

Digital Literacy Analysis of Elementary School Teachers on Distance Learning Instructional Process in Yogyakarta

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ABSTRACT

A teacher must have digital literacy to be able to understand of information or learning resources access such as online videos, eBook's, recordings, audio, and digital libraries from the internet and use their features in designing learning media for learning resources used during online learning. This study aimed to analyze the digital literacy of elementary school teachers. Data were collected from 153 teachers from 44 schools in the special province of Yogyakarta. The research method uses a survey method that includes seven aspects of digital literacy: information literacy, Digital scholarship, Learning skills, ICT literacy, Career and identity management, Communication and collaboration, and media literacy. The results show that all teachers use technology in the online learning process including teachers aged >40 years. It also can be used as motivation and reference for teachers to improve digital literacy/and educational institutions carrying out of training to improve digital literacy for elementary school teachers.

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1. INTRODUCTION

The outbreak of coronavirus 2019 (COVID-19) has impacted many aspects globally, including education. One of the impacts of COVID-19 on education is prohibiting schools from carrying out face-to-face (conventional) learning and instructing for online learning. It is a learning that utilizes a platform so that it helps the teaching and learning process done even though it is not in direct interaction. Online learning is an alternative for learning during this COVID-19 pandemic (Ng & Or, 2020).

Online learning is a challenge for teachers and students, one of which is the capacity of teachers to use technology (Deno, Kaleka, & Harso, 2020). Online and blended learning models continue to

grow in popularity in education that supports and facilitate modern educational opportunities, are flexible, and provide engaging and effective interactive digital learning experiences (McGuinness, 2019). Various digital technologies include software and hardware (Mohammadyari & Singh, 2015). Teachers and students can use technology for learning activities such as reading various types of journals, ebooks, discussions, and a learning management system.

The impact of using this learning technology is forcing teachers to be familiar with internet. All kinds of information can be found using the internet, both positive information that supports learning and inaccurate or even negative information. This situation can support or even create obstacles in online learning. It can be useful to support the learning process, if the teacher has the skills to use tools and its features in choosing learning resources and learning media. If the teacher does not have the skills to operate technology, devices, and features, it will certainly hinder online learning. In addition, if teachers cannot sort out accurate and correct information, of course, they will be vulnerable to the spread of hoaxes.

Mastery of digital technology means being able to access, create, and share digital information (Ting, 2015). The ease of accessing the internet opens up opportunities for everyone to be more flexible in sharing or retrieving information. Teachers must have critical and analytical skills in processing information obtained from the internet to support learning. Therefore, digital literacy is important. Literacy of technology is the level of understanding of the use of technology. Teacher digital literacy has been considered an important part of education that supports information communication technology and has influenced their teaching, thus playing an increasingly important role in education (Du, 2017; Zhao, Kynäshlahti, & Sintonen, 2018).

Digital literacy is the ability and skill to find, evaluate, utilize, share, and create content using the internet and digital technology effectively. It consists of several types of literacy, including technological literacy, information literacy, media literacy, and visual literacy. A person is digitally literate if he understands how information from the internet is obtained (Yazon, Ang-Manaig, Buama, & Tesoro, 2019).

Nowadays, digital literacy plays an important role in teaching and learning. Educators are increasingly needed to teach students with digital tools as their teaching aids in the online learning process. Teachers must have digital literacy to understand and access information from various sources via the internet. Thus teachers can access information or learning resources such as video recordings, audio, digital libraries, etc. In addition, teachers can also utilize/use features in designing learning media for learning resources that will be used during online learning. Teachers must also be critical of the learning resources and applications used and whether they can support academic activities effectively and according to student characteristics. If the teacher has a poor understanding of digital literacy, it will have a bad impact on the sources of information provided to students. A teacher must be critical in filtering information obtained from the internet and must be able to modify the learning media used to suit the characteristics of students.

The seven elements of digital literacy include information literacy, namely the ability to find, evaluate, and use the information needed effectively (Hasugian, 2008: 34); Digital scholarship is an element that includes the active participation of digital media users in academic activities to make information from digital media as a data reference, for example in research practice or completion of college assignments (Stefani, 2017: 11); Learning skills are learning effectively various technologies that have complete features for formal and informal learning activities; ICT literacy or known as information and communication technology understanding which focuses on ways to adopt, adapt and use digital devices and ICT-based media both in terms of applications and services (Budhirianto, 2016: 20); Career and identity management are related to ways of managing online identity. A person's identity can be represented by several different avatars who can communicate with more than one party at almost the same time (Damayanti, 2013: 100); Communication and collaboration are a form of active participation in learning and research through digital networks; Media literacy includes critical reading skills and creative academic and professional Communication in various

media. With media literacy, the audience is not easily deceived by information that, at a glance, meets and satisfies their psychological and social needs (Rianto, 2016: 91).

