



The Urgency of Digital Literacy in Indonesia on COVID-19 Pandemic

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ABSTRACT

For pupils, having a strong grasp of digital literacy is crucial, particularly in light of the COVID-19 pandemic. Every level of society is encouraged to have simple access to the internet by the use of distant learning. In this essay, we will investigate the state of digital literacy in Indonesia at the time of COVID-19 epidemic. A systematic review was used as the research methodology in this study. Campaigns to promote digital literacy are crucial during the COVID-19 epidemic, according to the research findings. Dealing with the COVID-19 outbreak will be made easier with the help of digital literacy. During the COVID-19 epidemic, the digital literacy movement will assist the general people in finding the appropriate information and passing the time. The following are other crucial elements in the development of digital literacy. 1) Understanding culture, namely the diverse contexts in which users of the digital world operate; 2) Cognitive, or the capacity for cognition when evaluating the content; three) constructive Communication, specifically an awareness of network and communication performance in the digital age, self-assurance in one's ability to act responsibly, creativity—doing things differently—critical thinking about content, and social responsibility.

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1. INTRODUCTION

Experts and policy makers agree that literacy digital needs to be implemented in the educational process. Digital literacy competence is central for students, especially in the time of the COVID-19 pandemic. Application of distance learning encourage easy internet access for every layer Public. With the ease of internet access, will certainly have a positive impact in the form of access to unlimited electronic learning resources, but can't It is undeniable that it also raises some problems, for example, is the rise of false information or hoax that recently circulated. The definition of digital literacy put forward by List1 as ability to gain understanding and knowledge of information technology

resources [1]. The concept of digital literacy was born of a long process. This concept continues to transform from time to time. 2 In the early days, this concept was known as media literacy which advocated the importance of a critical attitude towards television. This concept continues to be echoed until the birth of technology communication and the internet [2]. At a time when computers became common possessions many people, the concept of media literacy is starting to be adopted skills possessed by individuals to be able to operate computer hardware. Slowly but surely this concept transforms into information or digital literacy when the internet is massively used. Some scholars assert that digital literacy is related closely related to cognitive abilities 4 . In addition to learning engagement, online learning activities also allow students to engaging in social media, playing games and listening music [3]. According to Higgins et al, lack of digital literacy lead to low self-control which can lead to on deviance in cyberspace. array of literacy skills Digital technology can also cause children to become addicted using gadgets. 6 Deursen7 sees a psychological perspective, digital literacy can be demonstrate online behavior in children, including in terms of self-control. Digital literacy can affect children's self-control, making them aware of their responsibilities when, where and for how long they can access online learning independently [4]. 8 A study introduction by Mohammadyari and Singh 9 notes that individual level of digital literacy can affect student performance in facilitating the use of re-learning and reduce the negative impact of online activities. The general public, non-profit organizations [5], and active academics voicing digital literacy campaigns in various opportunity [6]. The movement was largely present because the emergence of concerns about the negative impacts that arise from the use of information technology. Therefore, they believes that it is necessary to take preventive measures so that people are not easily exposed to the negative impacts of the media, especially during the COVID-19 pandemic. From this background, the researchers conducted a review systematic review of several studies related to the urgency of digital literacy during a pandemic. Previously, researchers have reviewing relevant research as a study preliminary. Among the studies conducted by who studied digital media literacy in the family in the midst of the COVID-19 pandemic with the conclusion that to be able to use internet access optimally, A child needs supervision and direction from parents [7]. Furthermore, Suryanti, et al.,12 conducted a study on digital literacy as an urgent competency in the process education in the era of the industrial revolution 4.0. On the other hand, Dewi, et al.,13 examine cyber-bullying as a result of ease of access internet, explains that there are five factors that influence cyber-bullying in adolescents, namely individual factors including: experience of violence, perception, gender, age, psychological control, and use of addictive substances. Family factors include parenting, family support, and parental stress [8]. The friend factor is Support [9]. The school factor is the type of school [10]. The last factor is Internet use in the form of intensity and competence of ethical media. From the preliminary study, the researcher highlighted that digital literacy skills during the pandemic have become very significant [11].

