Strategies to Improve Teacher Professionalism through Digital Literacy Website

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ABSTRACT

Technology is increasingly developing in the world of education, encouraging teachers to continue to adapt and improve the quality of digital-based learning. The ease of information obtained through technology also has a negative impact, namely the spread of false information due to lack of digital literacy. With the spread of false information, teachers have challenges in building digital literacy skills to students in the field of education. This research aims to develop a digital literacy website as a strategy to improve teacher professionalism in the digital era. This research uses the Borg and Gall development model. The respondents of this study were 100 junior high school teachers in DKI Jakarta. Data collection techniques were carried out through distributing questionnaires, observation and in-depth interviews. The results of this study show that 85% of teachers feel less confident in assessing the validity of digital information. In addition, 78% of teachers need guidance to utilise digital media effectively in the learning process. This research has implications for improving the professionalism of junior secondary school teachers in conducting digital literacy-based learning processes. With a digital literacy website, teachers can be more confident in validating digital information in supporting the learning process in the classroom.

Keywords: Teacher, Profesialisme, Digital Literacy

1. INTRODUCTION

Technology is increasingly developing in the world of education, encouraging teachers to continue to adapt and improve the quality of digital-based learning[1]. The ease of information obtained through technology also has a negative impact, namely the spread of false information due to lack of digital literacy. With the spread of false information, teachers have challenges in building digital literacy skills to students in the field of education. Some scholars consider that digital literacy is the ability to develop individuals' talents and their engagement in media with critical thinking [2][3]. Critical thinking skills in the use of this media are important as protection from hoax information attacks. According to Nikou et al. [4] Digital literacy is the ability that students and teachers must have to be able to distinguish between social reality and reality in the media. Generally, students search for information related to learning materials through digital media [5]. However, digital literacy is not only limited to being able to use the media, but also the ability to analyse information from the media [6]. In addition, these digital literacy skills can help students and teachers to evaluate and assess the information obtained.

In today's digital era, teachers and students actively use digital media as a source of information and learning resources. However, not many students are able to analyse the use of media due to a lack of digital literacy skills. This condition is also faced by teachers in junior secondary schools. Digital literacy skills are important to apply to the education sector because information

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obtained in digital media is not immediately disseminated[7]. Thus, there is a process of analysis first for the next step. These skills can be a provision for students to be able to adapt to technology in the future. Some previous studies assess that digital literacy skills can minimise radicalism, cyberbullying and the spread of hoax news[8]. The mastery of digital literacy skills is not only imposed on students but also the support of teachers at school. Digital literacy skills can help teachers to improve professional competence. According to Rifky et al. [9] professional teachers are those who have special abilities and expertise in the field of teaching. The digital era encourages teachers to have digital literacy skills. Thus, teachers are able to carry out their duties and functions with maximum ability. Moreover, high school students are generally accustomed to using technology in their daily lives. However, students also need guidance and direction so that they are not only technologically literate but can also make good use of it.

Professional teacher competence is one of the most important elements that must be present after students have learnt to utilise technology[10]. If a teacher does not have a professional attitude, it will be difficult for students to grow and develop properly. In this regard, teachers must be able to improve their professionalism competence in the digital era. On the other hand, teachers' professional duties, which include educating, teaching, and training, have different meanings. The task of educating means that teachers must pass on and develop life values, while the task of teaching means passing on and developing skills to students. Therefore, before entering the profession, teachers must have both educational and non-educative abilities. Therefore, this research seeks to analyse strategies to improve teacher professionalism through website digital literacy.

The use of websites is actually not something new in education. Some previous studies assessed that learning using the web can facilitate students. However, the websites developed generally only focus on the effectiveness of students when using it. In addition, generally the websites developed can only be accessed through computers or laptops. Besides, there is no guide that provides the steps of using the website to the users. With regard to this, this study seeks to identify the need for improving digital literacy skills for teachers which are then developed using a digital literacy website.

2. METHOD

Conceptual Structure, then Social Structure and Word Cloud, then the visualization of the image formation process.

This research method uses descriptive qualitative and descriptive quantitative approaches with the product development model by Borg and Gall[11]. Borg and Gall explained that there are ten steps that must be taken to develop a digital literacy website, namely: 1) research and information collecting; 2) planning; 3) develop preliminary form a product; 4) preliminary field texting; 5) main product revision; 6) main field texting; 7) operational product revision; 8) operational field texting; 9) final product revision; and 10) dissemination and implementation. The respondents of this study were 100 teachers from 30 junior high schools in DKI Jakarta. The selection of these respondents used purposive sampling technique with the following criteria: 1) civil servant teachers; 2) have been a teacher for at least five years; 3) can use technology; and 4) are willing to become respondents. The research process was conducted from September 2023 to May 2024. The data collection techniques were observation, interview and questionnaire distribution. Observations were made by observing the learning process carried out to 10 teachers in 10 schools. Meanwhile, interviews were conducted in two stages, namely the first stage of the interview to analyse needs and limited field trial interviews to 20 teachers in 10 schools. Questionnaires were distributed to find out teachers' understanding of

digital literacy and the need for digital literacy skills. Questionnaires were also distributed to respondents to assess the feasibility of the products developed. Data analysis techniques were qualitative and quantitative descriptive. In maintaining the research code of ethics, the names of the respondents were disguised with the code.

