



Digital Literature Understanding of Early Childhood Education Teachers in Pontianak, West Kalimantan

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Abstract

Keywords: Digital Literacy; Understanding Digital Literature Early Childhood Education; Early Childhood; (PAUD) Teachers in Pontianak in the class base, school culture base, and community base they have. This research approach is descriptive qualitative. Sources of data are PAUD teachers in Pontianak spread over 6 sub-districts with 30 institutions, and 90 teachers. Data collection with observation, interviews, and documentation studies. Data collection tools in the form of observation guides, interviews, and documentation. Data analysis by collecting, reducing, presenting, and drawing conclusions. The results concluded that the digital literacy of PAUD teachers in Pontianak in general was still lacking. This is due to: 1) class base: The number of digital literacy trainings attended by teachers is still very low, the intensity of the application of digital literacy in learning activities is still lacking and driven by Covid-19, the level of understanding of teachers is still low; 2) the basis of school culture: the number and variety of reading materials and digital-based teaching aids is still lacking, the frequency of use of digital learning resources is still lacking, the number of presentations of school information using digital media is less, policies regarding digital literacy is not optimal; 3) basic community: community support in the form of providing digital literacy facilities and infrastructure in schools. The level of involvement of parents, the community, and schools in the development of digital literacy is sufficient through the school's social community.

Abstrak

Kata Kunci: Tujuan dari penelitian ini untuk memperoleh informasi Literasi Digital; tentang pemahaman Literasi Digital Guru Pendidikan Anak PAUD; Usia Dini (PAUD) di Pontianak dalam basis kelas, basis

Guru;

budaya sekolah, dan basis komunitas. Metode penelitian ini menggunakan pendekatan deskriptif kualitatif. Sumber data adalah guru PAUD di Pontianak yang tersebar di 6 kecamatan, 30 lembaga, dan 90 guru. Pengumpulan data melalui observasi, wawancara, dan studi dokumentasi. Alat pengumpulan data berupa panduan observasi, wawancara, dan dokumentasi. Analisis data dengan cara mengumpulkan, mereduksi, menyajikan, dan menarik kesimpulan. Hasil penelitian menyimpulkan bahwa literasi digital guru PAUD di Pontianak secara umum masih kurang. Hal ini disebabkan: 1) basis kelas: jumlah pelatihan literasi digital yang diikuti guru masih sangat rendah, intensitas penerapan literasi digital dalam kegiatan pembelajaran masih kurang dan didorong oleh pandemic Covid-19, tingkat pemahaman guru masih rendah; 2) basis budaya sekolah: jumlah dan ragam bahan bacaan dan alat peraga berbasis digital masih kurang, frekuensi penggunaan sumber belajar digital masih kurang, jumlah penyajian informasi sekolah menggunakan media digital masih kurang, kebijakan mengenai literasi digital belum optimal; 3) komunitas masyarakat: dukungan masyarakat berupa penyediaan sarana dan prasarana literasi digital di sekolah sudah cukup baik. Serta tingkat keterlibatan orang tua, masyarakat, dan sekolah dalam pengembangan literasi digital cukup baik.

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1. Introduction

Today, we are currently in an era of fast-paced change, lots of surprises, and sudden shifts. This change is influenced by systems related to information or digital technology or "cyber physical systems" with the following three characteristics are (1) internet of things, (2) big data, and (3) artificial intelligence. The era that is currently popular with the term industrial era 4.0 or society 5.0.

The characteristics above show that the fabric of life today and in the future we are dealing with digital technology. Especially during the Covid-19 pandemic that we have faced for almost the last 2 years, it has had a huge impact on demands for the use of information technology.

Aswandi (2018, p.31), reminds that everything in this world will experience change, and while the only thing that is eternal is change itself. We are currently in a disruptive era, the era of the industrial revolution 4.0/society 5.0 and in the era of the birth of the Z generation to the Alpha generation, namely the generation that was born attached to this technology, making them human beings who are mostly dependent on using digital devices. (Silalahi et al, 2022, p.73). In educational practice, this also occurs. Digital literacy in learning activities is a must, (Oblinger, 2015).

Digital literacy competence which is one part of the professional competence of a teacher. Digital literacy is an individual's interest in

attitudes and abilities to use communication tools and digital technology to access, manage, analyze, evaluate information, build and develop new knowledge, communicate with others, and be able to participate effectively in society (White, 2017; Marnita et al (2022, p.38).

