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The Role of Teachers and Digital Literacy Competencies

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KEYWORDS	ABSTRACT
digital literacy; teacher; digital technology	Purpose of this reseacrh how the Role of Teachers in Improving Digital Literacy Competencies in the Digitalization Era. In the rapid development of technology, teachers must have a strong understanding of technology and how to use it effectively in the learning process. They must be familiar with the latest technological devices and applications that can enhance their learning. This research departs from qualitative research that focuses on an in-depth understanding of social phenomena through direct observation, in-depth interviews, and other techniques that aim to explore the meaning, experience, and views of the research subjects. Teachers must also be able to teach students about digital skills and information literacy, including the ability to access, evaluate, and use information critically. Teachers play a role in 10 roles, including as facilitators, and managers of technology-based learning. They must have a deep understanding of relevant technologies and be able to integrate them into the learning process. By departing from qualitative methods, later this research can answer the Role of Teachers in Improving Digital Literacy Skills in Facing the Challenges of Change in the Digitalization Era.

Introduction

In today's development, which is called the era of digitalization, it is a revolutionary period marked by fundamental changes in the way we interact, work, and live our daily lives. This is an era where digital technology has an important role, with electronic devices that are interconnected and easy access to information through the internet (Falloon, 2020). The transformation has changed the landscape of business, communication, education, and society as a whole. In that era, various institutions use digital technology to improve operational efficiency, and reach a wide audience. In addition, communication has also changed drastically, such as adopting social media, instant messaging apps, as well as collaboration platforms, which allow people to interact without geographical boundaries (Indriyani, 2019). Then, the education sector has also undergone a transformation through various educational platforms, and using digital learning tools allows access to education from anywhere. However, the era of

digitalization also has challenges, such as data security and privacy that must be overcome (Zabolotska et al., 2021).

Social dependence on digital technology can also change the way we live our daily lives. In the context of education, the quality of education is related to the quality of teachers (Hoseini et al., 2020). Teachers are the main component of education. Various other components of education, such as curriculum, infrastructure, and others will mean nothing, if teachers are not able to use them. Teachers in today's digital era must have competence in the digital field so that they can become the main factor and play a role in education in Indonesia. The importance of competence in the digital field was introduced by Paul Gilster who said that digital literacy is an individual's awareness and ability to use digital equipment and facilities appropriately and accurately (Naila et al., 2021). Every individual who has digital literacy skills is expected to be able to use, access, manage and analyze digital information effectively, which can build new knowledge, and be able to communicate. The role of teachers is something important in the implementation of learning. The roles that a teacher has during learning are very diverse, one of which is the role of an educator. Meanwhile, according to Sahertian, the role of teachers includes 10 roles (Buchari, 2018), namely: (1) teachers as lecturers, (2) teachers as facilitators, (3) teachers as counselors, (4) teachers as resource persons, (5) teachers as group leaders, (6) teachers as tutors, (7) teachers as managers, (8) teachers as laboratory heads, (9) teachers as program designers, and (10) teachers as manipulators, which can change the learning situation (Schröter & Grafe, 2020).

In relation to the situation towards digitalization, becoming a teacher in the digital era, especially at the junior high school level, requires effective adjustment and utilization of technology to improve the teaching and learning process. Teachers are at the forefront of the learning process related to computational thinking as thought by Seymour Papert in 1980 and 1996. That is a way of thinking that involves solving problems using principles from computer science (Chasannudin et al., 2022). Then David H. Jonassen emphasized the role of technology as a Cognitive Tool to help students build knowledge and solve problems (Dewi et al., 2024).

