Literasi Digital pada Kalangan Remaja di Kulonprogo, Yogyakarta, Indonesia

Digital Literacy of Teenagers in Kulonprogo District, Yogyakarta, Indonesia

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Abstrak

Teknologi dan media digital memberikan efek negatif pada penyebaran informasi dan berita. Informasi berjalan deras, cepat dan tak terhindarkan, bahkan banjir informasi pun terjadi di dunia maya. Sebagai komoditas, informasi dapat dijual, dibagikan, digandakan, dibuat, disalahpahami, diubah bahkan diambil oleh orang lain. Fenomena masyarakat cyber berada pada struktur model komunikasi yang kompleks. Pada dasarnya setiap orang dituntut untuk sadar atau memiliki pengetahuan tentang teknologi dan media digital (digital media literacy) berbasis teknologi komunikasi dan informasi sebagai syarat untuk menjadi konsumen, penyalur informasi atau bahkan produsen. Untuk memberikan remaja kesadaran etika dan komunikasi yang baik di dunia maya, diperlukan data tentang tingkat pemahaman di kalangan siswa pengguna teknologi dan media digital yang disebut literasi digital. Data literasi digital remaja di Kabupaten Kulonprogo menjadi data primer dalam penelitian ini. Penelitian ini menggunakan metode penelitian kuantitatif dengan format deskriptif. Data penelitian dikumpulkan melalui survei remaja menggunakan kuesioner online. Hasil penelitian mengidentifikasi bahwa nilai tertinggi sebesar 80,87 terdapat pada dimensi Pemahaman Budaya dan Sosial, sedangkan nilai terendah sebesar 68,68 pada dimensi Kreativitas. Hasil penelitian menunjukkan bahwa literasi digital remaja di Kabupaten Kulonprogo berada pada tingkat lanjut dengan nilai rata-rata 75,75.

Kata kunci: digitalliterasi; remaja; Kulonprogo

Abstract

Digital technology and media exert a negative effect on the spread of information and news. Information is running heavily, fast and unavoidably, and even a flood of information occurs in virtual world. As a commodity, information can be sold, shared, duplicated, created, misunderstood, distorted and even taken by others. The phenomenon of cyber society is in the complex communication model structure. Basically, each people are forced to be aware or to have knowledge on technology and digital media (digital media literacy) based on communication and information technology as a requirement to become consumer, information distributor or even

producer. To give the teens the good ethical and communication awareness in virtual world, data is needed on the level of understanding among students who use technology and digital media, called digital literacy. The data of teenager digital literacy at Kulonprogo district would be the primary data for this research. This research used a quantitative research method with descriptive format. Data of research was collected through surveying teenagers using online questionnaire. This research identified that the highest score of 80.87 was found in Cultural and Social Understanding dimension, while the lowest score of 68.68 was found in Creativity dimension. The results showed that the teenagers' digital literacy in the Kulonprogo district was at the advance level with average value of 75.75.

Keywords: level, digital, literacy, teenagers, Kulonprogo

Introduction

Information technology and communication develops quickly in accordance with the development of Internet. Internet is a form of information technology development and Internet communication is a global network connecting all of the computers in the whole world despite different operation and machine system. The presence of Internet has opened a new space for information and communication technology development. Information and communication technology has developed a new modern age, communication in neither a blank space nor a homogeneity context.

Manuel Castells [2] state the concept of society exposed by communication and information technology as called as interactive society which based on "digitalization" and web integrated from some communication mode (Castells, 2004). Internet and digital technology has changed and affected medium space for information pattern and the whole of information chains. By the increasing of digital technology and cellular, interaction in an immense scale is easier for individuals compared with that in the past.

New Media Era is born in which interactivity is placed in the center function of new media, meaning that an individual now can talk to many other people and may get feedback very fast (real time). Nugroho [10] (2019: 62) said that citizen and media consumer who were once having limited voices and silent now can share opinions with many people without any boundary in time and space. Lower price and higher accessibility to new technology have made possible choices for the society to consume media compared with that in the past.

