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## **The Role of Teachers in the Application of Digital Literacy to Create a Digital Literate Generation**

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**Abstract.** Entering the era of the industrial revolution 4.0, especially the world of education, schools, teachers and students live in an advanced digital world. In this regard, the existence and role of teachers is very important for digital literacy. In today's conditions, the role of the teacher is very necessary, as it is known that the content on the internet is almost unlimited with a variety of information with an abundance of volume, while teachers and parents cannot always control internet access by students at all times. This study aims to answer the question of how digital literacy is implemented in schools and what are the obstacles faced by teachers in teaching digital literacy. This is a qualitative research with a phenomenological approach. Data collection was obtained from in-depth interviews with 20 teachers. This research shows that there are still many teachers who have not had the opportunity to take part in training related to digital literacy, both organised by the government and the private sector. Therefore, teachers are expected to be proactive in seeking information related to digital literacy from various sources. This study also proves that socialisation related to digital literacy is still very lacking. The government and related parties must be more intensive in conducting socialisation so that the community, especially parents, also understands the importance of digital literacy.

**Keywords.** Digital literacy, digital literate, teacher

### **Introduction**

The Covid-19 pandemic and the rapid development of technology have changed the way people live and work. The presence of technology as part of the needs of the community further reinforces insight into technology. One way to support the realization of this digital transformation agenda is to create a digital society. Because people's digital literacy skills play an important role in it,

Since the advent of optical cable technology and web browsers, the flow of information spread around the world has become increasingly uncontrollable and has resulted in what is referred to as the "digital information explosion" (Halpern, 2003). Data released by IBM (2014) shows that the world currently produces about 2.5 quintillion data in the form of files, print and digital media.

Digital literacy skills are the most basic and most crucial in facing current technological developments. To create an Indonesian people who are not only acquainted with technology but are also careful in using technology in this era of disruption, Katadata conducted a national digital literacy reading status survey referring to the UNESCO digital literacy

framework. The results of the study show that the digital literacy index of Indonesia is at 3,407 from a scale of 1 to 4. It shows that the digital literacy index of the Indonesian people is only slightly above medium, but has not reached a good level.

The world of education is a sector that has been most affected during this pandemic. Parents, students and teachers are a golden triangle that must adapt to Distance Learning activities, both offline and online. These conditions inevitably encourage this golden triangle to adapt to technology. In facing Distance Learning during this pandemic, teachers and parents need to have an understanding of digital literacy. The proximity of children to social media is vulnerable to negative influences. Then understanding digital literacy can also prevent cyber bullying or phishing or fraud under the guise of lure in the digital world.

Through a search engine, a person can easily find the reference material he wants in "real time" at a very, very low cost. All of this is possible because teaching materials and interaction processes have been successfully "digitised" by technological advances. Friedman (2007), describes this change as "the world is flat" referring to a condition where the world has been freed from the boundaries of distance and time due to technological developments. One well-known figure is Paul Gilster who defines digital literacy as the ability to understand and use information from various digital sources (Fery, 2020). Trilling & Fadel (2009), said that in the 21st century education must always move in line with the progress of the times - this movement is based on a change in the educational paradigm from conventional to modern education.

Table 1  
Differences in the Old Education Paradigm and 21st Century Education

<b>Old Paradigm</b>	<b>21st Century Paradigm</b>
Teacher Centred	Student Centred
Live Teaching	Interactive Learning
Knowledge	Skills
Subject Matter	Process
Basic Skills	Applied Skills
Facts and Principles	Questions and Problems
Theory	Practice
Material Based	Project Based
Limited Time	Needs Based
Competitive	Collaborative
One Size fits all	Personalised
Focus on Class	Focus on Global Communication
Text Based	Web Based
Summative Test	Formative Evaluation
Learn to continue study	Learn for Live

Source : Trilling & Fadel (2009) in Afandy (2016)

Komang, et al, (2020) mention that technological developments also have an impact on the education sector. Various digital teaching resources termed as e-resources are available

in abundance on the internet. The digital era provides a variety of information on the internet, both verified and not. Therefore, a strategy is needed in tracing sources of information so that the information obtained is information that is as needed, valid and can be accounted for. The problem is that teachers tend to use this information as a reference for developing learning resources or compiling learning tools. This is because teachers do not have the technique of searching for information sources on the internet in the sense that they do not have adequate digital literacy, where this literacy is one of the competencies that teachers must have.