The role of teachers in improving digital literacy is very important, especially in today's digital era. Digital literacy is not only about the ability to use technological devices, but also about understanding, evaluating, and creating digital content critically and responsibly. Digital literacy is necessary to teach children about the basics of communication, socialization and digital security, so that they can explore the digital world safely and confidently (Dakir et al., 2021). Therefore, one of the skills that must be possessed by the generation in the 21st century, is literacy (Sabarua et al., 2020). There are 8 components of digital literacy (Roshonah et al., 2021), namely: (1) Functional skill and beyond, which is a component of digital literacy related to expertise in using information technology, (2) Creativity which is a component of digital literacy related to creative thinking using ICT in building knowledge, (3) Collaboration which is a component of digital literacy related to building knowledge through the process of discussion and providing input to each other in the digital space, (4) Communication which is a component of digital literacy related to communicating in the digital space, (5). Curate Information, Can search and select information (6). Critical Thinking and Evaluation, Able to contribute, analyze and discuss information with critical thinking. (7) Cultural and social understanding, and (8) E-safety (Dinata, 2021). Teachers not only help them become smart users of technology, but also equip them with the skills that are essential for success. To support digital literacy, teachers must have digital literacy

competencies as formulated by Japelidi which includes 10 components of digital literacy (Astuti et al., 2021), namely: 1. Access 2. Understanding 3. Selection 4. Distribution 5. Production 6. Analysis 7. Verification 8. Evaluation 9. Participation 10. Collaboration. Therefore, the research focuses on how the Role of Teachers in Improving Digital Literacy Competencies in the Digitalization Era at SMPITAn Nizomiyah Jakarta. The condition at An Nizomiyah Integrated Islamic Junior High School also requires all teachers and students to be ready to enter learning in the era of digitalization. In this digitalization situation, digital technology is a significant challenge in the world of education (Zakharov et al., 2022). This research focuses on the role of teachers in improving digital literacy competencies and what are the challenges faced by teachers in digital situations

Research Methods

This research departs from qualitative research that focuses on an in-depth understanding of social phenomena through direct observation, in-depth interviews, and other techniques that aim to explore the meaning, experience, and views of the research subjects. In-depth interviews were conducted with principals, and homeroom teachers in grades 8 and 9. In the data analysis stage, the researcher carried out several stages, including: organizing the data that had been collected, then doing an initial reading and then coding the data by assigning labels to the collected segments which were then categorized, then the next stage was to conduct data analysis. The last stage is to validate the data by triangulation of sources.

Results and Discussions

The role of teachers in SMPIT, in learning digital literacy is very important in the era of technology that continues to develop. Teachers are not only responsible for teaching learning content or content related to academics, but must also guide their students in understanding and using digital technology effectively. Students must be able to introduce students to various digital tools and platforms that can be used to support the teaching and learning process. In addition, teachers must also ensure that students develop and have critical skills in evaluating information obtained from the internet so that they are not easily influenced by incorrect information or misleading information.

Apart from being teachers, in this case homeroom teachers, who in their daily use of technology, must be able to be an example in the use of technology wisely and responsibly. They must show ethical ways in using social media, maintaining their privacy. Teachers can set a good example by providing strong digital literacy skills so that they become good dogital citizens and understand ethics with those who are responsible. Teachers must also continue to develop their skills in this field of technology by participating in various continuous training and learning, so that they are always ready to face changes and new challenges in the world of education that has changed to digital.

For this reason, teachers must be able to act as agents of change by providing an understanding of digital literacy in the school environment. These teachers are very important to integrate technology despite facing various obstacles, both in the development of school policies and the trainings carried out.
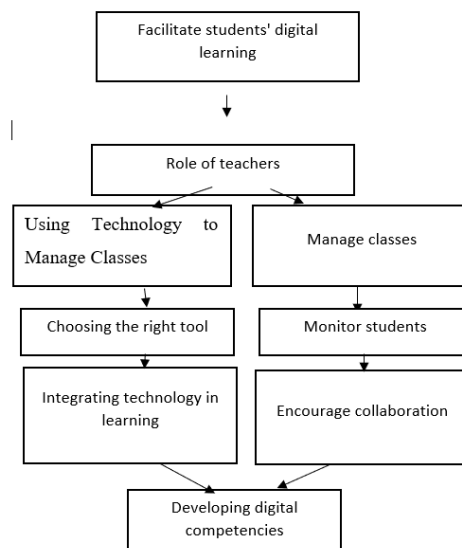
In the findings, it was found that the role of teachers in improving literacy competence by involving themselves through various approaches that support the development of students' skills in using, understanding, and evaluating digital information. In the implementation of several roles, including:

1. The role of teachers as lecturers

    In its implementation, among other things, it provides provisions to children on how to use technology, how to do digital security and also teaches about ethics.

