Z. Considering these characteristics, the learning strategies implemented need to adhere to the following principles; 1) delivering content quickly and in visual formats (data, graphs, or videos); 2) involving kinesthetic, experimental, problem-solving, and hands-on activities; 3) facilitating quick, convenient, and shortcut information retrieval; 4) integrating multimedia; 5) assigning multitasking tasks; 6) providing prompt feedback, clear objectives, challenges, and rewards; 7) delivering short modules with pauses in between; 8) adopting a trial and error or practice-based approach; 9) focusing on problem-solving tasks rather than rote memorization; 10) emphasizing group work; 11) providing flexibility in learning materials (Lai, 2019). To accommodate students' characteristics and needs, the teacher needs to develop methods, strategies, and content that align with the characteristics of Generation Z. One effort to facilitate this is by developing digital content that adopts information processing theories.

Furthermore, the ability of teachers to protect against the impact of digital content is also crucial. Teachers' ability to filter information regarding the information conveyed to students is precious. The protective measures provided by teachers at MAN in East Kalimantan include setting limitations on the materials or links that students can or cannot access. Information retrieval processes based on assignments, such as project-based learning, allow students to download or obtain inaccurate information, making teachers reliable figures who can filter out misleading information. One instructional design used by teachers in this process is problem-based learning. Problem-based learning aims to prepare students for critical and analytical thinking and for seeking and using appropriate learning resources (Rahmah et al., 2021). As an instructional approach, students are presented with real-world problems directly relevant to their lives. They are then guided to work collaboratively in dissecting the presented problems. This learning process encourages students to solve problems using their existing abilities while seeking new relevant information (Purnamasari et al., 2021).

Therefore, this ability needs to be supported by teachers who have the profile of 21st-century educators. The first aspect of the 21st-century educator profile is knowledge. It refers to the intellectual abilities of an educator, including mastery of subject matter, knowledge of teaching methods, understanding of individual learning and behaviour, guidance and counselling knowledge, knowledge of society, and general knowledge (Ratnawati & Gumiandari, 2021). Educators must prioritize mastery of their knowledge as a crucial part of the knowledge transfer process. The subject matter knowledge should be

complemented by digital literacy, primarily regarding information. This information becomes students' primary material or content to develop their thinking, attitudes, and learning methods (Alves et al., 2017). This is particularly important to anticipate any information gaps among educators that could significantly impact the development of students in the classroom.

Educators' ability in educational problem-solving, one of the characteristics of digital competence possessed by educators in MAN (Islamic Senior High School) in East Kalimantan, involves the ability to identify, analyze, and solve educational problems using technology and digital skills. This ability is applied by educators through the identification of problems, gathering information, problem analysis, designing solutions, implementing solutions, and conducting evaluation and monitoring. Through educational problem-solving within digital competence, educators can address educational challenges in innovative and effective ways (Akinde et al., 2017). This ability helps enhance students' learning experiences, improve educational accessibility, overcome learning barriers, and actively prepare students to participate in the digital society.

2. Development Strategies for Digital Competence

In this study, development strategies for digital competence are directed towards plans designed to enhance or develop a specific field or skill. These strategies are designed to achieve long-term goals related to the development of individuals, organizations, or groups. Therefore, the development strategy for digital competence in teachers at MAN in East Kalimantan consists of an improvement plan designed to develop teachers' digital skills. In developing digital competence for teachers, development strategies refer to the approaches taken to enhance understanding, skills, and the application of digital technology in an educational context. These strategies involve a series of organized and planned steps to achieve the established goals of digital competence development.

The research results in MAN in East Kalimantan indicate the presence of a digital competence development process that includes: 1) training and professional development; 2) collaboration and knowledge exchange; 3) monitoring and feedback; 4) access to resources and instructional materials; 5) technology-based projects and assignments; and 6) support from school principals.

Professional training and development are conducted by providing opportunities for teachers to participate in training, and professional development programs focused on using digital technology in education (Epstein, 2002). This training may cover basic skills, conceptual understanding, and the application of technology in teaching and learning (Diana, 2019). Meanwhile, collaboration and knowledge exchange are fostered by encouraging teachers to collaborate with their peers physically and through digital platforms (Zainuddin & Keumala, 2021) to exchange knowledge, experiences, and best

practices related to digital technology. This collaboration can involve discussions, joint development, or team-based learning.