Based on the problems encountered in the field, this research is intended to answer the question of how teachers apply digital literacy education to their students and what obstacles are experienced by teachers when implementing digital literacy. This research will contribute not only to educators but also to parents and the world of education in general.

### **Literature Review**

#### *Digital-based learning*

Digital Learning is a technology learning media that is growing rapidly and is used today in learning. As explained by Suciati (2018, p. 152), digital learning is a tool that can enable students to hone skills according to the times and is designed to provide opportunities for students to develop critical reasoning and problem solving, through collaboration and communication. Meanwhile, Fitriani, et al (2017, p. 145) revealed that digital learning is an opportunity for students to find wider sources of information by accessing the internet either on search engines such as Google, YouTube. Learning to use digital technology is a 'setting' that can provide stimulation to all students' senses in learning.

Digital Learning is also known as Multimedia Learning. The term multimedia has different meanings for different people. For some people, multimedia is being in front of a computer terminal and enjoying a presentation consisting of text on the screen, graphics on the screen or animation on the screen and sound coming out of a loudspeaker. Meanwhile Digital Learning According to Dede Salim, Rasyid and Cahyaningsih (2020, p. 117) Digital/online learning is a part of distance education, which is defined as the delivery of formal instruction in which time and geographic location separate students from their educators.

Digital learning is essentially learning that involves the use of innovative digital tools and technology during the teaching and learning process and is often also referred to as Technology Enhanced Learning (TEL) or E Learning. Understanding digital learning includes aspects of hardware (infrastructure) in the form of a set of computers that are interconnected with each other and have the ability to transmit data, either in the form of text, messages, graphics, video and audio. With this capability, digital learning can be interpreted as an interconnected computer network. Digital learning is a form of information technology that is applied in the field of education in the form of a virtual world or it can also be called E-learning learning. The term digital learning is more appropriately intended as an effort to make a transformation of the existing learning process in schools or universities into digital form which is bridged by Internet technology (Sucipto and Kustandi, 2011).

There are 3 potentials for digital learning that can be utilised in everyday life, namely as a communication tool, a tool to access information, and an educational or learning tool:

(a). Potential Communication Tools by using digital learning, can communicate anywhere quickly. For example, you can communicate using email, or discuss via chat or mailing lists.

(b). Potential for Access to Information Through digital learning, various information can be accessed, such as weather forecasts, economic, social, political, cultural, scientific, and technological developments presented by various sources without having to subscribe.

(c). Potential for Education and Learning The rapid development of digital learning technology and spread to all corners of the world has been utilized by many countries, institutions, and experts for various purposes including for education and learning (Kenji, 2003).

According to Husamah (2014, p. 11) there are four characteristics of digital learning in the model (blended learning), namely as follows: (a) Learning that combines various delivery methods, learning models, learning methods, and various technology-based learning media, (b) As a modification of conventional or face to face learning (face to face), independent learning, and online learning (e-learning), (c) Learning is supported by an effective combination of teaching and delivery methods, learning models, and learning methods, (d) Educators and parents of students have the same important role, educators as facilitators, and parents as supporters.

#### *Digital Literacy*

The concept of digital literacy itself was first introduced by Paul Gilster. Paul Gilster first put forward the term digital literacy in his book of the same title (Gilster, 1997 in Riel, et. al. 2012: 3). He stated that digital literacy is the ability to use technology and information from digital devices effectively and efficiently in various contexts such as academics, careers and daily life (Riel, et. al. 2012: 3). Gilster's opinion seems to simplify digital media which actually consists of various forms of information at once such as sound, text and images.