2. The role of teachers as facilitators

    In its implementation, it is carried out by providing a learning environment full of discussion and also group formation activities with tasks and practices to be able to analyze available sources of information.

3. The role of teachers as counselors,

    Teachers do not hesitate to provide guidance and support to students who have difficulties in using technology or understanding digital information. Helping students overcome personal challenges related to digital literacy, such as social media addiction or difficulties in understanding content content in the digital world

4. The role of teachers as resource persons is to be able to provide information and in-depth knowledge about digital literacy.

5. The role of teachers as group leaders is to lead and motivate students in group activities related to digital literacy

6. The role of teachers as tutors, provides individual assistance to students in understanding the concept of digital literacy.

7. The role of teachers as managers, managing available technology resources and digital tools

8. The role of the head of the laboratory. In this case, considering that the average student has a device is a personal device and not from school, usually teachers are more direct in their use.

9. The role of teachers as program designers. Designing activities and projects that teach digital skills through practical applications and analyzing through case studies for example

10. The role of teachers as manipulators.

Changing and adjusting learning situations to meet students' digital literacy needs. Apply a variety of teaching methods and techniques to create a dynamic and responsive learning experience

Indeed, the most important and one of the crucial factors is in terms of the quality of teaching provided. Teachers often lack expertise in certain topics, for example, and receive little training, which is sometimes not the same for each teacher. If they are active, they follow it personally without waiting for school, because there are many trainings on the internet that can be followed either free of charge or paid. In overcoming this, it can be done by seeking help from instructors from other institutions to teach students. Therefore, sometimes it is carried out in training activities in collaboration with other institutions to teach students about digital literacy and other things that are considered important. It is also advisable to upgrade yourself from the offers on the internet about technology. Although education is always extended beyond the classroom when students are in situations outside the classroom, students still need significant adaptation, preparation, support, and involvement that involves all within the scope of the school. Teachers face various obstacles as well, especially related to various benchmarks or indicators in existing digital literacy. This can be explained in the context of the challenges faced in digital literacy, including:

Table 1. Challenges faced in digital literacy

The digital literacy dimension	Indicators	Challenges faced
(1) *Functional skill and beyond*,	ICT Skills	Every teacher must upgrade their abilities in honing their digital skills. In this SMPIT, some teachers also in addition to learning on their own, they have also had previous experience either self-taught or from the trainings they have participated in.
(2) *Creativity Collaboration*	how to think, develop and share knowledge with a variety of ideas that utilize digital technology	Usually in this case, teachers are obliged to develop it through learning in the classroom, for example developing ideas according to their subject area as statements of homeroom teachers in grades 8 and 9 through United Kingdom lessons.
(3) *Collaboration*	A dimension that emphasizes individuals to carry out the process of dialogue, discussation, and building ideas by collaborating so that collaboration occurs to create an understanding	This is done by creating assignments for students to collaborate with each other in completing assignments in groups, for example.
(4) *Communication*	have effective communication because they are able to provide ideas, understanding and thinking with digital technology	Teachers must have an understanding of various methods and techniques for verification, such as fact-checking, always teach how to check with other accurate sources, and use multiple independent sources to ensure the accuracy of information

(5). *Curate Information,*	the ability to think critically when faced with information so that it does not immediately interpret the information obtained passively	Teachers must be able to teach information filtering techniques, such as using relevant keywords, in information searches, so what is sought is directly what they want to go to.
(6). *Critical Thinking and Evaluation,*	A level of thought that is in line with social and cultural understanding	Teachers must equip students to provide training from experts through community service in collaboration with campuses to be able to have provisions such as identifying hoaxes and others that can ultimately affect the interpretation of information.
(7) *Cultural and social understanding*	Understanding Social Culture	Teachers are obliged to apply an understanding of cultural diversity in the classroom, including teaching students to respect cultural differences and understand how culture can affect the way information is presented and received, so that they do not immediately have a negative view of something that appears or cultural stereotypes appear, for example. In this case, it is not easy considering that all classes are diverse in terms of economic, social and cultural backgrounds.
(8)*E-safety*	options that are able to guarantee security when users	Teachers must have a strong understanding of the basic principles of digital security, including how to protect personal data and prevent cyber threats for example, reminding to use strong and secure passwords. Although in practice it is not easy considering that many students still combine their devices with their parents

