IGTKI Website Development

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IGTKI Website Development as Kindergarten Teachers' Digital Media Literacy in Central Java Province

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Abstract—The objectives of this study are to find out how the development of the IGTKI website and to analyze how the level of digital literacy understanding of kindergarten teachers in Central Java Province. The method used in this study is research and development (R&D) by adopting a model of Thiagarajan development. This method is used because the researcher develops a product, namely the Central Java Province IGTKI website, whereas to find out the level of digital literacy of kindergarten teachers, the data collection was conducted by doing a survey to the kindergarten teachers in Central Java Province. The result shows that the development of the Central Java Province IGTKI website is carried out through several stages, they are: 1) define namely content determination, 2) design namely website design, 3) develop namely developing websites (domain determination, website installation, website content management, validation test, and trials), and 4) disseminate namely website dissemination. Kindergarten teacher understanding in digital literacy on the other hand, can be divided into the ability to find information, to evaluate information, to use information, to make information and to utilize information. It can also be seen from the indicators of technical dimension, cognitive dimension, and social emotional dimension.

Keywords—literacy, web, IGTKI, kindergarten

I. INTRODUCTION

UNESCO has a long-term roadmap (2015-2020) which states that digital literacy is an important pillar for the future of education. In 2003 the Prague Declaration stated that literacy also covers how someone communicates in society. The meaning of literacy also means practices and social relations related to knowledge, language, and culture [1]. The declaration also stated that information literacy is related to the ability to identify, determine, find, evaluate, create effectively and organized, use and communicate information to overcome various problems [2]. The ability in literacy needs to be possessed by each individual as a condition for participating in the information society, which is a basic human right concerning lifelong learning [3].

Literacy is identical with reading and writing activities. Literacy skills cannot be separated from the digital era,

because both are always related to how to get information. Digital literacy can be interpreted as the ability to read, understand, and analyze various kinds of digital sources [4]. Another opinion stated that digital literacy is a technical skill to access, assemble, understand and disseminate information while media literacy consists of two words, namely literacy and media [5]. Literacy is simply interpreted as literacy and the media is interpreted as an intermediary in the form of objects, humans, or events. So that media literacy is interpreted as the ability to search, to study and to utilize various media sources in various forms [6].

Literacy is now widely accessed via internet. The internet and web users in Indonesia have experienced a very significant increase from year to year. Based on the official data from Asosiasi Penyelenggara Jasa Internet Indonesia, Internet users have been analyzed in accordance with the following Table 1 [7].

TABLE I.   INTERNET SERVICE USERS IN INDONESIA

Year	Percentage of population	Users
2016	47,68%	132,7 million
2017	54,68%	143,26 million
2018	64,8%	171,17 million

The table shows that information technology can significantly influence various lives. By utilizing information technology, users are allowed to communicate each other without being limited by space and time.

IGTKI (Ikatan Guru Taman Kanak-kanak Indonesia) of Central Java Province has the responsibility to provide information to its members. The organization is required to be able to communicate with kindergarten teachers in Central Java. Improving the quality of information literacy by its members can be done easily. One of the ways is to use the internet and the web as a place to access and to communicate various information. This effort can be done by starting to build an IGTKI website.

Website is a collection of web pages that are related to one another [8]. The first page of a website is called the homepage while page after page is independently called a web page [8]. Website or site is interpreted as a collection of pages that are used to display text information, still images or motion, animation, sound, and or a combination of all of them both static and dynamic [9].

Website is important to be developed because it has various functions. Website has functions: First, as a communication function such as: web base email, contact form pages, chat and others [10]. Second is the function of information such as news, profile companies, libraries, references and other. Third is the function of entertainment, for example webs that provide online games, online music, inline movies and others. Fourth is the transaction function, namely a website can be used as a means to conduct business transactions, such as online orders, payment using credit cards and others.

The objectives of this study are to find out how the development of the IGTKI website and to analyze how the level of digital literacy understanding of kindergarten teachers in Central Java Province.

II. METHOD

This research is carried out using the R&D (research and development) method. This method is used because in this study, the researcher develops a particular product [11]. The design of web development research conducted refers to the development of the 4D model which includes define, design, develop and disseminate [12].

The stages of development include: a) Define stage. This stage includes 1) analysis of IGTKI organizations, 2) analysis of product specifications, 3) web development goals; b) Design stage. This stage includes 1) format selection, 2) initial web design; c) Development stage. This stage includes 1) Validation by media experts, 2) Limited web trial, 3) Extensive web trial; d) Disseminate stage. At this stage, web socialization is carried out and publication of the research results is conducted.

At the same time, to measure how the understanding of digital literacy of kindergarten teachers in Central Java Province, the method used is a survey method that is analyzed descriptively. In the survey, information is obtained from respondents using a questionnaire [13]. The data sources in this study are kindergarten teachers who are members of the IGKTI organization in Central Java Province.

