Teacher's Readiness in Using Digital Technology for Learning in Samarinda City High School

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Abstract— **Today the community, including the teachers, has entered the digital era, an era that has surpassed the era of computer technology. This study aims to describe Teacher's Readiness in Using Digital Technology for Learning in Samarinda City High School. Respondents in the study were 46 teachers from State High School 12 and State High School 13. The method used was descriptive method while data analysis was performed using descriptive statistics. Based on the average value of the results of respondents' answers to the question indicators on the variable technical readiness of teachers in the use of digital technology for learning is 2.84 classified as poor. While the average value of the respondent's answer to the question indicator on the pedagogical readiness variable of the teacher in the use of digital technology for learning is 2.90 which is poor.**

Keywords: teacher readiness, digital technology usage, learning

I. INTRODUCTION

Today the community, including the teachers has entered the digital era, an era that has surpassed the era of computer technology. Based on the data, the number of computer sales omit has tended to decline and computer defeated by the number of sales of digital mobile phone technology [16]. This partly due to the exist of a several of advantages of digital technology compared to computers or notebooks. In terms of content or program, digital mobile phone technology is more complete than a computer; in terms of tracking and working systems in looking for data it seems faster; in terms of the price is more affordable; in terms of shape and size, it is simpler and could be stored in the clothes pocket; in terms of operating costs are lighter and in terms of mobility more flexible. With a variety of the conditions, it could be ascertained, that the number of people who use digital technology will be far more, to remote villages compared to the use of computer technology. Not only that, the expansion and power of digital mobile phone technology innovation is also much faster. He really follows the tastes of the people, even far exceeding the tastes and imagination of the people. Digital technology has offered a variety of communications, namely in addition to communication with voice and SMS, it can also be through Facebooks, WhatsApp, Instagram, You Tube and others [9].

Being a teacher in the 21st century is different from a teacher in the 20s. In the digital era now, the exist of teachers is no longer seen from its charisma. More than that, how can a teacher communicate and adapt to follow the direct of the times. Teachers in the digital era needed to be able to innovate and create, because the 80s learning system has not been accepted by today's students [6].

Tapscott, due to the create of internet technology and the progress of accelerated digital technology, information, and knowledge has become temporary and brief [14]. Temporary knowledge requires constant renewal, development and improvement of personal abilities. This progress affects the world of education fundamentally, from the perspective of knowledge, to how it taught in front of the class. This also certainly affects the world of teacher education and education personnel, especially how teacher competencies require oriented towards the develop of information and communication technology and digital society.

Professional teachers who character by four types of competencies are (pedagogical, personal, social and professional) as mentioned above are again questioned. That is whether the competency criteria are still adequate, or no longer enough, so that an increase is needed. In terms of the time criteria formulated, which is around 2008 which means only 9 years, it seems that the formulate of these criteria was compiled in the period that had entered the digital era. This allegation is true, because in the criteria of pedagogic competence and social competence as mentioned above have included elements of digital technology. In the pedagogical competence, it is necessary to include the use of learning technology; and social competence has blend using functional communication and information technology. However, the pedagogical and social competency criteria still need be refined for several reasons.

First, the time interval of nine years, namely 2008 when Law No. 14 of 2008 up to now to see the develop of digital technology has been long, because the expansion and acceleration of digital technology innovation every year always experience extraordinary developments. A person whose life is always after the develop of digital technology will never stop to give time, thought and funds to organize, search and hunt for it, because without it, the completeness of the facilities and infrastructure of his life will feel lacking, and his social psychology will be disturbed, he feels himself as less up to date people. Furthermore, although the professional teacher criteria mentioned above has the characteristics of digital technology, namely using communication and information technology functionally and the use of learning technology, but these criteria have not explicitly mentioned digital technology [9].

According to Al-Awidi, H., & Aldhafeeri, F. research, there are two main aspects of teacher readiness in the use of digital technology for learning, namely pedagogical readiness and technical readiness [1]. Pedagogical readiness refers to the knowledge, skills, attitudes, and habits of teachers to integrate technology appropriately in learning. On

the other hand, technical readiness relates to the knowledge and skills of teachers to carry out digital learning, the available of hardware and software for teachers and students, and the types of professional development programs established by schools and the Ministry of Education to prepare teachers to carry out digital learning.