The Special Region of Yogyakarta (DIY) is one area that is included in the yellow zone, with 35,225 positive patients infected as of April 9, 2021 (<https://corona.jogjaprovo.go.id/data-statistik>). Thus, learning activities until April 2021 in all academic units in the DIY region will be conducted online since March 2020. In the Special Region of Yogyakarta itself, there are 18,829 elementary school teachers and 286,081 students from 1,847 schools. A total of 18,829 courses carry out online learning with various patterns and take advantage of various platforms. So far, the existing research has focused on the implementation, barriers to online learning, and the impact, effectiveness, and perceptions of online learning carried out in schools in the Special Region of Yogyakarta.

Regarding the implementation of online learning carried out by elementary school teachers in the Special Region of Yogyakarta using WhatsApps, WhatsApp Web, Google Classroom, Google Group, TeamLink, Microsoft Teams, Kaizala Microsoft, Zoom Meeting & Webinars, Youtube, Google Hangouts, and others (Anugrahana, 2020). The biggest obstacle to implementing online learning is the limited availability of facilities and infrastructure, so it can reduce interest in learning and is very dependent on network connections (Rohmadani, 2020; Sakti, 2021). This research focuses on the teacher's internal factors in online learning, namely, seeing how digital literacy is for teachers in online learning.

As an important part of education, teachers' digital literacy supports information communication technology and has influenced their teaching, thus playing an increasingly important role in education (Zhao et al., 2018). For this reason, it is necessary to carry out an analysis related to the digital literacy abilities of elementary school teachers in learning during the pandemic. Thus the researchers obtained an overview of the digital literacy abilities of elementary school teachers. This data will later become the basis for factor analysis and determine policies to take steps related to the digital literacy skills of elementary school teachers. So far, the existing research has focused on the implementation of online learning; the teacher factor has not been studied.

2. METHODS

This type of research is quantitative research, where the research data is numbers and analysis using statistics. It is quantitative because the research data collected is in the form of numbers and analyzed using statistics and intends to test hypotheses. The method of data collection with the survey method. The survey method is taking a sample from a population and using a questionnaire as a data collection tool. The population in this study was all elementary school teachers in the Special Region of Yogyakarta, with 153 teachers from 44 elementary schools. Data was collected through questionnaires distributed to schools, principals, and teachers through social media. This data will be analyzed using the relevant statistical tests to test the hypothesis. At the same time, the measurement technique used is the Likert Scale technique.

3. FINDINGS AND DISCUSSION

The following are the results of teacher digital literacy analysis based on teacher demographic profile data and aspects of digital literacy:

Table 1. Teacher Demographic Profile

No	Participants	Frequency	Percentage
1	Gender		
	Female	95 people	62%
	Male	58 people	38%

2	Age range		
	25-35 years old	26	17%
	35-45 years old	47	31%
	45-55 years old	59	38%
	>55 years old	21	14%
3	Years of service		
	Less than 6 years	30	20%
	6 – 15 years	54	35%
	15- 30 years	46	30%
	>30 years	23	15%
4	Education background		
	S1	121	79%
	S2	32	21%

The teachers in this study consisted of 58 males (62%) and 95 females (38%). Most of them are in the age category between 45 and 55 years (38%). The others were in the age group between 25-35 years (17%), 35-45 50 (31%), and over 55 years (21%). In terms of teaching experience, most of them have been teaching for more than 6-15 years (54%). Others have taught for less than 6 years (20%), 15-30 years (30%), and more than 30 years 15%. The teachers' educational backgrounds who became the subject of this study came from S1 by 79% and S2 by 21%.

3.1. Digital Scale Literacy

To analyze the digital literacy skills of teachers, this research was carried out using an online questionnaire based on digital literacy components consisting of *Information literacy, digital scholarship, learning skills, ICT literacy, Career and identity management, Communication and collaboration, and Media literacy*.

Table 2. Aspects of Digital Literacy

Variable	Indicator
Aspect	1. <i>Information literacy</i> , The teacher's ability to find, use, and evaluate information
Literacy	2. <i>Digital Scholarship</i> , The teacher's ability to use the data obtained
Digital	3. <i>learning skills</i> , The teacher's ability to use technology in learning
	4. <i>ICT Literacy</i> , The teachers understand ICT, its applications, & services
	5. <i>Career and identity management</i> , The teachers' identity used when online
	6. <i>Communication and collaboration</i> , Form of active participation from teachers in learning and research through digital networks.
	7. <i>Media Literacy</i> , The teacher's ability to make comparisons from various information that has been obtained

3.2. Information Literacy

Information literacy is defined as the ability of an information literate person to use technology, digital communication tools, and networks to access, manage, integrate, evaluate, and create information to be useful as knowledge and to use it effectively (Cicek Saglam, Cankaya, Ucer, & Cetin, 2017; Godbey, 2018).