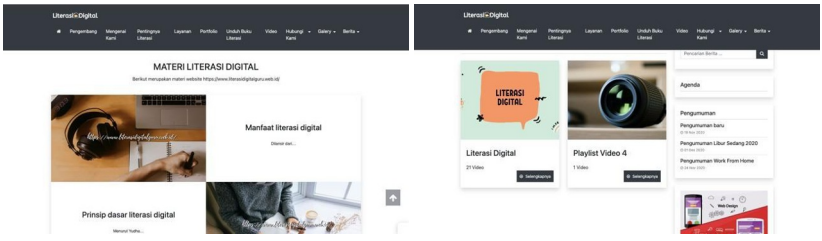
3. RESULT

Based on the results of the needs analysis, 85% of teachers feel less confident about their digital literacy skills. Thus, 78% of respondents felt the need to develop a digital literacy website as a tool to improve digital literacy understanding.

"Training digital literacy skills is still difficult because there are no guidelines. So, as a teacher, I only give directions to students not to plagiarise when doing assignments." (JO, interviewed on October 2023)

"Digital literacy skills are important for teachers to implement. It's just that the website is also easy to open via a smartphone. So we can also introduce and train students to understand digital literacy' (JP, interviewed on October 2023).

Respondents welcomed the development of a digital literacy website that can improve teachers' digital literacy skills. The interview results also show that the website used must have easy access. So, the website developed does not have to be opened through a laptop or computer but also through a smartphone. The results of the preliminary study were then continued by developing a digital literacy website design. Researchers compiled materials that were in accordance with digital literacy. Therefore, researchers provided a basic understanding of digital literacy. In the initial hypothetical design, the website was designed with main features such as learning modules, discussion forums and digital literacy evaluation. The design also included interactive and user-friendly.



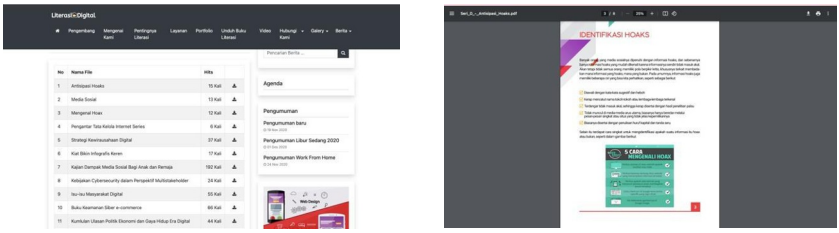
(a) (b)

FIGURE 1. Digital literacy website design

The researcher's design was then developed as shown in Figure 1. Researchers provided digital literacy materials in both written and video form. This digital literacy video has 21 videos with various different topics as follows: 1) artificial intelligence in learning; 2) digital security features in learning; 3) digital literacy skills that must be possessed by alpha generation teachers; 4) digital literacy in counteracting terrorism, radicalism and separatism; 5) digital track records in the realm of education; 6) utilising the internet for learning resources; 7) using good and correct language in the digital space; and 8) becoming an anti-bullying internet user. At the expert testing stage, 85% stated that this digital literacy website was highly feasible for limited field testing with teachers in

schools. The initial trial was conducted with 20 teachers from various schools. They were given access to the website for one month. Feedback showed that 90% of teachers found the website navigation easy but 65% wanted more video tutorial content.

The researcher made a revision process from the results of the field test, namely the navigation was improved by adding a breadcrumb trail to facilitate browsing. The colours and layout were updated to improve readability and visual comfort. The addition of 10 new video tutorials covering specific topics such as evaluation of information sources, use of digital tools in teaching, and strategies to counteract hoaxes and Development of interactive modules that include quizzes and real case simulations.



(a) (b)

FIGURE 2. Interactive modules on the digital literacy website

Based on the needs of junior high school teachers, a guide was also included to improve the understanding of digital literacy. Researchers provided 20 modules containing basic digital literacy, information verification and social media. After conducting a limited trial, we distributed questionnaires to assess user satisfaction. We gave 50 teachers access to the digital literacy website for one month of use. From the results of the user satisfaction survey, 88% of the teachers felt that the developed content helped them in improving their digital literacy skills. In addition, 82 per cent of respondents felt that the content was relevant to their teaching needs.

TABLE 1. Results of the digital literacy website field trial

Aspects	Assessment Percentages	Categories
Usability	80%	Feasible
Navigation	90%	Highly feasible
Visual design	78%	Feasible
Contents	78%	Feasible
Compatibility	75%	Feasible
Loading time	78%	Feasible
Functionality	75%	Feasible
Accessibility	70%	Feasible
Interactivity	78%	Feasible
Average	77%	Feasible

Table 1 shows that the usability aspect of the digital literacy website is declared feasible because it is easy to learn, has efficiency in use and user satisfaction. Meanwhile, the navigation system is considered highly feasible because it is consistent and has been revised according to the

input in the initial trial. Of the nine aspects, accessibility achieved the lowest percentage value. This is because there are infrastructure barriers such as internet access that affect the accessibility of the digital website. The results of this research show that the provision of the website can answer the concerns of the students by Suminah [12] that teachers need kept pace with their ability to use digital media. However, this study illustrates that the existence of a website and guidelines related to digital literacy improves teachers' ability to use digital media.

4. CONCLUSION

The results of this study concluded that improving teacher professionalism can be done through digital literacy skills. This digital literacy skill is carried out by developing a digital literacy website which is considered 77% feasible to use. The use of the website as a source of digital literacy training is supported by video tutorials, learning modules and discussion forums. This research has implications for teachers' understanding of digital literacy so that it can be integrated with students during learning. The limitations of this research are in the research methods used. So, future research can conduct large-scale trials by conducting variations in comparisons between several regions.

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