2. LITERATURE REVIEW

This systematic review is encouraged by several research questions (RQ): RQ1 What is the urgency of digital literacy during a pandemic? RQ2 How to improve digital literacy? To ensure that the researcher's review is systematic, researchers follow several procedures:15 1. Making the scope of the review: the researcher starts with develop explicit criteria to define studies which will be included in the review. Searching the literature: researchers identify the relevant studies in various literatures. The database that used in this systematic review is a database Google Scholar, Emerald, and Taylor & Francis Online. The steps taken by the researcher are: first create relevant keywords for the study this. Researchers use the following keywords: ("digital literacy*" OR "digital literacy") AND ("covid 19" OR "pandemic" OR corona). 3. Filtering literature: each literature is filtered based on inclusion criteria. This helps avoid bias hidden, by having clear consistent rules about which study was used to answer research question. By assessing each study against the same criteria and recording the results, the basis the conclusions of the review are made transparent. The inclusion criteria used in this study are as follows: a) The literature must be relevant to at least one one of the research questions b) Literature published in the range of 2019- 2021 c) Literature is based on empirical research, good qualitative and

quantitative d) The literature has a methodologically described explicit e) Literature is geographically related to education in Indonesia 4. Describing and mapping: researchers describe methodology and findings from each of the included studies, including variables such as population focus, study design, and the main characteristics associated with the question study. It is used to compose a 'descriptive map' which provides a systematic description of activities research in relation to each question. 5. Quality and relevance assessment [12]. Synthesize literature findings. Conclusions/recommendations: the researcher draws up a series of recommendations that are closely related to the findings of the synthesis to create a transparent base on which each recommendations are made. This includes identification of potential limitations in generalizing or transferring the findings.

3. METHOD

This study uses a systematic review method for answer research problems. Systematic review is characterized as a scientific procedure guided by a set of rules specific and strict, which aims to establish the completeness, bias-free nature, and transparency, and methodological accountability and implementation of a scientific study. 14 Researchers conducted a review to several research publications and journals related to digital literacy in Indonesia [13]. This research aims to describe and explain the importance of literacy competence digital for the people of Indonesia. This study is conceptual explore the key components of how digital literacy campaigned, by reviewing selected scientific studies related to digital literacy.

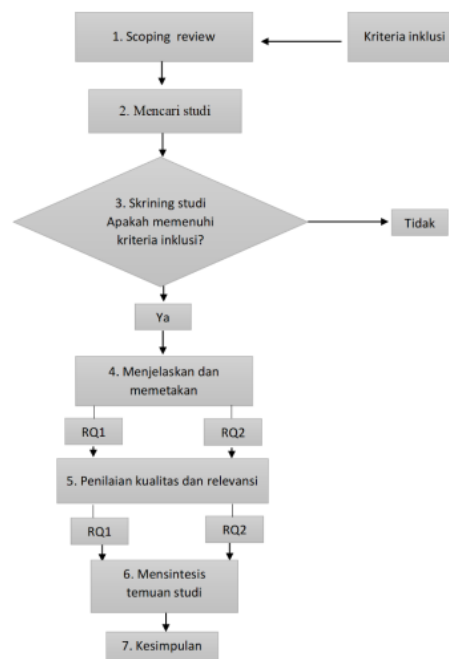


Figure 1. Research Framework

Table 1. The performance of ...

No	Sumber	Hasil	Seleksi
1	Google Scholar	9.950	6
	Total	9.950	6

Table 2. The performance of ...

No	Peneliti	Topik	Metode	Jenis
1	Yasid, dkk., (2020)	Strategi Pembelajaran	Kualitatif Deskriptif	Jurnal
2	Sutrisna, (2020)	Gerakan Literasi Digital	Studi Pustaka	Jurnal
3	Rochadiani, dkk., (2020)	Peningkatan Literasi Digital Pada Masa Pandemi COVID-19	Riset Partisipasi	Jurnal
4	Purnama, dkk., (2021)	Does digital literacy influence studentsonline risk?	Quantitative Method with SEM-PLS	Jurnal
5	Fitriarti, (2019)	Literasi digital dalam menangkal hoax	Studi Pustaka	Jurnal