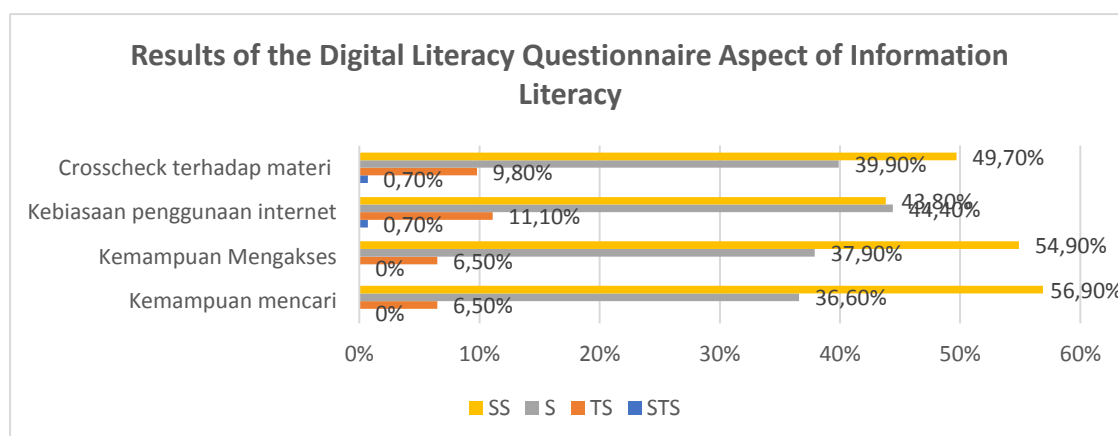


Figure 1. Information Literacy Questionnaire Results

Information literacy is an efficient way to retrieve and evaluate the quality of information for problem-solving and decision-making (Sural & Dedejali, 2018). Information literate teachers can improve themselves continuously, find, evaluate and use it as the most appropriate teaching instrument for their students by using various teaching approaches and methodologies.

Based on the questionnaire results, it can be seen that the majority of teachers stated positive statements related to the ability to search 56.90% and access information on the internet 54.90%, and 0% of teachers stated they were less able. With the ability to search and access the internet, it can become a habit for teachers to use the internet to find information/learning resources. This can be seen from the questionnaire results, which show that only about 11.80% of teachers are not accustomed to using the internet. Based on several studies, it is known that the ease of teachers in the ability to search and access the internet is one of the factors that affect teacher digital literacy (Sadaf, Newby, & Ertmer, 2016; Teo, Huang, & Hoi, 2018). In addition to the ability to use information/data obtained from the internet, teachers also need to cross-check the learning materials so that the material provided by the teacher can be adapted to the learning objectives.

It is known that literacy is the ability to read, write, speak, calculate and solve a problem. But now, literacy has shifted its meaning to the ability to find the right material as a reference (Shin, 2015). A total of 43.80% of teachers strongly agreed, and 44.40% agreed with the habit of using the internet. Meanwhile, the teachers who stated they did not agree were still 11.10%, and 0.70% strongly disagreed. In this case, it can be understood that there are still teachers who disagree and strongly disagree in terms of the habit of using the internet to find sources of information because sources of information can also be obtained from books and other learning resources. However, in this day and age, all learning materials can be easily obtained online. The digital space has no limitations and can be accessed anywhere. It can be a consideration for teachers to get various learning resources not only limited to textbooks so that learning given to students becomes more interesting and increases student motivation in learning.

Information literacy skills should be one of the skills that everyone must have at this time by not forgetting the importance of double-checking the various information that has been obtained. From the results of the questionnaire, it is known that 9.80% of teachers who disagree and strongly disagree with 0.7% to cross-check the materials that have been obtained to be adjusted to the learning objectives, even though this needs to be an important concern for teachers so that the material given is adjusted to the learning objectives.

3.3. Digital Scholarship

Recently, there are a lot of learning materials that can be obtained via the internet, and one aspect of digital literacy that plays a role in this is digital scholarship. It is defined as the ability of teachers to use the data obtained as a reference.