However, the fast information and technology development also exerts a negative effect on the spread of information and news. Information is running heavily, fast and unavoidably, and even a flood of information occurs in virtual world. Information spread in the virtual world is varying, from facts to fictitious and false one. If the internet user does not have skills to choose, to sort, and to evaluate critically the flow of information, there will be

information disorder or information chaos that will affect adversely the social life of society. As known, recent society, including Indonesians, is living not only in real society but also in cyber space with many kinds of social realities.

Information society as the beginning of cyber society formation, as revealed by Rogers [6] (2001), is the one needing most labor force work because information field is an important element of life. It plays such important role in life until it is called commodity (Rogers, 2001). As a commodity, information can be sold, shared, duplicated, created, misunderstood, distorted and even taken by others. Rogers himself explained further information as one of three basic resources beside material and potential energy. Information is, then, assumed as not having practical use if it is not being interpreted and operationalized, and information can only be operationalized through communication.

The phenomenon of cyber society is in the complex communication model structure. Basically, each people are forced to be aware or to have knowledge on technology and digital media (digital media literacy) which based on communication and information technology as a requirement to become consumer, information distributor or even producer. Besides, Jean Baudrillard in (Durham, Meenakshi Gigi and Kellner, 2006) [3] suggested a concept about hyper reality, inside the cyber society happening a reality implosion when the real reality and symbolic reality mixed with false reality. This caused a disruption in cyber society as accessible information appears immensely and the continuously increasing level of dependency between physical and virtual (technology) components, people and process has resulted in vulnerability, threat, and unexpected risks. These problems have become the reason of horizontal conflict within the society when different political or religious view sharpens with many kinds of hoax or false information spreading sporadically around virtual space.

Several problems above support the need for digital media literacy when society hopes to face the era of information disruption nowadays. Digital literacy is, as said by Paul Gilster in (Lankshear & Knobel, 2006) [5], the ability to understand and use the information from many digital sources and assume as literacy in digital era. Hence, this is the traditional form from literacy ideas (media literacy), such as reading comprehension, writing, and dealing with the information on how to use the technology and time format, and also essential life skills. Digital literacy is about idea control and not about pushing button, also about knowledge on what we see on our computer screen when we use web media.

Digital literacy at first started with a concept called "multimedia literacy", as suggested by Lanham (1995) in [1] (Bawden, 2017), as a term quite different from traditional literacy. Lanham argues that digital sources can result in such kinds of information as text, pictures, voices, and others; new literacy media is needed to understand new kind of these new

presentations. The concept of multimedia literacy is aimed at the information and communication technology users in order to get ability to read and comprehend information system in hypertext or multimedia.

Various problems like disinformation, hoax, privacy violation, cyberbullying, abusive content and pornography, and digital media addiction are assumed to be citizen's latest problem. The reality shows the large number of internet users in Indonesia and high frequency access to the information content and social media especially in teenager circles and students. The ability to use and utilize technology and digital media does not assure the positive ethics and culture of Indonesian netizen in using Internet. In addition to the gap, there are many Internet misuse cases, from Internet fraud, addiction, privacy violation, reality bias to the most advanced one, the spread of hoax and disinformation pointing to information disorder. Information disorder becomes one of the main problems happening in informed society, including Indonesia.

Information chaos as one of the negative effects likely appearing in virtual world can be minimized from ourselves, family, school and closest friends by learning how to use internet safely, ethically, and responsibly. It is still in our mind how someone uses the social media, Twitter, Instagram or Whatsapp irresponsibly. All the problems above certainly are not in accordance with Indonesian ethics and culture as a nation respecting Pancasila values.

Simply, digital literacy is an individual's consciousness, attitude and ability of using technology and digital media correctly to identify, to access, to manage, to integrate, to evaluate, to analyze, and to synthesize digital resources. In using digital media, netizen are also expected to develop new knowledge, to create media expression, and to communicate with others, in a certain context of life situation to make possible a construction and to reflect these processes. The resources of information and communication technology such as internet, email and e- book are given for educational purpose which important to students to know and to attend the learning process in their school. Through information sources from internet, students and those working in education sector are expected to keep and to strengthen their function in using technology information and communication.