Indicators of teacher understanding of digital literacy can be seen through three bases, namely: 1) class base, 2) cultural school base, and 3) community base.

The OECD (2016) found facts in its global survey where digital technology has not been fully integrated in teaching and learning. Teachers do not feel skilled at using ICT effectively, but are best using digital technology to complement existing teaching practices. Even though it is known that the teacher is someone who is directly involved, especially in teaching activities (Aswandi, 2018).

Data on teachers' understanding of digital literacy as research conducted by Martina et al (2022) shows that most teachers in Beruen District have a low understanding of digital literacy, namely 65%, while there are only 9% of teachers who have a good understanding of literacy digital.

The results of research by Sudarti et al (2022) show that digital literacy training is effective in improving the teachers' competence. The effectiveness of this digital literacy training is supported by the available facilities and infrastructure and support from their respective institutions.

Meanwhile, efforts to increase teachers' understanding of digital literacy are urgently needed considering it is a form of service. "Higher quality educational services related to ease of use of technology, increasing teacher competency in target schools and creating a comfortable climate in service are vital aspects of consumer satisfaction", Zulfahmi (2021, p.193).

Various parties are currently very dependent (inter-connecting socket) on digital. Whereas on the other hand, digital technology has a negative impact on the behavior of technology users, especially changes in children's thoughts, attitudes and behavior. Of course, this is not solely the fault of digital technology products. The internet/devices and the like are only limited to tools (instruments) that function to facilitate or expedite human activities. This is very helpful for humans in carrying out their activities. However, if non-intelligent (low literacy) information technology/digital users use it, it would be better if it was turned off.

Therefore, the use of technology is influenced by who and what functions can be optimized from a device. Users can manage their needs for their technological devices which are the key components of this computing device called Brain ware. Users need to get the required education as part of their literacy towards technology devices.

Kosnik, et al (2016, p.8) defined four competencies that teachers require to use digital technologies: 1). A technical competency that enables a new teacher to use the technology. 2). An informational competency that enables a new teacher to use the technology to retrieve information. 3). A social competency that enables a new teacher to use the technology to interact with other people. 4). An epistemological

competency that enables a new teacher to assign tasks to digital technology to generate new knowledge or artefacts.

Digital literacy in education managers by education staff as a whole must always be optimized for both teachers and education staff. Especially for teachers as leaders and facilitators in optimizing children's needs have a strong central role. Teachers must always improve their pedagogical and professional competencies in dealing with today's dynamic conditions.

Facing children who have the same opportunity to obtain information and experience, of course, adaptive teachers need to address this as well. With the strengthening of digital literacy provided, it is hoped that teachers can prepare their learning needs.

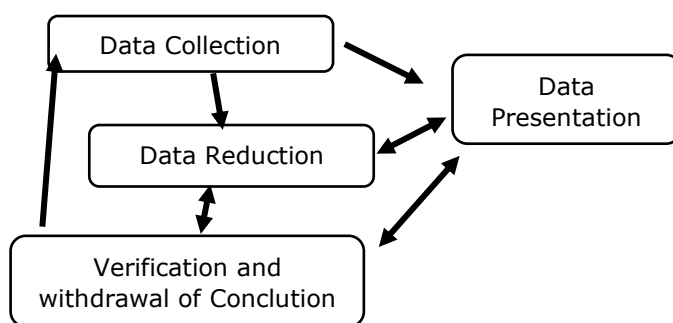
There are efforts needed to prepare digital literacy for teachers according to their needs in learning. So that the utilization of owned devices can be optimized. To provide literacy reinforcement for teachers, it is necessary to do an in-depth mapping and analysis of learning needs. Thus, information on digital literacy skills is needed to measure the level of capability and strategies for sustainable development need to be carried out by related parties.

This research is really needed to give special attention to early childhood education teachers, especially in Pontianak. The difference between this study and other previous studies lies in the range of the teacher base. The teacher's understanding of digital literacy is not only seen in the classroom or even at school, but is also seen through the broader aspects of society. Researchers examined the community's contribution to efforts to increase teachers' understanding of digital literacy. Through this research, researchers also examine things that can influence teachers' understanding in the field of digital literacy. It is hoped that the results of the research will be able to provide advice to policy makers to increase the understanding of digital literacy needed by early childhood education teachers in Pontianak.