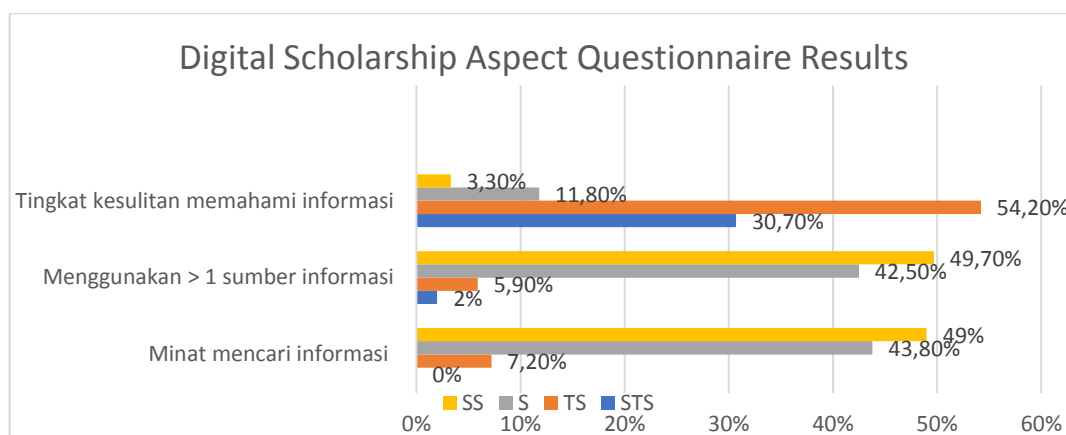


Figure 2. Digital Scholarship Aspect Questionnaire Results

The questionnaire results show that 47.20% of teachers are motivated/feel happy to find information about learning on the internet. Learning materials found on the internet are many various types, both material that is only described and material that has been packaged through YouTube learning videos, so teachers in this aspect need to use more than one source of digital information. This is shown from the questionnaire results 48.40% of teachers stated that they used more than one digital information source. However, on the other hand, 15.70% of teachers still find it difficult to understand the information presented on the internet. Thus, educational institutions must support teachers in developing digital literacy competencies (Falloon, 2020).

3.4. Learning Skill

Learning skills is the teacher's ability to use technology in learning. It is a must ability mastered by them as regulated in the Regulation of the Minister of National Education Number 16 of 2007 concerning Teacher Qualifications and Competencies, that teachers must have professional competencies, which are explained in this case that at least a teacher must, among other things, master and utilize technology in learning. In the results of this study, it was found that more than 50% of the 153 teachers who were the research subjects showed that the teachers had been able to use technology, including using laptops, cellphones, and computers, 68.60%, searched via google & yahoo 54.20%, even by using a URL on the internet 52.90%. Based on several studies, the abilities of teachers can be factors that affect teachers' digital literacy (Sadaf & Johnson, 2017; Sadaf et al., 2016; Teo et al., 2018).

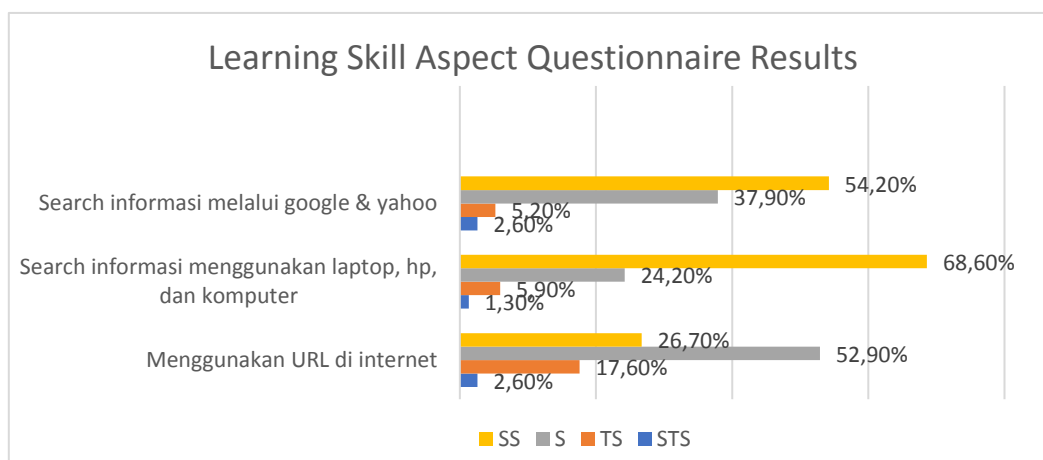


Figure 3. Learning Skill Aspect Questionnaire Results

3.5. ICT Literacy

ICT has now changed the way people share information across all sectors (J. Pima & Mtui, 2017; Popova & Fabre, 2017). It is commonly used in education and has been known by different names. Some of the common names used include e-learning (Kisanjara, Tossy, Sife, & Msanjila, 2017), online learning (Mtebe & Raphael, 2017), blended learning (J. M. Pima, Odetayo, Iqbal, & Sedoyeka, 2016). The use of ICT in online learning is very important, and this depends on the literacy knowledge of the teacher, its application, and its benefits.