Internet has become the primary needs for students to fulfill their responsibility and to do their assignments. They could access internet easily and cheaply; gadget and smartphone can replace the role of personal computer or laptop in accessing internet. Therefore, communication ethics and culture are important to develop in college and school environment. As a formal education institution, schools and colleges (with full support from government) are obliged to be the first gate of cyberethic introduction. Teacher staffs

and students' active participation are expected to really socialize ethical action and manner in virtual world.

To give the teens the good ethical and communication awareness in virtual world, data is needed on the level of understanding among students who use technology and digital media, called digital literacy. The data of teenager digital literacy (junior high students, senior high students, college students) in Kulonprogo district would be the primary data for this research.

Based on the background study above, researcher identified some problems on teenager digital literacy. Firstly, information on virtual world can affect "information disorder", a condition when information spreading in virtual world is unidentified as right or false. Secondly, responding to and managing the information in the internet unprofessionally can make teenagers or students confused and entrapped into the cyberspace without ground knowledge. Thirdly, teenagers who are unable to avoid the flood of information tend to respond to it unethically and inconsistently with communication culture prevailing within Indonesian society. Based on the phenomenon and the problems happening related to digital source use by millennial generation, this research is conducted to map out the digital literacy of teenagers (junior high school, senior high school, and college students) in Kulonprogo district.

The researchers choose this research theme because it is related to the high education research roadmap, specifically the major field of Ethical and Communication Culture Based on Information Technology. One of the researches on digital literacy was conducted by Spante et al [7] on Cogent Education Journal (2018) entitled Digital Competence and Digital Literacy in Higher Education Research: Systematic Review of Concept Use. This journal represents systematic review in which these concepts were used in the higher education research. The goal is to build a strategic reference understanding and digital competence over times, discipline, country, method, and analysis level. Three databases being used in systematic literature review are Web of Science, Scopus, and Education Resources Information Central. This research shows that there are various definitions used in the research in college. They are varying based on whether the concept is defined by policy, research, or both of them and whether they are focused on technical skill or social practice. This research also aims to give a direction to conduct further research in the higher education world, doing further research based on critical perspective to avoid general concept, avoiding mismatch across references and to be involved in critical investigation about policy legitimacy on research in the higher education research domain (Spante et al., 2018).

With the understanding that digital literacy is a concept pointing to mediation between technology and audiences or user to practice digital technology productively, the characteristic of digital literacy not only refers to operating skills and to using many tools of information and communication technology digital based, but also the ability of reading comprehension and understanding the content of digital media, and the ability of producing contents like written text, photos, audio, and video.

The other research about digital literacy concept is from Hague and Payton [4] in "Digital Literacy across the Curriculum" describing eight components of digital literacy (Hague & Payton, 2010):

a. Functional Skill and Beyond

This component is related to the operation of technology. Regarding the ICT-skills ability of someone and its correlation with the content from many media, the operational use of lso technology is related to familiarity to technology, accessibility of technology gadget, the use of technology and resulting data, the awareness of copyright and the ability of producing the final product of technology.

b. Creativity

Creativity component is related to how we think, build, and share knowledge in many kinds of idea by using digital technology. Creativity is said to include (1) creating product or output in many formats and models by means of using digital technology, and (2) creative and imaginative thinking including planning, compiling content, exploring ideas and taking control over its creative process.

c. Collaboration

Collaboration component is based on the nature of its digital technology. Digital technology gives chances to collaborate in team and also opens the participation process which then opens support for collaboration. This component emphasizes on individual participation in the dialogue process, discussion and building another idea to create understanding (e.g. skill in the digital spaces, and the ability of explaining and of negotiating ideas with other people in group).

d. Communication

Being an individual who is literate digitally means becoming the one who is able to communicate through digital technology media. Effective communication and digital literacy are closely related to the ability of sharing thoughts, ideas and understanding. Besides, it is also related to the ability of understanding and comprehending audience (so whenever the content is made, they predict audience's needs and its effect).

e. The Ability to find and to select Information

This component focuses on the ability to find and to select information. In Digital Literacy across the Curriculum (2009), this ability is related to how to think carefully of how the process of searching information is and to use the sources selectively.

