Student Digital Literacy Competence in The Era of The Covid-19 Pandemic

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Abstract. Students as the next generation and living in rapid technological developments, are required to master digital literacy competencies. Not only being able to think critically, creatively, and reflectively, but also mastering digital literacy. This study aims to describe the digital literacy competencies of students in the era of the covid-19 pandemic. This type of research is descriptive qualitative research. The research subjects are the second semester students of the Faculty of Tarbiyah and Teacher Training. Data collection techniques using a questionnaire. The results showed that the digital literacy competence of students was at a good level. Although there are still some competencies that need to be explored and improved by students, especially in the competency skills to use various features that support the learning process.

Keywords: Digital Literacy; Digital Literacy Competence; Students.

1 Introduction

The use of Information and Communication Technology (ICT) in education is growing rapidly, especially among students and higher education[1]. This is in line with the development of the digital era (industrial revolution 4.0). The digital era and the Covid-19 pandemic have made major changes in the use of technology and information. The outbreak of the covid-19 virus has tested the structure of education and the implementation of online learning[2]. This is in line with government policies that stipulate online learning during the Covid-19 pandemic[3]. Teaching and learning activities are changed in the form of distance learning by relying on information technology, and the internet[4].

This online learning requires educators and students to use various media and users must be wise in using ICT[5]. Thus, students are expected to be able to master digital literacy competencies well. This is an additional competency that students need to master in the digital era and the Covid-19 pandemic[1];[3]. Not only able to think critically, creatively, and reflectively, but also master digital literacy[6]. Students must also be able to use ICT for the learning process and to support their profession as prospective educators[1].

The mastery of ICT is related to the digitalization phenomenon which is currently ranked high globally. It affects all fields, including education[7]. The term digital literacy was first used

by Paul Glister in 1997[8]. This digitalization phenomenon needs to be accompanied by an increase in digital literacy and skills in using ICT[7]. Digital literacy is an activity to understand technology wisely as a guide in the use of digital media for individuals[9]. Meanwhile, digital literacy competence relates to the competence a person has in using ICT for the purposes of searching for information on the internet, using software, data processing, and others.[7].

Thus, it is important for students to master digital literacy competencies so that they can use information technology wisely, effectively, and selectively[10]. The use of digital devices in accordance with the field of education needs to be accompanied by the ability to develop digital competencies, either through training or in the workplace[8]. It is a challenge for universities to understand the implementation of certain digital literacy in order to pave the way for one's ignorance and develop knowledge to understand developments.[11].

Understanding and mastering digital literacy is a complete thing. The application of digital literacy is generally directed at the world of education. This digital literacy education prepares the millennial community to be ready to face the world of digital work[12]. Digital literacy can be understood as the process of identifying, accessing, and evaluating the use of information technology and in relation to the wise attitude of individuals in using these tools.[8]. As users of information technology, students are expected to be able to apply digital literacy skills more broadly[13]. In addition, digital developments and the acceleration of digitization must be accompanied by increased digital literacy of the community or students[14].

In this regard, students are increasingly actively using technology to carry out lectures online or offline, especially during the covid 19 pandemic. Students are the most active agents in using technology so they must understand digital literacy[15];[16]. Some of the pillars of digital literacy that students can master include digital ethics, digital society, digital skills, and digital culture[9]. Good digital literacy can reduce online risk for students[16]. Furthermore, Beck, et.al concluded that the world of education began to discuss critical digital literacy. Through his research, it is explained that the application of digital literacy has an impact on teaching and writing practices between students and educators. Thus, through digital literacy, students are able to identify, understand, and respond to things obtained from digital information[17].

Based on the explanation above, the urgency of strengthening students' digital literacy competencies needs to be discussed further. The purpose of this study was to determine the digital literacy competence of students at the higher education level in Batusangkar, Indonesia. The digital literacy competencies in question are as follows. First, the competence to use digital. Second, the competence of digital information knowledge. Third, skill competence Fourth, attitude competence.[8],[18].

2 Method

This study uses a design descriptive qualitative research. Then, the instrument used to collect research data was a questionnaire, which consisted of 27 questions consisting of 6 questions about the basic knowledge competence of digital devices; 8 questions to determine the competence of digital information knowledge; 8 questions about competency skill competence; and 5 questions about attitude competence in a digital environment. The research subjects were students of the Faculty of Tarbiyah and Teacher Training at IAIN Batusangkar.

3 Result and Discussion

The results of this study are described based on four indicators of digital literacy competence, namely competence in using digital devices; competence in understanding text and using computer software; evaluation competence; and attitude competence. Based on this, the results of this study are described as follows.

3.1 Basic Use Competence of Digital Devices

Based on the results of the study, it was obtained a description of the basic competence of using student digital devices as follows.

Table 1. Competence of Basic Use of Digital Devices

No	Competence	Very good (%)	Well (%)	Enough (%)	Not enough (%)	Bad (%)
1	Ability to use computer/laptop/smartphone devices properly and correctly.	12.5	54.2	18.8	12.5	2.1
2	Ability to understand the types of digital devices	10.4	35.4	35.4	16.7	2.1
3	Able to connect with various platforms for online learning	10.4	62.5	14.6	10.4	2.1
4	Ability to download an app and delete a specific app	22.9	56.3	14.6	4.2	2.1
5	Able to read, write, and understand information obtained from digital devices	27.1	58.3	12.5	2.1	0
6	Able to share various files through online learning platforms	18.8	50	22.9	8.3	0

Based on these data, information was obtained that students' competence in using digital devices was generally in the good category. The use of digital technology is not only limited to mastering the use of digital devices, but also being able to find and collect information from the right search pages, either through the web, applications, and others.[8];[1]. This is the basis for increasing digital competence in the world of higher education, especially for students. This competency is an academic need to be able to search, collect, and use digital devices effectively. Because today's learning leads to digital learning[15].