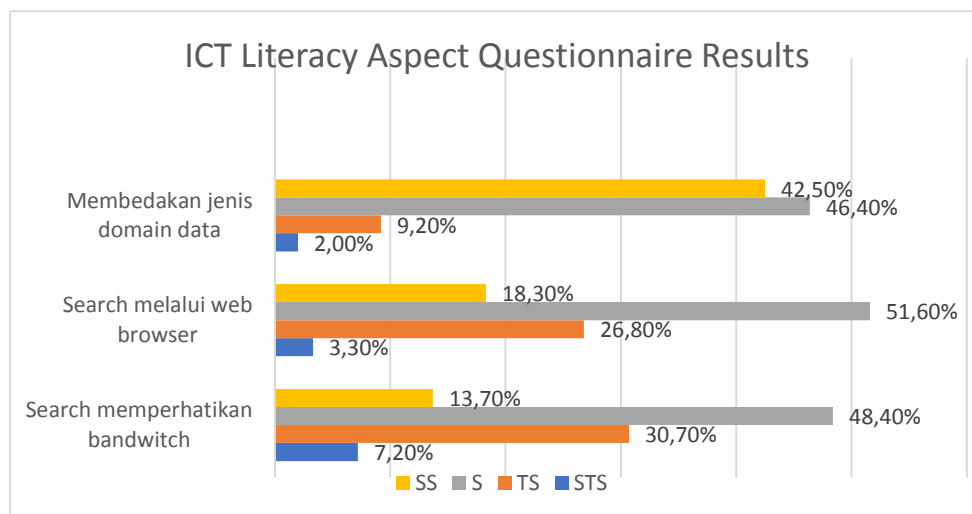


Figure 4. ICT Literacy Aspect Questionnaire Results

In this study, ICT is meant for online learning, where teachers must use technology (Uluyol & Ahin, 2016). The questionnaire results show that teachers often search through web browsers, pay attention to bandwidth when using the internet, and distinguish between various types of data domains obtained.

3.6. Career and Identity Management Aspect

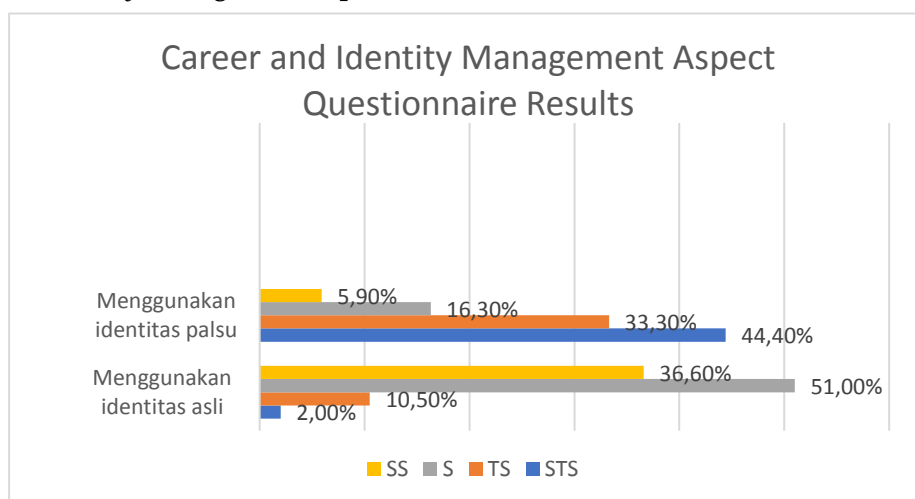


Figure 5. Career and Identity Management Aspect Questionnaire Results

Everyone can determine the identity used when interacting online (S. Alenazi, 2019). In this case, privacy is important (Priscyllia, 2019), but with increasingly rapid technological developments, everyone can increase the amount of personal data when using the internet. In the results of this study, it is known that there are still 22.50% of teachers who do not use real identity (anonymity)

when using the internet. Privacy and anonymity (no identity) are two closely related things. Still, concerning anonymity for privacy, privacy is not necessarily for anonymity but can be with securities such as encryption (Yuwinanto, 2015).