III. RESULTS AND DISCUSSION

A. The Development of Central Java Province IGTKI Website

The IGTKI Provincial website has now been developed and can be accessed at the address http://igktiprovjateng.org. The website is a collection of web pages and their files (text, images, videos, etc.) are placed on one site [9]. The stages in developing the IGTKI website are as follows:

1) Define Stage: At this stage, it is set what content will be displayed on website. The content information is obtained through the FGD activities with IGTKI party. Suggestion and advice from IGTKI is the main thing because the purpose of this website is for the needs of Central Java Province IGTKI.

2) Design Stage: The design is created by paying attention on the characteristics of the IGTKI organization. The display, layout, and menus on the website are made based on the directives from IGTKI management. The aim is to make the members can utilize and obtain information as easily as possible with the existence of this website.

3) Development Stage: At this stage, it is done the website development. After obtaining information about content and design, the next steps in developing a website are as follows:

a) Determining the name/domain to be used: The results of the meeting with the IGTKI management decided that the name used for the IGTKI website is "igtkiprovjateng" with the use of an org (organization) domain. After obtaining the name, next is ordering the domain and hosting on the site http//: idwebhost.com. So the URL of the current IGTKI website is http:igtkiprovjateng.org

b) Doing website installation: CMS (Content management System) used for website development is wordpress. The installation process can be done with domain and active hosting.

c) Website content management: Management is done to change the website template, add menus, make posts, define links, add pages, create categories and add widgets and so on according to IGKTI needs. In this section, news posts are also made for the first time.

d) Perform expert validity test: Expert validity test is carried out to measure whether the website developed is feasible to be published on all members of the organization or not so it needs to be revised. Based on the results of the expert validity test, it can be said that the website developed is valid. The result of the validator calculation states that the website is feasible to be used and can be used for IGTKI purposes. Website products produced and from the material that consistently related between one another [14].

e) Limited Trial: After being declared feasible by the validator, the website is tested in a limited way to several IGTKI administrators. The purpose of this limited trial is to see whether the website is practical to use or needs to be improved on certain menus.

f) Extensive Trial: The final stage of the development process is to do extensive trial. This stage is carried out by disseminating information on the IGTKI website so that it can be accessed by its members. After the members access the website and see the content on it, the researcher conducts data collection in the form of user responses from members and the practicality of the website. From the data collected, it shows that the members are very pleased with the existence of IGTKI website because it makes them easier to obtain information. Also, the website is declared practical by the users.

4) Disseminate Stage: This stage is done by socializing or publishing the website to a wider audience.

B. Digital Literacy for Kindergarten Teachers in Central Java Province

This research on digital literacy skills for kindergarten teachers is carried out by a survey, which is to spread instruments online using the google form. Digital literacy is knowledge and skill to use digital media, communication

tools, or networks in finding, evaluating, using, making information, and using it in a healthy and wise manner [2]. This concept is an indicator to find out the teacher's understanding of digital literacy. The results from the data obtained are as follows:
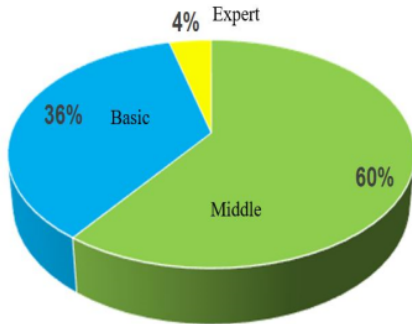

Fig. 1. Digital literacy is knowledge and skill to use digital media, communication

Based on Figure 1, respondents' self-evaluations toward the level of digital literacy skills, 36% of them stated that they have digital literacy skills on a basic level, 60% stated they are in the middle level, and 4% stated that they are in the advance level.
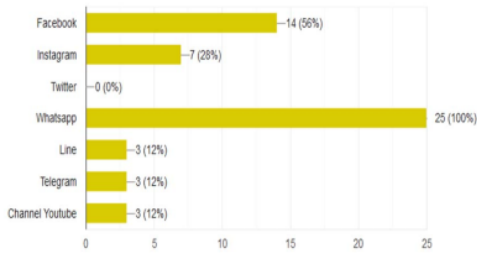

Fig. 2. Self-evaluations the use of social media

The use of social media is also part of the indicator of a teacher knowing about digital literacy as portrayed in Figure 2. Based on the data collected, all of the respondents stated that they are active on WhatsApp, 56% are active on Facebook, and 7% are active on Instagram while the rest are active on Line, Telegram and YouTube.