4. RESULTS AND DISCUSSION

Search results of literature related to digital literacy in the future pandemic in the Google Scholar database, using the word the key that the researcher has created ("digital literacy*" OR "digital literacy") AND ("covid 19" OR "pandemic" OR corona), obtained data as many as 9,950 articles. The results are then narrowed down by filtering through abstracts, from this process the researcher got 10 articles that met the criteria. After the researcher reads the full text, leaving only 6 literature articles that meet the inclusion criteria. The details of the 6 literatures the researchers classify into in two categories. First, according to the type of the whole The literature consists of journal articles. Second, from the shape of research design, 2 articles fall into the category of study design literature, 1 article using a qualitative research design, 1 articles in the quantitative research category, and 2 articles using a participatory research design. These literatures are then used by researchers to answer the research question (RQ) that the researcher formulate beforehand. In this study, the researchers proposed 2 research questions covering the urgency of literacy digital in a time of pandemic and how to improve digital literacy skills.

RQ1 What is the urgency of digital literacy during a pandemic?

The digital literacy movement is motivated by the existence of concerns about the negative impact of media and technology consumed. Therefore, many of the experts are of the opinion that that it is necessary to take preventive action so that the community does not easily exposed to the negative impact of the media, especially in times of COVID-19 pandemic. To answer this research question The researcher reviewed three literatures related to this matter. First, research conducted by Sigit et al.,¹⁶ with the main aim of knowing the main factors that may affect digital literacy and online risk among children in Indonesia during the COVID-19 pandemic. Several hypotheses submitted, four of which were accepted. Findings show that digital literacy positively affects online risk and student self-control. However, parental mediation can explain student online risk, but fail to determine student self-control. Then, self-control has an effect positive about online risk in children. The findings emphasized that digital literacy can affect online risk in children who behave in cyberspace. Finding shows that some children have low self-control low, resulting in a high online risk for children. This is important, given the technological

developments that continues to grow, children can freely access internet anywhere and everywhere. If this is allowed, children will tend to depend on the internet, sometimes even children become victims of cyber-bullying. In the context of a pandemic COVID-19 in Indonesia, both children, parents, and teachers must provide positive support and direction to children in using the internet, one of which is a parenting strategy mediation. Second, the research was conducted by Fitriarti 17 who studied about digital literacy in warding off health information hoaxes in the digital era with the research method of literature study or study References [14]. Fitriarti explained that with the presence of technology internet makes social media one of the primary parts of people in carrying out their daily activities [15], [16]. Through literacy digital society is expected to be able to be selective in finding required information. In this digital era, people do not only be as an object but can also be as subject in communication. Anyone today is able to become subjects who are active and selective in utilizing development technology. Third, research by Yasid 18 which examines strategy learning based on the character of digital literacy facing covid-19 pandemic [17]. Yasid concluded that in today's digital era, where things move very fast, students must have sufficient and mature provisions related to abilities digital literacy. This is a consequence because some most of their activities intersect with network technology internet so that this digital-based literacy character education be one of the most possible alternative paths to build the foundation of character education in the present era. Based on the above review, the author views the significance of the digital literacy movement during the COVID19 pandemic. The digital literacy movement will encourage the formation of think creatively and critically in the face of the COVID-19 pandemic. With the digital literacy movement, it will help the community get accurate information and get materials quality reading in filling time in the midst of a pandemic [18].

RQ2 How to improve digital literacy?

After knowing the urgency of digital literacy for the community, especially during this covid-2019 pandemic, then it is necessary efforts to increase digital literacy are carried out [19]. To answer this research question, the researchers conducted a review of three journal articles that the researcher has previously mentioned. Sutrisna 19 conducted research related to movement digital literacy during the COVID-19 pandemic. Sutrisna offers the concept of a digital literacy movement that can be implemented during the COVID-19 pandemic [20]. The digital literacy movement that can carried out during the COVID-19 pandemic is a literacy movement digital family and community digital literacy movement. Movement literacy aims to improve the ability think critically, creatively, and positively in using media digital in everyday life. This article also offers the concept of anticipating hoax news during the COVID-19 pandemic. There is eight essential elements for developing digital literacy, that is;