Based on the author's first survey in several state high schools in Samarinda, researchers found evidence that not all schools in Samarinda had wi-fi facilities that could be accessed to the teaching and learning room. Even if there is, the speed is very limited so when learning often becomes an obstacle for teachers. The most striking events were at Public Senior High School 12 Samarinda and Public Senior High School 13 Samarinda. Not only in the form of internet access but the use of multimedia such as power points and projectors are not yet proficient in use by students and teachers. So that learning is still conventional and tends be one-way. The survey found that teachers unprepared to use digital technology, so this study aimed to describe the readiness of teachers in the use of digital technology for learning in Samarinda City High School.

II. LITERATURE REVIEW

Technology experiences many of innovations from before simple (mechanical) to more advance (microelectronic). The advanced technology that humans use today is technology that controlled by microchip components. The part has program by humans as needed through systematic logic lines in the structure of the algorithm. With the microchip part, electronic devices could be formed in a portable and mobile way. The microchip part which functions to process and process digital signals. Digital is a combine of sequences of binary numbers 0 and 1 for easy, fast and accurate information processing. The signal called a "bit" of digital technology that has several features compared to analog technology [5]:

1) Being able to send information at the speed of light that makes information can send at high-speed (instant).
2) Repeated use of information does not affect the number of information itself.
3) Information can easily process and modified into various forms.
4) Can process very large amounts of information and sent it interactively.

The development of digital technology today has brought changes and influenced various aspects of human life, including in the field of education. Hoyles & Lagrange asserted that digital technology is the thing that most influences the education system in the world today [5]. This is due to the effectiveness, efficiency and attractiveness aspects offered by digital technology-based learning.

Information and communication as part of digital technology are also developing very rapidly, affecting various lives and providing changes to the way of life and everyday human activities, including in the world of education. Education is experiencing very rapid development as well, including the exist of digital learning (digital learning). By utilizing the develop of information and communication technology, education can reach all levels of society. People with an interest in education are must to have been ability to understand technology according to their

needs or technological literacy which is also called to have technological literacy, because it will play a role in life now and in the future. As a result, in the world of education in the present and the future there are several 2 trends including a learning system that is increasingly developing with the ease of organizing education [8].

III. METHODOLOGY

The place of this study is 12 Public High Schools with 16 teachers and 13 Public High Schools with 30 teachers. The method used is a descriptive method focusing on Teacher Readiness in Using Digital Technology for Learning. The data used are primary and secondary data obtained through a closed questionnaire that was answered by teachers at State 12 Senior High Schools and 13 Public High Schools in Samarinda City. The instrument used adopt from the research of Al-Awidi, H., & Aldhafeeri, F. about the readiness of teachers in using digital technology in learning [1]. Data analysis do use descriptive statistics. According to Sugiyono descriptive statistics are statistics used to analyze data by describing or analyzing data that collect to produce conclusions that needed for the public or generalization [12].

IV. RESULTS AND DISCUSSION

Research respondents numbered 46 teachers from State Senior High School 12 and Public High School 13 with the following characteristics:

Table 1. Respondent Criteria

Gender	Number	%
Total	**46**	
Male	15	32,61%
Female	31	67,39%
Age		
< 30 Years	7	15,22%
31 - 35 Years	5	10,87%
36 – 40 Years	9	19,57%
41 - 45 Years	7	15,22%
46 - 50 Years	10	21,74%
51 - 55 Years	5	10,87%
> 55 Years	3	6,52%
Degree		
< S1	0	0,00%
S1 or more	46	100,00%
Empty Data	0	0,00%

Based on the table above, it could be seen that some of the respondents were male, 31 people or 67.39%, aged 46-50 years as many as 10 people or 21.74% and all of them were Bachelor both strata 1 and 2 strata. Furthermore, descriptive statistical analysis carries out to decide the readiness of teachers in the use of digital technology for learning in Samarinda City High School. Descriptive analysis method uses to find out and analyze respondent's answer data on the variables used in this study. Scores 4.1 - 5 categorize as Very Good or very high; a score of 3.1 - 4 categorize as Good or High; a score of 2.1 – 3 categorize as Poor or low and a score of 1-2 categorize as Very Poor or very low. The results of the descriptive analysis are as follows:

Table 2. Teacher Technical Readiness in Using Digital Technology for Learning

	Statement	Mean	Category
1	I carry a mobile device that connect to the internet wherever I go.	2,67	low
2	I am competent in using email.	2,98	low
3	I am competent in using word processing software.	3,24	High
4	I can download files from the Internet and upload files to email.	2,65	low
5	I am competent in using presentation software such as PowerPoint.	2,50	low
6	I know and can make a blog.	2,63	low
7	I am familiar and can make a wiki or a website.	2,85	low
8	I can use social media (Twitter, Instagram, ...) to communicate with my students.	2,67	low
9	I am familiar with the learning management system (Blackboard, ...).	2,98	low
10	I can change printed content and activities in the curriculum to digital form	3,24	High
11	I can design online quizzes and use them in teaching my classes.	2,65	low
12	I can use online discussions and teach my class.	2,50	low
13	I can use chat in teaching my class.	2,63	low
14	I can publish my lessons and class activities on the web.	2,87	low
15	I can use a learning management system to complement my teaching.	3,50	High
16	I can develop electronic learning activities that urge my students to become critical thinkers	2,93	low
	Average	2,84	low

