

Analysing Teachers' Digital Literacy Skills in the Learning Situation

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Abstract—*This study aims to see the extent of high school teacher digital literacy skills in managing learning. The method used is descriptive qualitative with instruments in the form of questionnaires and interviews. The results showed that the teacher has the ability of digital literacy at the conventional stage of literacy or it can be said that the new teacher is at the stage of interest in digital literacy. In a sense, the teacher has not been able to sort and criticize the information contained in the information system available for use in the learning process. Therefore, there is a need for guidance for teachers to improve their digital literacy skills in learning.*

Keywords: digital literation, information and communication technology

I. INTRODUCTION

The success of the education process is determined by literacy competence in learning. Literacy is thinking skills using knowledge sources in printed, visual, digital and auditory forms. Education is an important factor for human survival. From time to time education is faced with big challenges, namely: (1) the world is changing at a faster pace, (2) people's lives, the economy, is becoming more complex, (3) the nature of work changes very quickly, (4) types work disappears at an unimaginable pace, and (5) the past increasingly cannot be used as a guide for the future (Rose & Nicholl, 1998). Indonesia must be able to develop a culture of literacy as a prerequisite for 21st century life skills through integrated education. The six basic literacy agreed by the World Economic Forum in 2015 is very important for students and educators. One of the six literacies is digital literacy.

UNESCO explained that literacy is the ability to read and write text and interpret the contents of reading material. Literacy is now interpreted differently, namely as awareness and information needs, identifying, finding, evaluating, organizing, creating, communicating information for problem solving. Today's literacy has evolved and gave rise to a form of digital literacy. The development of technology is not only in the form of computers (hardware), but also in the form of rapid advancements that occur on the software side. Every individual needs to understand that digital literacy is an important thing needed to be able to participate in the modern world. Teachers should be able to take responsibility for how to use information and communication technology in learning in the current digital era (Amsal, 2019).

Being a digital literate means being able to process various information, be able to understand messages and communicate effectively. Digital literacy will create the fabric of society with critical and creative mindsets and views. The success in building digital literacy is one indicator of achievement in education and culture. School digital literacy must be developed as an integrated learning mechanism in the curriculum and connected to the learning system. Students need to improve their skills and teachers need to increase their knowledge and creativity in the process of learning digital literacy, and the principal needs to facilitate teachers and education personnel in developing the culture of digital literacy in schools.

The term digital literacy used in 1980, (Davis & Shaw, 2011), generally means the ability to relate to hypertextual information in the sense of computer-aided non-sequential or non-sequential reading (Bawden, 2001). Digital literacy was first put forward by Paul Gilster who stated that digital literacy is the ability to use technology and information from digital devices affective and efficiently in various contexts such as academic, career and daily life (Van Riel, 2012). Then (Eshet, 2002) emphasizes that digital literacy should be more than the ability to use various digital sources effectively but digital literacy is also a form of certain ways of thinking.

Information and communication technology literacy is explained with two points of view.

Technology literacy refers to an understanding of digital technology including users and technical capabilities (Amsal, 2015). Information literacy focuses on one aspect of knowledge, such as the ability to map, identify, process, and use digital information optimally. Digital literacy is a life skill that not only involves the ability to use technology, information and communication, but the ability to socialize in learning, and to have the attitude, critical thinking, creative and inspirational as digital competence.

II. METHOD

This type of research is a descriptive survey research, aimed at describing the state or status of the phenomenon (Arikunto, 2010). The activities carried out during the research preparation are preparing the initial research needs, the dossiers of observation, the team in conducting research, as well as the research samples. Then the questionnaire will be developed and tested on the research sample. In addition to collecting data using a questionnaire, interviews will be conducted to obtain the required data. The data obtained will then be carried out data analysis to draw conclusions from the results of observations. The research location is a high school located in kecamatan Nanggalo, Padang.