One of the digital divides is the gap between those who have access and can have the ability to use ICT and those who do not have the ability to use it (Hargittai, 2003). In the digital divide, there are three main aspects that are interconnected and are the focus that needs attention, as follows (Camacho, 2005): (a). Access/infrastructure (access/infrastructure): Differences in ability between individuals in obtaining access or ICT infrastructure which causes differences in the distribution of information, (b). Ability (skills & training): Differences in ability between individuals in utilizing or using the access and infrastructure that has been obtained. Next is the difference between individuals in the effort to achieve the ICT capabilities needed to be able to take advantage of ICT access and infrastructure, (c). Information content (content/resource): Differences between individuals in utilizing the information available after someone can access and use the technology according to their needs.

The European Commission (2009) explains that to master digital literacy, individual competence is needed which consists of technical competence, critical understanding, as well as the ability to communicate and participate. Technology users are not only required to be proficient in technical competence using the internet. However, they are also required to be able to think critically about the various contents displayed by the internet, so that they are able to use technology effectively for their own interests. In addition, the use of Information and Communication Technology (ICT) is also required to be able to build social relations and participate in society through the internet. To build social relations, one needs to have the ability to communicate well via the internet. Like communicating face-to-face or communicating through mass media, communicating via the internet requires ethics so that relationships can work well without hurting or offending other people's feelings.

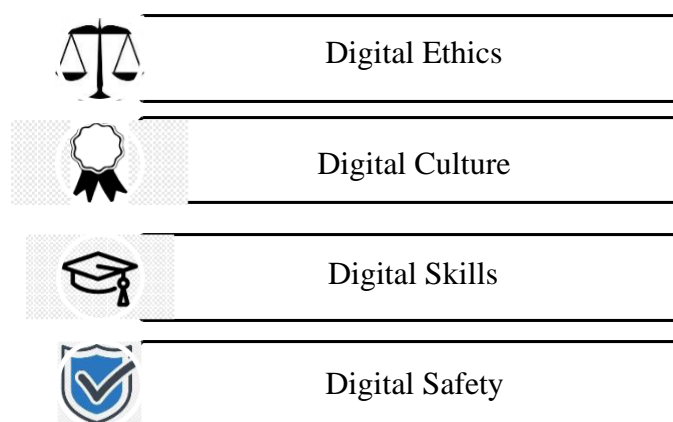
Meanwhile, Douglas A.J. Belshaw in his thesis *What is 'Digital Literacy'?* (2012) said that there are eight essential elements for developing digital literacy, which are as follows:

- (a). Cultural, namely understanding the various contexts of users of the digital world;
- (b). Cognitive, namely the power of thought in assessing content;
- (c). Constructive, namely the creation of something that is expert and actual;
- (d). Communicative, namely understanding the performance of networks and communications in the digital world;
- (e). Responsible self-confidence;
- (f). Creative, doing new things in new ways;
- (g). Critical in addressing content; and digital literacy as a life skill; and (h). Socially responsible.

Different from Belshaw, Gilster (1997:3) classifies digital literacy into four core competencies, namely; (a). Internet Searching, namely a person's ability to use the internet and perform various activities in it, (b). Hypertextual Navigation, namely is a skill to read and dynamically understand the hypertext environment. So someone is required to understand the navigation (guidance) of a hypertext in a web browser which is certainly very different from the text found in textbooks, (c). Content Evaluation, namely a person's ability to think critically and provide an assessment of what is found online accompanied by the ability to identify the validity and completeness of information referenced by hypertext links, (d). Knowledge Assembly, which is an ability to organise knowledge, build a collection of information obtained from various sources with the ability to collect and evaluate facts and opinions properly and without prejudice. This is done for certain purposes, both education and work.

Another opinion was expressed by Beetham, Littlejohn and McGill (2009) quoted by Sarah Davies (2015), that there are seven important elements related to digital literacy, namely information literacy, digital scholarship, learning skills, ICT literacy, career and identity management, communication and collaboration, media literacy. In Indonesia, the Ministry of Communication and Information launched 4 pillars of digital literacy which are considered important and must be owned by all people, namely ethics in digital, culture in digital, proficient in digital, and safe in digital (Kominfo, 2021)<sup>1</sup>.