f.   Critical Thinking and Evaluation

This component focuses on not only taking information and comprehending information passively but also on contributing, analyzing and sharpening the critical thinking when dealing with information.
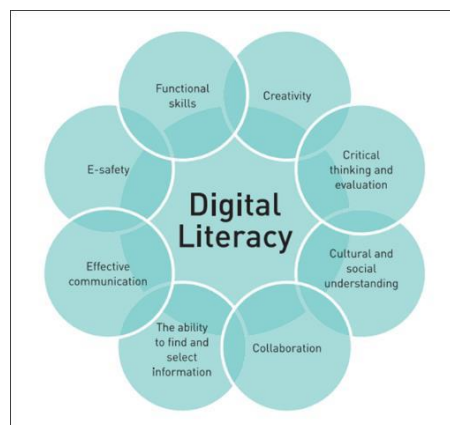
g.   Cultural and Social Understanding

Digital literacy practice is better along with social understanding context and society's culture.

h.   E-Safety

E-Safety component focuses on the preference of keeping the security when users explore, create, and collaborate with digital technology.

Figure 1.
Digital Literacy Components

Source: (Hague & Payton, 2010)

Methods

This research used a quantitative research method with descriptive format. Quantitative method can also be said as a positive method because it is based on positivism philosophy where researcher takes a space with the object of study. Descriptive research of survey is the one aiming to describe a phenomenon or to draw a fact or characteristic of certain population or sector systematically, factually, and accurately (Sugiyono, 2018) [8]. This

research aims to grasp the picture about digital literacy on Junior High School students in Yogyakarta based on factual data.

Operationalization of Variables

This research based on eight dimensions of digital literacy as the operationalization of variables (Hague & Payton, 2010) [4]:

Table 1.
Operationalization of Variables

Dimension	Indicator	Scale
Functional Skill and Beyond	1. Digital technology using skill 2. Digital media using skills	Ordinal
Creativity	1. Skill of producing various formats and models of content by utilizing technology and digital media 2. Creative imaginative thinking skills including concept planning, content producing, idea exploration and controlling the creative process	Ordinal
Collaboration	1. The ability of participating in digital space	Ordinal
	2. The ability of explaining and negotiating ideas with somebody else in new media or social media	
Communication	1. Communicating skill using technology and digital media 2. Skill of understanding and comprehending audience in digital media	Ordinal
The Ability of finding and selecting Information	1. Information searching and selecting ability 2. The skill to identify the accountability of information	Ordinal
Critical Thinking and Evaluation	1. Information analyzing skill in digital media 2. Critical thinking ability when	Ordinal

	dealing with information in digital media	
Cultural and Social Understanding	1. Skill of comprehending social and culture context whenever information is presented 2. The ability of understand ethics and culture in using digital media	Ordinal
E-safety	1. The ability of keeping data privacy when using technology and digital media 2. The ability of keeping in safe when user is exploring, creating and collaborating with technology and digital media.	Ordinal

Scoring scale on media used in this research ranges 1-6 as shown in Table 2, corresponding to the measuring scale for media as stated by Chris M. Worsnop [9] (Worsnop, 1999). In digital media literacy, specifically analyzing, evaluating, and communicating skills to measure an attitude, the scoring would be as follows:

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Table 2.
Scoring Scale

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Levels	Answers
Level 1	Do Not Know
Level 2	Strongly Disagree
Level 3	Not Agree
Level 4	Less Agree
Level 5	Agree
Level 6	Strongly Agree

Data Collection Method

This research used the primary data which resulting from the arranged questionnaire based on indicators of digital literacy. Questionnaire is a set of logical questions related to the problem formulation arranged based on indicators from the variables of Digital Literacy research. In this research, data was collected from several junior high schools in Kulonprogo district, Yogyakarta as the research sample. Therefore, the research sample was taken using

random method sampling technique, so that entire population (schools) got the same chance to become the sample of research.

The method used in this research was quantitative method with survey approach by distributing questionnaire. The subject of research consisted of teenagers in Kulonprogo District and the object was Digital Literacy. The population of research consisted of junior and senior high school students, and college students in Kulonprogo area. This research aims to take junior and high school students and college student, both female and male, as the sample. Age limitation for respondents was 13-25 years old based on APJJ 2017 data, the majority internet penetration is the age ranging13-18 years old (75%) and 19-34 (74.23%). This research is not aimed at generalizing digital literacy entirely, but it is an initial representation of digital literacy in Kulonprogo District.