- 1) Cultural, in the form of understanding various user contexts digital world;
- 2) Cognitive, related to thinking power in assessing content;
- 3) Constructive, invent something expert and actual;
- 4) Communicative, namely understanding the performance of networks and communications in digital world;
- 5) Responsible self-confidence;
- 6) Creative, doing new things in new ways;
- 7) Critical in addressing content; and 8) Socially responsible. Furthermore, research by Nurohamah, et al.,²⁰ examined about family digital media literacy in the midst of the COVID19 pandemic. Nurohmah conducted participatory research in the form of community service with the aim of providing learning that is not yet known, becomes a new insight to the community according to their interests and talents in the field of profession that every child has. Nurohmah thinks that online learning can be given in the form of webinars which contains educational explanations and information about a matter. There are several things that need to be taken and adjusted from the current government policy is how educators and parents can apply literacy-based learning digitally and work and study from home. For can use internet access optimally, a child need parental supervision and direction. Recently, Rochadiani, et al.,²¹ studied the increase in digital literacy during the COVID-19 pandemic. This research is participatory research in an effort

to improve community digital literacy skills. Rochadiani explains that continuous activities and processes are needed long enough to improve digital literacy Public.

5. CONCLUSION

This paper intends to conduct a study of the urgency of digital literacy in Indonesia during the COVID-19 pandemic. The results of the review show that it is necessary to hold a movement digital literacy during the COVID-19 pandemic. Literacy movement digital will create a creative and critical mindset in dealing with the COVID-19 pandemic. With the literacy movement digital will help people get information that accurate and get quality reading material in pass the time in the midst of the COVID-19 pandemic. Next there are essential elements for developing digital literacy, namely as follows. 1) Cultural, namely understanding various contexts users of the digital world; 2) Cognitive, namely the power of thinking in assessing content; 3) Constructive, namely the creation of something that is expert and actual; 4) Communicative, namely understanding network performance and communication in the digital world; 5) Responsible self-confidence answer; 6) Creative, doing new things in new ways; 7) Critical in addressing content; and 8) Socially responsible. Through this systematic review, researchers hope to contribute to the existing literature by reinforcing gap and highlight the importance of digital literacy for society Indonesia, especially during the COVID-19 pandemic. However This study is a literature review that almost does not produce authentic novelty on the issues raised, Therefore, researchers encourage all practitioners, educators, and experts to be able to continue to carry out further research.

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REFERENCES

- [1] I. G. Salimyanova *et al.*, "Economy digitalization: Information impact on market entities," *Journal of Environmental Treatment Techniques*, vol. 7, no. 4, pp. 654–658, 2019.
- [2] Q. Aini, S. Riza Bob, N. P. L. Santoso, A. Faturahman, and U. Rahardja, "Digitalization of Smart Student Assessment Quality in Era 4.0," *International Journal of Advanced Trends in Computer Science and Engineering*, vol. 9, no. 1.2, pp. 257–265, Apr. 2020, doi: 10.30534/ijatcse/2020/3891.22020.
- [3] M. Kamil, A. S. Bist, U. Rahardja, N. P. L. Santoso, and M. Iqbal, "Covid-19: Implementation e-voting Blockchain Concept," *International Journal of Artificial Intelligence Research*, vol. 5, no. 1, 2021.
- [4] U. Rahardja, S. Sudaryono, N. P. L. Santoso, A. Faturahman, and Q. Aini, "Covid-19: Digital Signature Impact on Higher Education Motivation Performance," *International Journal of Artificial Intelligence Research*, vol. 4, no. 1, May 2020, doi: 10.29099/ijair.v4i1.171.
- [5] R. Mulyana, N. A. Achsani, T. Andati, T. N. A. Maulana, and A. Y. Pratama, "Estimasi Efisiensi Teknis Perbankan Indonesia Berbasis Stochastic Frontier Analysis," *Technomedia Journal*, vol. 7, no. 2 Oktober, pp. 13–32, 2022.
- [6] I. Noburu, A. Himki, A. Dithi, K. Kano, and M. Anggraeni, "Covid-19: Portrait of Preservation of the Batik Industry as a Regional Autonomy," *Aptisi Transactions on Technopreneurship (ATT)*, vol. 2, no. 2, pp. 143–152, 2020.
- [7] A. S. Bist, B. Rawat, Q. Aini, N. Lutfiani, and M. Hardini, "COVID-19 Wave Pattern Analysis: An Exhaustive Survey," in *2021 9th International Conference on Cyber and IT Service Management (CITSM)*, 2021, pp. 1–4.
- [8] M. Mawardi, "Rambu-rambu Penyusunan Skala Sikap Model Likert untuk Mengukur Sikap Siswa," *Scholaria: Jurnal Pendidikan Dan Kebudayaan*, vol. 9, no. 3, pp. 292–304, 2019.