In relation to digital literacy competencies, some abilities or competencies are possessed and can be seen from various teachers' abilities, the findings are as follows:

Table 2. Competence and ability of teachers

	Competence	Definition	Teacher abilities
1.	Access	Competence in obtaining information by operating digital media	teachers are able to use search engines like Google effectively, use the right keywords, and utilize advanced search features to find the necessary information .
2.	Selection	Competence in selecting and sorting various information from various sources that are accessed and assessed	Choosing credible and relevant sources for teaching needs Teachers use fact-checking techniques to check the validity of information, such as comparing information from several reliable sources.

		can be useful for digital media users	Teachers have a high awareness of hoaxes and misinformation and have the skills to recognize and avoid false information.
3.	Understand	Competence in understanding previously selected information	Teachers have a deep understanding of topics related to the information that has been selected. Teachers can re-teach the selected information in a clear and interesting way, ensuring that students or audiences understand the material well.
4.	Analyze	Competence analyzes by looking at the plus and minus information that has been understood beforehand	uru can criticize information, evaluate the accuracy, relevance, and credibility of information sources Teachers understand the context in which the information is created and presented, including relevant historical, social, and cultural backgrounds.
5.	Verify	Competence in cross-confirming with similar information	Teachers can critically evaluate sources of information, ensuring that they are reliable.
6.	Evaluate	Competence in considering risk mitigation before distributing information by considering the means and platforms to be used	Teachers are able to identify and analyze potential risks associated with the dissemination of information, such as privacy, security, or reputation risks. Teachers provide training and education to students on various matters in digital information management and in the use of platforms.
7.	Distributing	Competence in sharing information by considering who will access the information	Teachers understand who their audience is and adjust the content and way of distributing information to suit the needs and level of understanding of the audience.
8.	Producing	Competence in compiling new information that is accurate, clear, and ethical	Teachers have good research skills to collect and compile information from reliable sources, ensure accuracy with cross-checking and are expected to produce useful digital works
9.	Participate	Competence to play an active role in sharing good and ethical information through social media and other online communication activities	Teachers are required to use good, polite, and ethical language when communicating online, maintaining their reputation and professional integrity. Teachers must actively interact with students, for example, answering questions, providing feedback, and engaging in constructive discussions when there is a discussion.
10.	Collaborate	Competence to initiate and distribute honest, accurate, and ethical	Teachers must be proactive in taking the initiative to initiate and lead to ensure that the common goal is

	information in collaboration with other stakeholders	achieved and this is not easy, besides that teachers must have good listening skills, understand perspectives and inputs from various parties, and integrate the information in the process of cooperation with various parties.

Conclusion

The role of teachers in improving digital literacy is very important and involves various approaches to each approach. Teachers function as speakers, facilitators, and overall managers in technology-based learning. As a speaker, teachers introduce the basic concepts of digital literacy and provide fundamental knowledge about the use of technology, online security, and digital ethics. This includes teaching on how to access, evaluate, and use information wisely in the digital world in collaboration with other parties to teach through community service activities. Then as a facilitator, teachers create a supportive learning environment and always strive to apply the use of technology in good learning. Teachers always facilitate activities in class groups and that allow students to develop digital skills through hands-on experience. In this role, teachers help students learn actively, encouraging them to solve problems creatively and apply computer-based thinking skills. Overall, teachers as management managers are certainly responsible for managing technological resources with tools used in learning to function properly, although from the student's side, the procurement of devices is still borne by each of them. They also provide opportunities to practice and develop their digital skills and besides that teachers must have digital competencies that continue to be honed to become teachers who are ready to be challenged by change in the Digitalization Era.

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