3.7. Communication and Collaboration Aspect

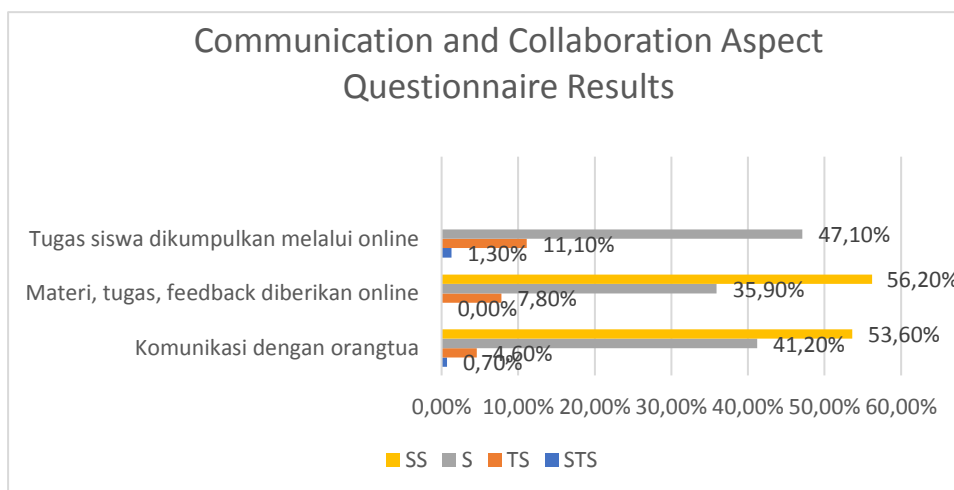


Figure 6. Communication and Collaboration Aspect Questionnaire Results

During the online learning, teachers in elementary schools will give assignments to students with parental guidance at home. Based on the research results, it is known that almost 95% of teachers communicate with their parents at home (Ren & Fan, 2021). Parents play a very important role because teachers can only provide and explain learning materials through YouTube videos, voice notes, and videos from YouTube (Rizki & Hanik, 2021). The study results found that 92% of teachers provided materials, assignments, and feedback given online, and the tasks that students had done were returned to the teacher online via WhatsApp. It is therefore important for parents to be the steering wheel of the learning vehicle, providing guidance and information during learning for students until students submit their assignments back to teachers and their children stay on track and are not distracted or hindered from achieving their academic potential (Wardhani & Krisnani, 2020). Students who are always accompanied in learning will feel more confident in participating in learning; on the contrary, students whose parents do not accompany them in learning are more easily bored and tend not to be serious in participating in learning (Winingsih, 2020; Yusrizal, Lubis, Fatmawati, & Muzdalifah, 2020).

3.8. Media Literacy Aspect

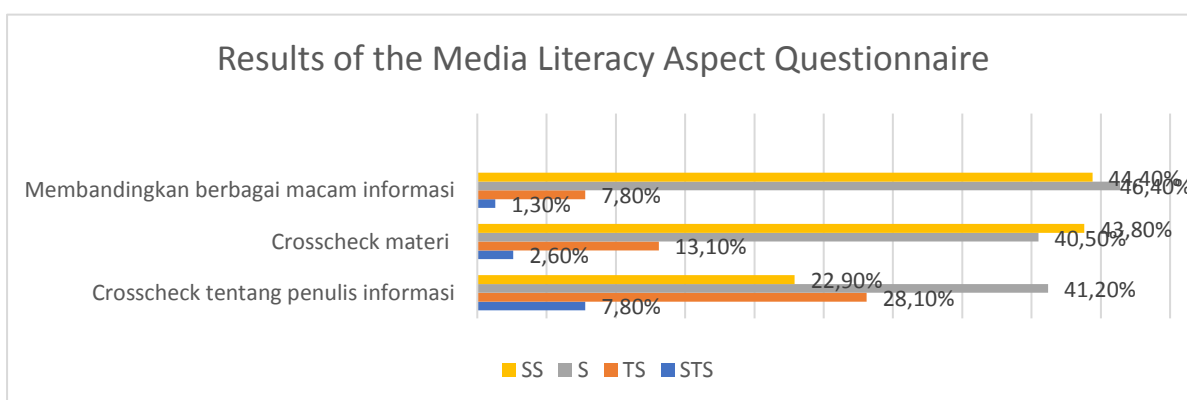


Figure 7. Results of The Media Literacy Aspect Questionnaire

Media literacy is one of the important aspects of digital literacy. In this study, media literacy is understood as the need for teachers to think critically when getting information that has just been received, re-checking the author and the material that has been obtained, collecting various kinds of related information, and comparing it to build new understanding and produce more interesting learning resources. (Asari, Kurniawan, Ansor, Bagus, & Rahma, 2019; Desi, 2020).