**Figure 1**  
**Four Pillars of Digital Literacy**



**Source: Kominfo (2021)**

<sup>1</sup>[https://kominfo.go.id/content/detail/33924/siaran-pers-no123hmkominfo042021-tentang-kominfo-luncurkan-4-modul-literasi-digital/0/siaran\\_pers](https://kominfo.go.id/content/detail/33924/siaran-pers-no123hmkominfo042021-tentang-kominfo-luncurkan-4-modul-literasi-digital/0/siaran_pers)

(1) Digital Ethics

Digital ethics means the ability of individuals to realize how to adapt and apply ethics when using digital technology. Examples of digital ethics are not spreading fake news and not bullying cyberspace

(2) Digital Culture

Digital culture is the result of human creations and works based on internet technology. Digital culture can also be reflected through the way we interact, behave, think and communicate in the digital world. One example of digital culture is the activity of using social media to online shopping.

(3) Digital Skills

Digital skills mean the ability to effectively evaluate and create information using various digital technologies. One of the digital skills is using social media to using online shopping platforms.

(4) Digital Security

Digital Security is the activity of securing digital activities, one of which is reflected through the use of passwords to understanding One Time Password (OTP) and cyber security.

### **Research Method**

This is a qualitative research with a phenomenological approach. The term phenomenology was introduced by Johann Heinrich Lambert, in 1764. However, Edmund Husserl (1859-1938) is more regarded as the father of phenomenology, because of the intensity of his studies in the realm of philosophy. Phenomenology that we know through Husserl is the science of phenomena. However, Alfred Schutz is better known for building this perspective. It was through Schutz that Husserl's thought that was perceived as abstract could be understood, and was more "down to earth".

According to Husserl, a phenomenon is anything that appears in a certain way in human consciousness, either in the form of something as a result of fiction or in the form of something real, in the form of ideas or in the form of reality (Delfgaauw, 1988: 105). Thus, citing the opinion of Creswell (1998:51) phenomenology seeks to explain the meaning of the life experiences of a number of people about a concept or phenomenon, including their own self-concept or view of life.

Littlejohn (1996:204) states: "phenomenology makes actual lived experience the basic data of reality". So, in phenomenology, real life experiences are the basic data of reality. In the study of phenomenology, what is important is the development of a method that does not falsify phenomena, but can describe them as they appear. For this purpose, the phenomenologist should focus his attention on the phenomenon without any prejudice. A phenomenologist should put aside all theories, presuppositions and prejudices, in order to understand phenomena as they really are. Understanding phenomena as they really are is an attempt to return to things as they appear in consciousness (Delfgaauw, 1988: 105).

According to Watt and Berg (1995:417), phenomenology is not interested in studying causal aspects of an event, but seeks to understand how people experience an experience and the meaning of that experience for themselves. This is one of the reasons why the researcher uses phenomenology for this research, because it is in accordance with the concept of research that focuses on the experience of the informant.

Data collection from this research was obtained by in-depth interviews. Researchers chose semi-structured interviews because the interviews that took place referred to a series of

open-ended questions. This method allows new questions to arise because of the answers given by the resource person so that during the session information mining can be carried out more deeply (Creswell, 2014). In this study, researchers interviewed 20 teachers of private schools in Jakarta, The reasons why the researchers chose Jakarta as the location of the research is because Jakarta is the capital city of Indonesia which is a role model for other regions throughout Indonesia.

Creswell (1998: 147-150), explains the data analysis techniques in phenomenological studies as follows: (a). The researcher fully describes the phenomena/experiences experienced by the research subjects, (b). The researcher then finds statements (interviews) about how people find the topic, details these statements and the treatment of each statement has an equal value, then the details are developed by not repeating, (c). The statements are then grouped into meaningful units, the researcher details the units and writes a text explanation about the experience accompanied by careful examples, (d). The researcher then reflects his thoughts by using imaginative variations or structural descriptions, looking for all possible meanings and through divergent perspectives, considering the frame of reference for the symptoms (phenomenon), and constructing how these symptoms are experienced, (e). The researcher then constructs the entire explanation of the meaning and essence of his experience.

The results of interviews with teachers are summarised in the following table.