The population was 100 teenagers in Kulonprogo Districts based on the limit theorem standard. The sampling techniques used were multistage (purposive sampling) and accidental sampling ones.

Result and Discussion

The researchers divide the Digital Literacy Index based on the Mean value (score) in the form of a percentage into 3 (three) categories: *Basic* Digital Literacy Index Category with mean score of 17% - 45%, *Intermediate* Digital Literacy Index Category with mean score of 45.01% -73%, and Digital *Advance* Literacy Index Category with mean score of 73.01% - 100%. Research Data on Teenagers Digital Literacy Index in Kulonprogo district is shown in the table below:

Functional Skill and Beyond Dimension

Table 3.

The Result on Functional Skill and Beyond

No	Indicator	Questions	%	Index
1	Functional Skill and Beyond	I use a smartphone as a daily communication medium	82%	79.48%
		I use other digital devices (laptop, personal computer or tablet) as a means of communication technology	68.6%	
		I follow the development of information and communication technology	92.2%	
		I am able to download files, applications or programs on a smartphone, laptop, PC or tablet	78.6%	

		I am able to upload files via smartphone, laptop, PC or tablet	76%	

From the dimension of functional skill and beyond, the teenagers in Kulonprogo have very good skill to use digital technology and digital media, with average score of 79.48 for the ability of using digital devices (laptop, personal computer or tablet) as a means of communication technology, downloading and uploading files via applications or programs on smartphone, laptop, PC or tablet.

Creativity Dimension

The creativity dimension is an ability of creating content in audio-visual format, to be uploaded via digital devices (smartphone, laptop, PC or tablet). It is also an ability of using social media accounts to upload audio and video contents. In this dimension, the average value is 68.68, meaning it is at the intermediate level. At the same time, it is the dimension with lowest value compared with other dimensions.

Table 4.
Creativity Dimension

No	Indicator	Questions	%	Index
2	Creativity	I am able to create content in image or photo (visual) format to be uploaded via digital devices (smartphone, laptop, PC or tablet)	71%	68.68%
		I am able to create video content (audio-visual) to be uploaded via digital devices (smartphone, laptop, PC or tablet)	70%	
		I am able to do photo or video editing using digital devices	69.6%	
		I own and use social media accounts (Facebook, Instagram, Twitter, Line, TikTok, etc.) to upload photo and video content	74.6%	
		I own and use a Youtube channel to upload creative video content	58.2%	

Collaboration Dimension

The collaboration dimension is an ability of using digital media (online media, blogs, vlogs, social media) as a space to exchange opinions (discuss) with other people, and ability of taking part in training, seminars, or workshops held online. From this dimension, teenagers in Kulonprogo district have 74.2% score or at intermediate level.

Table 5.

Collaboration Dimension

No	Indicator	Questions	%	Index
3	Collaboration	I am able to use digital media (online media, blogs, social media vlogs) as a space to express opinions widely	67.4%	74.2%
		I am able to use digital media (online media, blogs, vlogs, social media) as a space to exchange opinions (discuss) with other people	68.6%	
		I am able to use digital media (online media, blogs, vlogs, social media) to complete school assignments or study in groups	79.4%	
		I have a group on social media (Facebook, Whatsapp, Line) to discuss with other people	83.6%	
		I am able to use digital media to take part in training, seminars, or workshops held online	69.6%	

Communication Dimension

This dimension of digital literacy means being a person who is able to communicate through digital technology media. Effective communication and digital literacy are closely linked to the ability of sharing thoughts, ideas and insights. Teenagers in Kulonprogo district have very good communicating ability using digital technology and media, with score of 77.12%.

Table 6.

Communication Dimension

No	Indicator	Questions	%	Index
4	Communication	I am able to use digital media (online media, blogs, vlogs, social media) to	77%	77.12 %

		communicate with other people	
		I am able to take advantage of digital media features (online media, blogs, vlogs, social media) to deliver messages to others	77.8 %
		I am able to share (share) thoughts and ideas using digital media (online media, blogs, vlogs, social media)	71.2 %
		I am able to understand my audience when I share thoughts and ideas using digital media (online media, blogs, vlogs, social media)	78.8 %
			80.8 %

Ability of Finding and Selecting Information

The Ability of Finding and Selecting Information is a dimension related to a person's ability of searching for and selecting information. Here, someone is required to think careful of finding information and sources selectively. The teenagers in Kulonprogo are able to choose and to sort a valid source of information or media with score of 75.95% or at advanced level of digital literacy.