3.2 Competency in Using Digital Devices

New technological developments make students need to understand texts obtained through digital devices and be proficient in using computer software[19]. Including being proficient in using various software or applications that support the implementation of online learning. Based on the research obtained the following information.

Table 2. Competence of Digital Information Knowledge

No	Competence	Very good (%)	Well (%)	Enough (%)	Not enough (%)	Bad (%)
1	Able to use the right keywords on search pages	10.4	50	27.1	10.4	2.1
2	Able to find various appropriate learning resources through digital devices	8.3	64.6	12.5	14.6	0
3	Able to read learning resources from digital devices well	14.6	66.7	8.3	10.4	0
4	Able to download scientific articles or e-books to support the implementation of learning	12.5	58.3	22.9	6.3	0

No		Very good (%)	Well (%)	Enough (%)	Not enough (%)	Bad (%)
5	Able to use online learning applications such as Edmodo, Google Clashroom, Zoom, and others.	25	56.3	16.7	2.1	0
6	Selecting information obtained from digital devices	12.5	54.2	29.2	4.2	0
7	Ability to use reference manager applications (automatically create bibliography), such as Zotero and Mendeley.	8.3	27.1	25	37.5	2.1
8	Ability to use various social media in daily life	25	58.3	12.5	4.2	0

Based on the information above, it can be understood that most students judge themselves well in terms of finding various sources and reading learning resources from digital devices well. However, there are still some students who are not proficient in using various applications or other software, especially the reference manager application. In the world of education, mastering digital literacy is a demand, especially during the Covid-19 pandemic. Because, there is a significant relationship between mastery of digital literacy competencies and readiness for distance learning[20].

In addition, the data also shows that the use of computer software or ICT is mostly used by students to access information for lectures, social networking, and looking for references. This is in line with Gal .'s researchán that students' interest in using ICT for academic needs is still relatively lacking[21].

3.3 Skill Competence

Skill competence is related to student competence in using various applications found on digital devices. Based on the research obtained the following information.

Table 3. Competence of Skills in the Field of Technology and Information

No	Competence	Very good (%)	Well (%)	Enough (%)	Not enough (%)	Bad (%)
1	Competency Skills in the Field of Technology and Information.	15.2	50	23.9	8.7	2.2
2	Learning video making skills	8.7	45.7	30.4	15.2	0
3	Photo, audio and video downloading, uploading and editing skills	19.6	50	26.1	4.3	0
4	Skills in citing scientific information/scientific articles from digital devices	10.9	50	23.9	15.2	0
5	Skills in making concept maps with mind map applications	10.9	26.1	28.3	32.6	2.2
6	Skills for making learning shows such as, power point	6.5	50	32.6	10.9	0
7	Skills in converting online files into various forms such as word, pdf, jpeg.	8.7	52.2	26.1	10.9	2.2
8	Skills in utilizing translator sites for learning needs, such as google translate, doctranslator, and others.	13	50	23.9	13	0

Based on the data above, it can be understood that on average around 50% of students rate themselves as good in understanding skill competencies. However, more than 20% of students are still at a sufficient level in various skills, both in making learning videos, the ability to properly cite sources, or using other applications for learning purposes. Students' digital literacy competencies in the field of skills need to be improved along with the increasingly rapid development of technology. Especially for student teachers[22]. Students must be competent in the field of digital literacy. In addition, higher education also plays an important role in mastering digital literacy for students and educators[6]. On the other hand, higher education, including students, must also be critical in interpreting the internet and the digital environment[23].

3.4 Attitude Competence

Attitude competence is the fourth competency that must be mastered by students in understanding the context of digital literacy competencies. Based on the results of the study, the following description was obtained.

Table 4. Attitude Competence

No	Competence	Very good (%)	Well (%)	Enough (%)	Not enough (%)	Bad (%)
1	Ability to cite and cite works from journals obtained from digital devices	8.7	52.2	23.9	15.2	0
2	Skills in using digital devices for learning	15.2	56.5	23.9	4.3	0
3	Selective in sharing information through media pages.	8.7	47.8	30.4	13	0
4	Choose the right information from trusted sources	15.2	58.7	21.7	4.3	0
5	Be wise in using social media	23.9	45.7	23.9	6.5	0

Based on the statements in Table 4 above, it can be seen that on average more than 50% of students rated themselves as good at citing, citing, using tools for learning, and choosing information from appropriate sources. However, about 20% of students considered that they were still in the sufficient range in this competency. Only 23.9% of excellent students are wise in using social media. A good attitude in mastering digital literacy competence is an absolute thing that must be applied by digital users[24].

4 Conclusion

Based on the research that has been done, it is concluded that the digital literacy competence of students is at a good level. Although there are still some competencies that need to be explored and improved by students, especially in the competency skills to use various features that support the learning process. Students must be able to utilize and use other applications or software. In addition, students majoring in education and being prospective educators must master digital literacy competencies well.

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