The indicators contained in the concept of digital literacy are the ability of a teacher to find, evaluate, use, make information and utilize information. The following table is the teachers' understanding of these indicators:

Digital literacy skills classifies into technical dimension, cognitive dimension, and social emotional dimension [15]. The technical dimension is a concept where digital literacy means having technical and operational skills to use technology for learning and in daily activities [16]. Cognitive dimension is associated with critical thinking skills in finding, evaluating, and creating cycles of handling digital information while the social emotional dimension is the ability to use the internet responsibly for communicating, socializing, and learning.

TABLE II. DIGITAL LITERACY UNDERSTANDING OF KINDERGARTEN TEACHERS

No	Indicators	Level of Understanding (%)		
		High	Medium	Low
1	The ability to find information	75,0	20,8	4,2
2	The ability to evaluate information	66,7	20,8	4,5
3	The ability to use information	75,0	16,7	8,3
4	The ability to make information	62,5	16,7	20,9
5	The ability to utilize information	62,5	25,0	12,5

The teacher's capacity for these indicators is detailed in the following diagram:
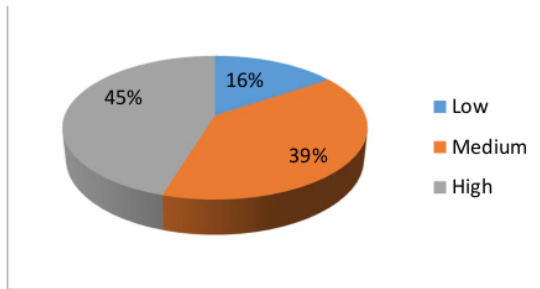

Fig. 3. The teacher's capacity technical dimension indicators

Based on the diagram above it can be seen that 45% of teachers have good technical skills to use technology in learning. 39% of teachers have moderate skills in using technology in learning and 16% of teachers have low skills in using technology in learning. This means that there are many teachers who are able to use technology in learning.
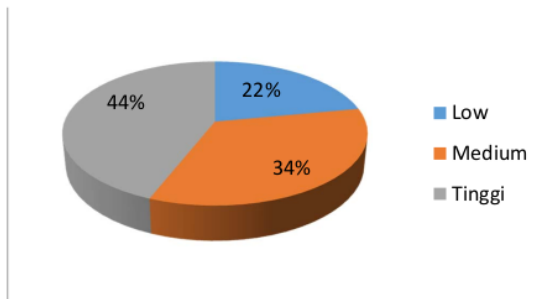

Fig. 4. The teacher's capacity cognitive dimension indicators.

Based on the diagram above it can be seen that 44% of teachers have good critical thinking skills in finding, evaluating, and creating cycles of handling digital information. 34% of teachers have moderate skills in critical thinking skills in finding, evaluating, and creating cycles of handling digital information and 22% of teachers have low skills in critical thinking skills in finding, evaluating, and creating cycles of handling digital information. This means that there are many teachers who have good critical thinking skills in finding, evaluating, and creating cycles of handling digital information.
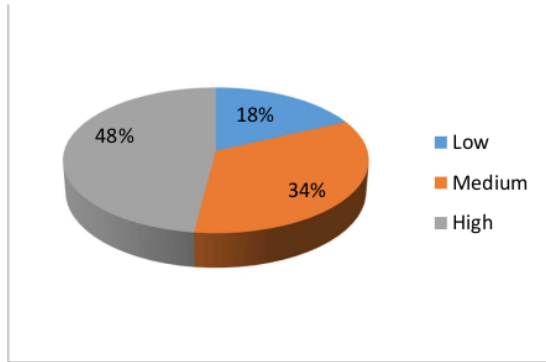
Fig. 5.   The teacher's capacity social emosional dimension indicators.

Based on the diagram above it can be seen that 48% of teachers have good ability to use the internet responsibly for communicating, socializing, and learning. 34% of teachers have moderate ability to use the internet responsibly for communicating, socializing, and learning and 18% of teachers have low s ability to use the internet responsibly for communicating, socializing, and learning. This means that there are many teachers who have good ability to use the internet responsibly for communicating, socializing, and learning.

IV. Conclusion

IGTKI website development in Central Java Province covers the following steps: 1) define namely content determination, 2) design namely website design, 3) develop namely developing websites (domain determination, website installation, website content management, validation test, limited trials, and extensive trials), and 4) disseminate namely website dissemination.

Kindergarten teacher understanding in digital literacy on the other hand, can be divided into the ability to find information, to evaluate information, to use information, to make information and to utilize information. It can also be seen from the indicators of technical dimension, cognitive dimension, and social emotional dimension.

Based on the results of the study it can be concluded that there are many teachers who are able to use technology in learning. There are many teachers who have good critical thinking skills in finding, evaluating, and creating cycles of handling digital information. There are many teachers who have good ability to use the internet responsibly for communicating, socializing, and learning.

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