III. RESULT AND DISCUSSION

Based on the results of the study, it is divided into four aspects of competency that must be possessed by teachers to be said as digital literacy in learning, namely aspects of internet search, aspects of hypertext guidance, and aspects of information content evaluation and aspects of compilation of knowledge.

a. Aspects of Searching on the Internet

Based on the data obtained, the level of teacher competence in the internet search aspect is an average value of 3.5. In a sense, the teacher has the ability to search for material or teaching material by utilizing the internet into the very high category. The teacher is accustomed to finding information that will be used as teaching material or material that will be delivered to students in the classroom by using the internet. The teacher said that it is very easy to get the information needed and does not require much time to get whatever information is needed for student learning.

One of the competencies that teachers must have to become digital literates is the ability to search for information using the internet. This aspect is the basis of digital literacy competence which is explained as a person's ability to use the internet and carry out activities within it (Gilster, 1997). There are several activities that can be done by utilizing the internet, including reading news online, conducting online activities such as communicating online and other matters relating to education.

The use of the internet among teachers is more directed towards the utilization of information retrieval which will later be used in interacting with students in the classroom.

b. Guide to Hypertext

Based on the data obtained, the level of competence of teachers in the aspect of hypertext guidance is at an average of 2.5. In a sense, the teacher has a low level of competence in the guiding aspect of hypertext direction. The teacher still needs a deeper understanding of this aspect. Teachers still find it difficult to browse through the many hyperlinks available and choose hyperlinks to get to the information needed. In addition, teachers also still have difficulty in understanding the language used in the use of technology that utilizes internet networks.

Competency of hypertext direction guide is a skill to read and understand dynamically about hypertext direction guide (Gilster, 1997). The competency of hypertext guidance is measured by using several indicators, including: teacher's knowledge of hypertext and hyperlinks, teacher's knowledge of how the web works, and teacher's knowledge of web page characteristics.

c. Evaluation of Information Content Aspect

Based on the data obtained, the level of teacher competency in the aspect of evaluating information content is on average 2.6. In a sense, the teacher has a high level of competence in the aspect of evaluating information content. But it can be said that the teacher still does not have the competence to think critically when faced with evaluating the content of information found on the internet. The teacher still takes in full the information obtained. The teacher still does not understand the aspects of domain compatibility with the information content available, tracing the links

provided on a website, and the FAQ function in a discussion group.

Digital literacy is closely related to the ability to think critically in the face of information found on the internet (Jones & Hafner, 2012). One of the methods used to see the suitability of information obtained from the internet is to check the compatibility of information with other information from several different author sources. In addition, it is also necessary to consider the relevance of the source of information sought with information obtained in accordance with needs. Digital literacy is also related to how the ability to use media for purposes, especially in the world of education.

d. Knowledge Building Aspects

Based on the data obtained, the level of teacher competence in the aspect of composing knowledge is on average 2.5. In a sense, the teacher has a low level of competence in aspects of compiling knowledge. Teachers still have to go deeper into the aspects of compiling the knowledge obtained from digital sources. Literacy in the digital age requires self-awareness to care for others and awareness to contact others to discuss and get help in addition to the ability to find information through the internet and be able to evaluate it.

This competence is an ability to compile knowledge, build a collection of information obtained from various sources with the ability to collect and evaluate facts and opinions well and without prejudice (Gilster, 1997). This competency encompasses several components, namely: the ability to search for information via the internet, the ability to create a personal newsfeed or the latest news notifications obtained by joining and subscribing to news in a newsgroup, mailing list or discussion group that contains a particular topic according to the needs or certain problems, the ability to cross-check or re-examine the information obtained, the ability to compile sources of information obtained on the internet with real life that is not connected to the network.

IV. CONCLUSION

Based on the results of this study it can be concluded that the level of teacher competence in every aspect of digital literacy needs to be improved. The level of competence in each of the aspects studied is still relatively low to be said as a digital literate in the era of the industrial revolution 4.0 which requires teachers to be skilled in understanding and utilizing information and communication technology in learning.

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