Table 2  
Results of interviews with 20 teachers in Jakarta

I.	Teaching 4 Pillar of Digital Literacy	Teachers' responses
A.	Digital Ethics	Students must understand the following things: (a) Do not trust easily the news from social media. (b) Do not directly spread out the news without seeking the truth (c) Do not do bullying (d) Do not use social media as a means to commit crimes (e) Be able to filter out good and bad content, which is polite and impolite, worth seeing and not worth seeing.
B.	Digital Culture	Students must understand: (a) How to communicate digitally (b) How to interact with others digitally (c) How to use good language in communicating digitally (d) How to behave in every activity in the digital world
C.	Digital Skills	(a) Students must be skilled in using digital devices (b) Students are able to use digital technology to do positive things such as: - Learning online - Doing tasks online - Creating positive and useful content for many people

		- Creating a new program or application
D.	Digital Safety	Students must understand how to: (a) maintain data security in the digital world (b) prevent becoming a victim/perpetrator of cyber crime. (c) take care not to fall into negative things and endanger yourself
II.	Implementation of Digital Literacy	(a) Integrated with the class subjects (b) Teachers always remind students about the digital literacy before starting the lessons
III.	Problems faced by teachers in implementing Digital Literacy	(a) Not all students are able to understand digital literacy quickly Not all students understand how to apply digital literacy (b) in everyday life. There are still many students who do not understand (c) the ethics of communicating digitally (d) There are still many students who easily believe in hoaxes There are still many students who have not been able (e) to use good language in digital communication. (f) There are still students who are bullying There are still many students who have not been able (g) to filter out positive content and negative content.
IV	Where did teachers learn Digital Literacy	(a) Training held by the Ministry of Communication and Information (5 teachers) (b) Information from the Website of KOMINFO (c) Information from the internet
V.	Teachers' Expectations	(a) Training from the government must be carried out regularly so that later all teachers will have the opportunity to participate (b) There must be more intensive socialisation related to digital literacy so that parents also understand the importance of this.

### **Discussion**

From the results of researcher interviews with 20 private school teachers in Jakarta, data were obtained that teachers teach digital literacy in 2 ways, namely, by integrating it with classroom subjects and the teacher reminding students about digital literacy at the beginning of the meeting before entering the material.

“I apply digital literacy in an integrative way, which is integrated with the subjects. But it's not easy. The results cannot be seen immediately because the level of students' ability to understand a lesson is different. There are students who understand quickly but there are also those who, even though they have been told repeatedly, still bully their friends, still spread news that is not yet certain, and have not been able to filter out good and bad content.” (RU – High School Teacher)

“I prefer to teach digital literacy in an integrated way with subjects, for example, when I am teaching Indonesian, I also remind students to use good and polite Indonesian when writing on social media or when communicating with teachers, parents, and older person.” (KI-Elementary school teacher)

From the answers of the teachers above, it can be concluded that there are still many students who do not understand digital ethics and culture even though teachers have provided digital literacy knowledge. Freedom of expression must adhere to the ethics of communication and good self-control (Anwar, 2017) and understanding ethics in cyberspace is a guide for millennial to be more literate on the internet (Fahrimal, 2018). In line with the statements submitted by the interviewed teachers, in schools, digital literacy can be integrated into subjects, one of which is Indonesian. In Indonesian subjects, for example, there are several skills that must be mastered by students such as reading, listening, and writing. If integrated with digital literacy, reading, listening and writing skills are carried out using digital media such as through computers, the internet (blogs, social media, web), and smartphones. Students can be invited to analyse and respond to fake news and true news spread on the internet (Damayanti, 2019).

The results of the interview also show that teachers play a very important role in the digital literacy of their students. Not all teachers receive training from the government regarding digital literacy. Of the 20 teachers interviewed, it turned out that only 5 teachers had participated in the training organised by the Ministry of Communication and Information (because the school received an invitation), while the other 15 had never. Therefore, teachers who do not or have never received training really need to seek information and learn how digital literacy should be implemented in schools.