- [9] A. Alwiyah, S. Sayyida, P. A. Sunarya, and D. Apriliasari, "Inovasi Manajemen Pengajaran Judul Kuliah Kerja Praktek (KKP) berbasis Laravel Framework," *Technomedia Journal*, vol. 7, no. 2 Oktober, pp. 33–44, 2022.
- [10] I. Amsyar, E. Christopher, A. Dithi, A. N. Khan, and S. Maulana, "The Challenge of Cryptocurrency in the Era of the Digital Revolution: A Review of Systematic Literature," *Aptisi Transactions on Technopreneurship (ATT)*, vol. 2, no. 2, pp. 153–159, 2020.
- [11] N. Septiani, A. S. Bist, C. S. Bangun, and E. Dolan, "Digital Business Student Development for Entrepreneurs with Software," *Startupreneur Bisnis Digital*, vol. 1, no. 1 April, 2022.
- [12] A. Himki, T. Ramadhan, Y. Durachman, and E. S. Pramono, "Digital Business Entrepreneurship Decisions: An E-Business Analysis (A Study Literature Review)," *Startupreneur Bisnis Digital*, vol. 1, no. 1 April, pp. 107–113, 2022.
- [13] H. Nusantoro, R. Supriati, N. Azizah, N. P. L. Santoso, and S. Maulana, "Blockchain Based Authentication for Identity Management," in *2021 9th International Conference on Cyber and IT Service Management (CITSM)*, 2021, pp. 1–8.
- [14] A. S. Sinaga and E. Marpaung, "Segmentasi Warna HSV Telapak Tangan Untuk Deteksi Bakteri Pada Pandemi Covid 19," *Fountain of Informatics Journal*, vol. 5, no. 3, pp. 1–5, 2020.
- [15] I. Handayani and R. Agustina, "Starting a Digital Business: Being a Millennial Entrepreneur Innovating," *Startupreneur Bisnis Digital*, vol. 1, no. 2, 2022.
- [16] Q. Aini, M. Budiarto, P. O. H. Putra, and U. Rahardja, "Exploring E-learning Challenges During the Global COVID-19 Pandemic: A Review," *Jurnal Sistem Informasi*, vol. 16, no. 2, pp. 57–65, 2020.
- [17] A. Schleicher, "The impact of COVID-19 on education insights from education at a glance 2020," Retrieved from *oecd.org website: <https://www.oecd.org/education/the-impact-of-covid-19-on-education-insights-education-at-a-glance-2020.pdf>*, 2020.
- [18] A. S. Sinaga and E. Marpaung, "Segmentasi Warna HSV Telapak Tangan Untuk Deteksi Bakteri Pada Pandemi Covid 19," *Fountain of Informatics Journal*, vol. 5, no. 3, pp. 1–5, 2020.
- [19] B. E. Sibarani, "Smart Farmer Sebagai Optimalisasi Digital Platform Dalam Pemasaran Produk Pertanian Pada Masa Pandemi Covid-19," *Technomedia Journal*, vol. 6, no. 01 Agustus, 2021.
- [20] V. G. Khalin and G. v Chernova, "Digitalization and its impact on the Russian economy and society: advantages, challenges, threats and risks," *Administrative Consulting*, 2018.

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