4. CONCLUSION

The positive impact of covid 19 on education is on the digital literacy ability of elementary school teachers in distance learning of the Special Region of Yogyakarta. Through the online learning process, all teachers use technology in the learning process. It supports their digital literacy, including for teachers who >40 years old. Digital literacy is important for elementary school teachers because it can support the learning process, especially online learning as it is limited to the use of technology and requires critical thinking for teachers in finding sources of material & using them to support learning. This study only reveals one factor from the teacher's side. Recommendations for further research should refer to other factors from teachers, students, and parents.

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Conflicts of Interest: The authors whose names are listed have declared that they have no financial or non-financial interests (such as honoraria, educational grants, participation in speakers' bureaus; membership, employment, consultancies, stock ownership, or other equity interest; and expert testimony or patent-licensing arrangements) with any organization or entity with which they have any financial or non-financial interest (such as personal or professional relationships, affiliations, knowledge or belief).

REFERENCES

- Anugrahana, A. (2020). Hambatan, Solusi dan Harapan: Pembelajaran Daring Selama Masa Pandemi Covid-19 Oleh Guru Sekolah Dasar. *Scholaria: Jurnal Pendidikan Dan Kebudayaan*, 10(3), 282–289. <https://doi.org/10.24246/j.js.2020.v10.i3.p282-289>
- Asari, A., Kurniawan, T., Ansor, S., Bagus, A., & Rahma, N. (2019). Kompetensi Literasi Digital Bagi Guru Dan Pelajar Di. *BIBLIOTIKA: Jurnal Kajian Perpustakaan Dan Informasi*.
- Cicek Saglam, A., Cankaya, I., Ucer, H., & Cetin, M. (2017). The Effect of Information Literacy on Teachers' Critical Thinking Disposition. *Journal of Education and Learning*. <https://doi.org/10.5539/jel.v6n3p31>
- Deno, M. E., Kaleka, M. B. U., & Harso, A. (2020). Aktivitas Belajar Mahasiswa Universitas Flores Pada Masa Pandemi Corona Virus Disease 19. *OPTIKA: Jurnal Pendidikan Fisika*, 4(2), 110–116.
- Desi, Y. P. (2020). Gerakan Literasi Digital Berbasis Sekolah: Implementasi dan Strategi. *Jurnal Ilmu Komunikasi*. <https://doi.org/10.31315/jik.v17i1.3510>
- Du, N. (2017). Research on advanced schools' foreign language teaching method reform under digital literacy perspective. *Agro Food Industry Hi-Tech*.
- Falloon, G. (2020). The digital teacher competency (TDC) framework is from digital literacy to digital competence. *Educational Technology Research and Development*. <https://doi.org/10.1007/s11423-020-09767-4>
- Godbey, S. (2018). Testing future teachers: A quantitative exploration of factors impacting the information literacy of teacher education students. *College and Research Libraries*. <https://doi.org/10.5860/crl.79.5.611>
- Kisanjara, S., Tossy, T., Sife, A., & Msanjila, S. (2017). An Integrated Model for Measuring the Impacts of E-Learning on Students' Achievement in Developing Countries. *International Journal of Education and Development Using Information and Communication Technology*.
- Mcguinness, C. (2019). *d digital literacy in higher education : e-t tutorials using blended learning*. 18, 1–28.