“I have never attended any Digital Literacy training, either organised by the government or other institutions. So, for now, I'm only looking for information on my own through the internet regarding digital literacy, so that I can become competent and have good communication skills. I think many teachers are currently doing what I do so that digital literacy can be understood by students. I think this training should be carried out more often because it is very important for all teachers. In addition, socialisation needs to be done intensively so that parents also become digital literate.” (GU- High school teacher)

This is in line with the statement of the European Commission (2009) which explains that in order to master digital literacy, individual competence is required which consists of

technical competence, critical understanding, as well as the ability to communicate and participate. Teachers have a strategic role in improving the quality of education, so that appropriateness is needed at certain types and levels. Therefore, the quality of teachers is a key factor in implementing the curriculum, especially in the context of classroom learning (Rizali et.al., 2008).

### **Conclusion**

From the analysis conducted, it can be concluded that there are still many teachers who have not had the opportunity to attend training related to digital literacy, both organised by the government and the private sector, even though this training is very important for teachers to be able to convey digital literacy well. This study also proves that socialisation related to digital literacy is still very lacking. The government and related parties must be more intensive in conducting socialisation so that the community, especially parents, also understands the importance of digital literacy. For further research, the researcher suggests that research related to digital literacy be carried out with a different approach.

### **References**

- [1] Ahmad Rizali, Indra Djati Sidi, dan Satria Dharma. (2008). *Dari Guru Konvensional Menuju Guru Profesional*. Jakarta : Grasindo.
- [2] Ana Hadiana, Kenji Kaijiri. (2003). Collaboration Learning Support System Using Q&A, 4th *International Conference of Information Technology for High Education and Training*.
- [3] Anwar, F. (2017). *Perubahan dan permasalahan media sosial*. *Jurnal Muara Ilmu Sosial, Humaniora, dan Seni*, 1(1), 137–144. <https://doi.org/10.24912/jmishumsen.v1i1.343>
- [4] Camacho, K. (2005). “ *Digital Divide, Multicultural Perspectives on Information Societies*”, C & F Editions. 2005.
- [5] Creswell, J. W. (2014). *Research Design: Qualitative, Quantitative and Mixed Methods Approaches* (4th ed.). Thousand Oaks, CA: Sage.
- [6] Creswell, J.W. (1998). *Qualitative Inquiry and Research Design: Choosing Among Five Tradition*. London: Sage Publications. P.147-150.
- [7] Davies, Sarah (2015), *Spotlight on digital capabilities*. <http://digitalcapability.jiscinvolve.org/wp/2015/06/05/spotlight-on-digital-capabilities/>, (accessed 5 January 2022)
- [8] Damayanti Isma. (2019). Optimalisasi Literasi Digital Dalam Pembelajaran Bahasa Indonesia Sebagai Upaya Penguatan Karakter. *Prosiding Seminar Nasional Fakultas Ilmu Sosial Universitas Negeri Medan Vol 3 Tahun 2019*, hal 1004 - 1009
- [9] Delfgaauw, Bernard. (1988). *Filsafat Abad 20*. Terj. Soejono Soemargono. Yogyakarta: Tiara wacana Yogya. Hal. 105.
- [10] European Commission. (2009). *Key Data on Education in Europe*. <https://op.europa.eu/en/publication-detail/-/publication/e74d5a0a-74c3-4d18-b284-d7e0172cdf71>
- [11] Fahrimal, Y. (2018). *Netiquette: Etika jejaring sosial generasi milenial dalam media sosial*. *Jurnal Penelitian Pers dan Komunikasi Pembangunan*, 22(1), 69–78. <https://doi.org/10.46426/jp2kp.v22i1.82>
- [12] Feri Sualianta. (2020). *Literasi Digital, Riset, Perkembangannya Dan Perspektif Social Studies*. Jakarta: Feri Sualianta. Hal. 6.