Table 7.
The Ability of Finding and Selecting Information Dimension

No	Indicator	Questions	%	Index
5	The Ability of Finding and Selecting Information	I am able to find information using digital media (online media, blogs, vlogs, social media)	81%	75.95%
		I am able to choose a valid source of information or media	76%	
		I am able to sort and to select the information in digital media according to my needs	80.8%	
		I understand the problem of plagiarism in digital media	66%	

Critical Thinking and Evaluation Dimension

This ability is to analyze the truth of information in digital media (online media, blogs, vlogs, social media), and to distinguish false information (hoax, mis-information, dis-information) in digital media. Teenagers in Kulonprogo district have sufficient ability in this dimension, with average score of 69.47%.

Table 8.

Critical thinking and Evaluation Dimension

No	Indicator	Questions	%	Index
6	Critical Thinking and Evaluation	I am able to analyze the truth of information in digital media (online media, blogs, vlogs, social media)	71.8%	69.47%
		I am able to distinguish false information (hoax, mis-information, disinformation) in digital media (online media, blogs, vlogs, social media)	73%	
		I reported information I thought false to the hoax complaint page (kominfo.go.id, turnbackhoax.id, jabarsaberhoaks, and others)	64.4%	

Cultural and Social Understanding Dimension

Table 9.

Cultural and Social Understanding

No	Indicator	Questions	%	Index
7	Cultural and Social Understanding	I know and understand social and cultural norms in Indonesia in receiving information through digital media	80.4%	80.87%
		I understand and understand ethics in the digital world (internet ethics) and digital media	81.4%	
		I adhere to internet ethics in utilizing digital media	80.8%	

The Cultural and Social Understanding dimension is an ability of knowing and understanding the social and cultural norms, and ethics in Indonesia in receiving information through digital media. Teenagers in Kulonprogo district have average score of 80.87% in this dimension.

E-Safety Dimension

The E-Safety dimension emphasizes on the choices that ensure safety when users explore, create, and collaborate with digital technology. From this dimension, teenagers in Kulonprogo have very good ability with mean score of 80.2%. It means that they have abilities of safeguarding personal data when using technology and digital media and likewise of maintaining security while using technology and digital media creatively.

Table 10.

E-safety

No	Indicator	Questions	%	Index
8	E-Safety	I know and understand technology and digital data security	77.4%	80.2%
		I am able to safeguard personal data when using technology and digital media	82.8%	
		I am able to maintain security while using technology and digital media creatively	80.4%	

Conclution

Table 11.

Digital Literacy Dimension Values

No	DIMENSION	MEAN	Standard Deviation
1	Functional Skill and Beyond	79.48	8.65
2	Creativity	68.68	6.18
3	Collaboration	74.2	6.95
4	Communication	77.12	3.6
5	The Ability of Finding and Selecting	75.95	6.08
6	Critical Thinking and Evaluation	69.47	4.66

7	Cultural and Social Understanding	80.87	0.5
8	E Safety	80.2	2.71
Average		75.75	

From the data of research, the highest digital literacy value is found in Cultural and Social Understanding dimension with score of 80.87. However, the standard deviation is low with a value of 0.5, where the distance between the samples is still too close to the average. Creativity is the dimension with the lowest score, 68.68. Functional Skills and Beyond dimension has a high standard deviation value, 8.65, where the higher the standard deviation value, the more widely is the sample data is spread. Overall, teenagers in Kulonprogo have digital literacy skills at an advanced level, with score of 75.75.

This study gives an illustration that the millennial generation in Kulonprogo district needs to improve Digital Literacy in the aspect of creativity. Practical advice from this research is that the data obtained can be a basis for stakeholders in providing education using technology and digital media optimally and safely. Then, academic advices for further research are to use methods that involve two or more variables or to use qualitative research to obtain more in- depth and comprehensive research results. Also, further research can be carried out on a larger scale, both regionally and nationally.

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