- Mohammadyari, S., & Singh, H. (2015). Understanding the effect of e-learning on individual performance: The role of digital literacy. *Computers and Education*, 82, 11–25. <https://doi.org/10.1016/j.compedu.2014.10.025>
- Mtebe, J. S., & Raphael, C. (2017). A decade of technology-enhanced learning at the University of Dar es Salaam, Tanzania: Challenges, achievements, and opportunities. *International Journal of Education and Development Using Information and Communication Technology (IJEDICT)*.
- Ng, Y. M., & Or, P. L. P. (2020). Coronavirus disease (COVID-19) prevention: Virtual classroom education for hand hygiene. *Nurse Education in Practice*, 45, 102782. <https://doi.org/10.1016/j.nepr.2020.102782>
- Pima, J. M., Odetayo, M., Iqbal, R., & Sedoyeka, E. (2016). Assessing the available ICT infrastructure for collaborative web technologies in a blended learning environment in Tanzania: A mixed methods research. *International Journal of Education & Development Using Information & Communication Technology*.
- Pima, J., & Mtui, J. (2017). Investigating the lecturers' challenges to embrace Collaborative Web Technologies in Higher Education Institutions. In *International Journal of Education and Development using Information and Communication Technology*.
- Popova, I., & Fabre, G. (2017). Digital Inclusion of Secondary Schools' Subject Teachers in Bolivia. *International Journal of Education and Development Using Information and Communication Technology*.
- Priscyllia, F. (2019). Perlindungan Privasi Data Pribadi dalam Perspektif Perbandingan Hukum. *Jatiswara*. <https://doi.org/10.29303/jatiswara.v34i3.218>
- Ren, L., & Fan, J. (2021). Informant discrepancies in the rating of Chinese preschoolers' approaches to learning: Looking for the role of parent-teacher relationships. *Infant and Child Development*. <https://doi.org/10.1002/icd.2206>
- Rizki, D. S., & Hanik, E. U. (2021). STUDI ANALISIS PERSIAPAN ORANG TUA SELAMA PEMBELAJARAN DARING KELAS I SDN 01 KAJEKSAN KUDUS. *Journal of Education Learning and Innovation (ELIa)*. <https://doi.org/10.46229/elia.v1i1.220>
- Rohmadani, A. I. (2020). Dampak Covid 19 Terhadap Cara Berpikir Dalam Pembelajaran Daring: Studi Kasus di Yogyakarta. *Edification Journal*, 3(1), 125–134. <https://doi.org/10.37092/ej.v3i1.224>
- S. Alenazi, O. (2019). Speakers' Identities in Online Interaction. *Arab World English Journal*. <https://doi.org/10.24093/awej/vol10no1.8>
- Sadaf, A., & Johnson, B. L. (2017). Teachers' Beliefs About Integrating Digital Literacy Into Classroom Practice: An Investigation Based on the Theory of Planned Behavior. *Journal of Digital Learning in Teacher Education*. <https://doi.org/10.1080/21532974.2017.1347534>
- Sadaf, A., Newby, T. J., & Ertmer, P. A. (2016). An investigation of the factors that influence preservice teachers' intentions and integration of Web 2.0 tools. *Educational Technology Research and Development*. <https://doi.org/10.1007/s11423-015-9410-9>
- Sakti, S. A. (2021). *Persepsi Orang Tua Siswa terhadap Pembelajaran Daring pada Masa Pandemi Covid 19 di Yogyakarta*. 6(1), 71–79. <https://doi.org/10.31004/obsesi.v6i1.804>
- Shin, S.-K. (2015). Teaching Critical, Ethical, and Safe Use of ICT to Teachers. *Language Learning & Technology*.
- Sural, S., & Dedejali, N. C. (2018). A study of curriculum literacy and information literacy levels of teacher candidates in the department of social sciences education. *European Journal of Educational Research*. <https://doi.org/10.12973/eu-jer.7.2.303>
- Teo, T., Huang, F., & Hoi, C. K. W. (2018). Explicating the influences that explain the intention to use technology among English teachers in China. *Interactive Learning Environments*. <https://doi.org/10.1080/10494820.2017.1341940>
- Ting, Y. L. (2015). Tapping into students' digital literacy and designing negotiated learning to promote learner autonomy. *Internet and Higher Education*, 26, 25–32. <https://doi.org/10.1016/j.iheduc.2015.04.004>
- Uluylol, Ç., & Şahin, S. (2016). Elementary school teachers' ICT use in the classroom and their

- motivators for using ICT. *British Journal of Educational Technology*.
<https://doi.org/10.1111/bjet.12220>
- Wardhani, T. Z. Y., & Krisnani, H. (2020). Optimalisasi Peran Pengawasan Orang Tua Dalam Pelaksanaan Sekolah Online Di Masa Pandemi Covid-19. *Prosiding Penelitian Dan Pengabdian Kepada Masyarakat*. <https://doi.org/10.24198/jppm.v7i1.28256>
- Winingsih, E. (2020). Peran Orang Tua dalam Pembelajaran Jarak Jauh.
- Yazon, A. D., Ang-Manaig, K., Buama, C. A. C., & Tesoro, J. F. B. (2019). Digital literacy, digital competence, and research productivity of educators. *Universal Journal of Educational Research*. <https://doi.org/10.13189/ujer.2019.070812>
- Yusrizal, Lubis, B. S., Fatmawati, & Muzdalifah, D. (2020). Pengaruh Metode Visit Home dan Pola Bimbingan Orang Tua terhadap Motivasi Belajar Siswa Sekolah Dasar di Era Pandemi COVID-19. *Jurnal Tematik*, 10(3), 113–119.
- Yuwinanto, H. P. (2015). Privasi online dan keamanan data. *Palimpsest*.
- Zhao, P., Kynäshlahti, H., & Sintonen, S. (2018). A qualitative analysis of the digital literacy of arts education teachers in Chinese junior high and high schools. *Journal of Librarianship and Information Science*. <https://doi.org/10.1177/0961000616658341>