- [13] Fitriani, Y. (2017). Analisis Pemanfaatan Berbagai Media Sosial Sebagai Sarana Penyebaran Informasi Bagi Masyarakat. *Jurnal Paradigma*, 19(2), 148–152. <https://doi.org/https://doi.org/10.31294/p.v19i2>.
- [14] Friedman, M. (2007). The Social Responsibility of a Business Is to Increase Its Profits. In *Corporate Ethics and Corporate Governance* (pp. 173-178).
- [15] Gilster. (1997). *Digital Literacy*. New York: Wiley.
- [16] Halpern, D. F. (2003). *Thought & knowledge: An introduction to critical thinking* (4th ed.). Lawrence Erlbaum Associates Publishers.
- [17] Hargittai, E. (2003). *The Digital Divide and What To Do About It*. [Online] Available at: [www.princeton.edu/~eszter/research/pubs/hargittai-digitaldivide.pdf](http://www.princeton.edu/~eszter/research/pubs/hargittai-digitaldivide.pdf) accessed 21 January 2022
- [18] Husamah. (2014). *Pembelajaran Bauran* (Blended Learning). Hal 14. Jakarta: Prestasi Pustaka.
- [19] IBM (2014) *Cloud Computing and Big Data*. <https://www.ibm.com/blogs/cloud-computing/2014/02/10/cloud-computing-and-big-data-an-ideal-combination/>
- [20] Kominfo (2021) *Gencarkan Literasi Digital*, Kominfo [https://kominfo.go.id/content/detail/39472/gencarkan-literasi-digital-kominfo-pemerintah-dorong-publik-kuasai-teknologi-digital/0/berita\\_satker](https://kominfo.go.id/content/detail/39472/gencarkan-literasi-digital-kominfo-pemerintah-dorong-publik-kuasai-teknologi-digital/0/berita_satker)
- [21] Kustandi, Bambang Sucipto. (2011). *Media Pembelajaran Manual dan Digital*. Bogor: Ghalia Indonesia. hlm.79.
- [22] Littlejohn, Stephen W. (1996). *Theories of Human Communication*. Belmont: Thomson Learning Academic Resource Center. Hal 204.
- [23] Nahdi Salim, Dede, Abdur Rasyid, Ujiati Cahyaningsih. (2020) Meningkatkan Kompetensi Profesional Guru Melalui Pengembangan Media Pembelajaran Berbasis Teknologi Informasi. BERNAS: *Jurnal Pengabdian Kepada Masyarakat* Vol. 1 No. 2, April 2020 , pp. 76-81 DOI: <https://doi.org/10.31949/jb.v1i2.234>
- [24] Ni Komang Suni Astini. (2020) Pemanfaatan Teknologi Informasi dalam Pembelajaran Tingkat Sekolah Dasar pada Masa Pandemi Covid-19. STKIP Agama Hindu Amlapura. *Jurnal Lampuhyang* DOI: <https://doi.org/10.47730/jurnallampuhyang.v11i2.194>
- [25] Riel, J., Christian, S., & Hinson, B. (2012). Charting digital literacy: A framework for information technology and digital skills education in the community college. *Presentado en Innovations*. P 3.
- [26] Sualianta, Fery. (2020). *Literasi Digital, Riset, Perkembangannya dan Perspektif Social Studies*. Jakarta : Grasindo. Hal. 6
- [27] Suciati. (2018). Pengembangan kreativitas inovatif melalui pembelajaran digital. *Jurnal Pendidikan*. Hal 152. DOI:10.33830/jp.v19i2.731.2018
- [28] Trilling, B., & Fadel, C. (2009). *21st century skills: Learning for life in our times*. Jossey-Bass/Wiley.
- [29] Watt, James H. dan Sjef A. Van den Berg. (1995). *Research Methods for Communication Science*. Boston: Allyn and Bacon. P.417.
- [30] [https://kominfo.go.id/content/detail/33924/siaran-pers-no123hmkominfo042021-tentang-kominfo-luncurkan-4-modul-literasi-digital/0/siaran\\_pers](https://kominfo.go.id/content/detail/33924/siaran-pers-no123hmkominfo042021-tentang-kominfo-luncurkan-4-modul-literasi-digital/0/siaran_pers)
- [31] <http://ditpsd.kemdikbud.go.id/artikel/detail/literasi-digital-bagi-tenaga-pendidik-dan-anak-didik-di-era-digital>