Monitoring and feedback emphasize structured monitoring and feedback provided to teachers to identify strengths and weaknesses in digital technology and provide specific guidance for further development (Bakar, 2016). This can involve classroom observations, school management observations, or performance-based assessments. Access to resources and instructional materials involves providing access to relevant and high-quality resources, tools, and instructional materials to support digital competence development. This includes access to online learning platforms, online courses, books, video tutorials, or professional learning communities (Mulder, 2014).

Project and technology-based tasks are implemented by providing opportunities for teachers to engage in projects or assignments that involve digital technology in teaching and learning. This helps teachers develop practical and creative skills in integrating technology in an educational context. As mentioned above, these efforts are further reinforced by managerial support, which is carried out by promoting and encouraging the development of teachers' digital competence. This includes resource allocation, supportive policies, and creating an environment that fosters digital competence development.
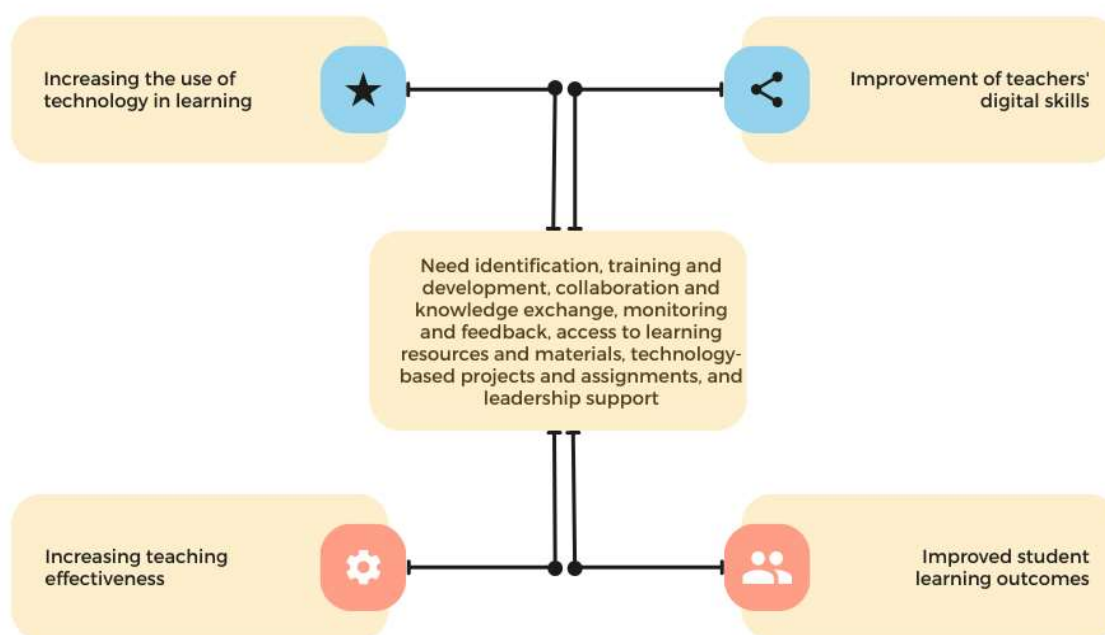

Figure 1: Digital Competency Development Strategy

Thus, as shown in Figure 1, the Digital Competence Development strategy is a holistic approach encompassing various aspects, including education, infrastructure, collaboration, and ethical awareness. By implementing this strategy, individuals can develop the digital skills and knowledge necessary to participate in an increasingly digitally connected world actively. The Digital Competence Development strategy implemented for educators aims to enhance their proficiency in effectively utilizing digital technology. This

strategy involves education, training, and integrating digital competence into the curriculum. Ensuring access to adequate digital infrastructure is also crucial in this process.

CONCLUSION

The description above indicates that the characteristics of digital competence for educators consist of information literacy (ability to navigate and evaluate digital information), communication (ability to interact using technology and information media), digital content creation (ability to create digital content or learning materials), security (ability to protect against the impact of digital content or learning media), and problem-solving (ability to address problems related to digital media-based learning). The strategies used in developing digital competence for educators include professional training and development, collaboration and knowledge exchange, monitoring and feedback, access to resources and instructional materials, technology-based projects and assignments, and support from school management.

Therefore, formal educational institutions should develop and enrich the competencies possessed by teachers. Digital competence becomes an additional competency that educators must have alongside other competencies. Thus, the findings of this research indicate the need for strategic improvement based on digital competence, which includes ongoing professional training and development, collaboration and knowledge exchange, monitoring, resource access, IT-based projects and assignments, and leadership support.

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