From Table 2 above show based on the average value of the results of respondents' answers to the indicator questions on the variable technical readiness of teachers in the use of digital technology for learning by 2.84 classified as not good. From the table above it shows that most of the indicators are in the poor category. This is important meaning that teachers assess the technical readiness in the use of digital technology for learning that they feel is not good too.

Table 3. Teacher Technical Readiness in Using Digital Technology for Learning

	Statement	Mean	Category
1	I can use technology to support my teaching methods.	2,85	low
2	I am familiar with how to integrate technology into the curriculum.	2,76	low
3	I believe that the digital curriculum is as good as the print curriculum.	2,98	low
4	I believe that high quality learning experiences can occur without interacting with students directly.	2,72	low
5	I support interaction between students and collaborative activities as a means of teaching and learning.	2,67	low
6	I realize that community development is an important part of the digital curriculum.	3,07	High
7	I urge my students to bring life experiences into the classroom and make activities based on that experience.	2,93	low
8	I feel comfortable communicating online and feel that I can deliver my message.	2,63	low
9	I can manage my time well in technology-rich classes.	2,96	low
10	I am flexible in dealing with students about issues such as due dates, absences, and makeup assignments.	3,02	High
11	I am quite organized and tend to plan in my technology-based teaching.	3,15	High
12	I can manage and control students who study in technology-enriched classes.	3,07	High
	Average	2,90	low

From Table 3 above it shows based on the average value of the results of the respondents' answers to the indicator questions on the teacher's pedagogical readiness variable in the use of digital technology for learning at 2.90, which is classification as not good. From the table above it shows that most of the indicators are in the poor category. This means that teachers value their pedagogical readiness in digital technology for learning that they feel is not good too.

As implementing learning, teachers must have readiness to use digital media. Readiness is the response patterns (follow-up) needed to start an activity in meeting needs and achieving goals. According to James Drever in Slameto readiness is the willingness to respond or react [11]. Willingness arises from a person and relates to maturity because maturity means readiness to carry out skills.

The rapid development of technology encourages teachers to make innovations related to the use of these technologies in learning. to meet the needs and do more interesting learning goals. Hoyles & Lagrange asserted that digital technology is the thing that most influences the education system in the world today [3]. This is due to the effectiveness, efficiency and attractiveness aspects offered by digital technology-based learning. Therefore, the teacher shall be able to have readiness, both readiness of knowledge and skills.

When the digital curriculum carried out, this makes schools more flexibility in providing innovative teaching and learning activities based on technology. One option is blended learning which combines online learning with other instructional dissemination tools [15]. Even though students join physical classes in face-to-face learning, they can still take part in the digital curriculum with independent learning when they need. Teachers can choose to divide students in small groups where they use technology tools to manage their own learning [7].

The idea of technology integration does not mean placing technology tools in classrooms where the focus is on the technology itself [10], nor does it use technology to support traditional teaching methods. This is more of integrate technology to go beyond traditional teacher-centered approaches where students use technology to learn 'with' and 'through' computers [2].

Introducing technology in the classroom requires a paradigm shift in the learning process. Teachers are most affected by this change. Their readiness to meet new demands for implementing the curriculum will decide the success of this process. The responsible of teachers in the process of technology integration in schools is very important, and every transition to the digital curriculum

must consider the readiness of teachers to integrate technology. Teacher readiness is one of the main influencing factors that can influence the use teacher technology and has a positive direct effect on technology integration in education [4].

V. Conclusion

Based on the average value of the results of respondents' answers to the indicator questions on the variable technical readiness of teachers in the use of digital technology for learning of 2.84 is classified as poor. While the average value of the results of respondents' answers to the indicator questions on the teacher's pedagogical readiness variable in the use of digital technology for learning of 2.90 is classified as poor. Digital technology is a revolutionary process that inevitably has lived. If so, far the teachers accustomed to carrying out their professional tasks with the traditional educational accepted point of view, so now the teachers must carry out their tasks with an educational accepted point of view based on digital technology. This change requires a change in attitude, mentality, and accepted point of view of thinking. In this context, teachers shall be ready to venture out of old habits.

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