2. Methods

This research approach is qualitative with descriptive form. Researchers collected in-depth information about the Digital Literacy ability of Early Childhood Education Teachers in Pontianak. The data sources for this research are Early Childhood Education Teachers in Pontianak, which are spread over 6 sub-districts. The target of teachers who are the subject is teaching in early childhood school (PAUD/TK) with accredited status B and A totaling 30 early childhood school. Total research data subjects amounted to 90 people. The selection of data sources for this research was based on the consideration that these informants could represent all PAUD teachers in Pontianak.

Data collection techniques in this study were observation, interviews, and documentation studies. Data collection was carried out jointly by three research members. The tools used to collect data in this research are observation guides, interview guides, and documentation of digital-based activities that have been owned and activities carried out in each institution.



Fr. 1
Data Analysis Technique

Data analysis techniques carried out by researchers through the stages of data collection, data reduction, data presentation, and drawing conclusions/verification.

3. Result and Discussion

Result

Description of research results will be discussed into three bases as follows,

a. Class Base

The first review is to look at understanding digital literacy in Early Childhood Schools through a classroom-based perspective. Based on the data obtained, the capacity building of human resources in schools as facilitators and drivers of digital literacy is still very low. This can be seen from the lack of experience of teachers in participating in training. The government has not optimally provided the expected digital literacy strengthening program. However, there are several companies that provide their programs through CSR funds. Most teachers carry out activities independently (self-taught) following the trend of practical needs in the field. But of course the progress is very slow.

More than 95% of the informants admitted that they had never or very rarely participated in training activities related to digital literacy at school. So far, principals and teachers have received information and knowledge about digital literacy from fellow teachers, families, and information obtained independently from the internet.

From an age perspective, young teachers tend to be adaptive and follow the development of digital literacy. However, opportunities are still limited and the costs required to participate in self-training are still limited. Generally, teachers aged 40 years and over tend to be less understanding of digital literacy.

Conservatively, early childhood education teachers tend to see digital needs as a complement, not an obligation. Teachers think hands-on experience is more desirable. In the current state of social restrictions to prevent Covid 19, this understanding is an obstacle. So that adaptation to digital literacy through learning innovation is also not optimal.

Teachers' understanding of digital literacy only includes tools that are practically used as daily equipment. Including the use of applications that only have social media and communication

applications. Some of the applications used are Whatsapp, Facebook, Microsoft Word, Microsoft Powerpoint, Internet browser applications (Google Chrome, Firefox, Internet Explorer), YouTube, Instagram, TikTok. Some teachers have used video and photo editing applications such as the Kinemaster and Filmora applications for video processing. For online communication, use the Zoom Meeting, Google Meet, and Microsoft Times applications.



Fig. 2

Interviews with managers and teachers in early childhood schools
Source: researcher documentation (2022)

The use of devices is dominated by cellular/mobile phones, notebooks/netbooks, personal computers and tablets. Every teacher has at least one device, namely an Android-based cellphone. The use of mobile phones is still a means of communication through applications that are available in the application format (android-based).

In accordance with the concept of digital literacy, which is not only seen in the implementation of learning using information technology, especially during the pandemic, but also the use of information and communication technology (ICT) devices in the education ecosystem in schools. In field data, the use of ICT tools is more on school administration and governance. The use of digital devices as learning media is still limited.

b. School Culture Base

Researchers get information that the number and variety of reading materials and digital-based teaching aids is still very lacking. This was conveyed by most managers and teachers. Media needs and digital learning resources are adjusted to practical and conditional needs. Teachers feel that the use of digital devices for learning is very complicated and complex, so it requires a lot of preparation.

The use of digital devices is more for administrative management needs and is occasionally used to support formal activities such as school meetings. Some schools have used digital media as a publication of activities through social media applications such as Facebook, YouTube and Instagram. However, all teachers already have digital devices, especially mobile phones as information and communication devices. As was the case during the previous Covid-19 prevention social restrictions, most of the learning activities used mobile phones.

When viewed from the policies issued by schools, none of the schools instructs them to use digital devices specifically. Teachers are only directed to practical use according to their individual needs.

The level of utilization and application of information and communication technology in terms of school services (e-report, financial management, dapodik, student data, school profiles, etc.) is very low, this is supported by government policies on processing and using digital-based data, for example Dapodik (Basic Education Data). All schools have used the dapodik application to administer school management and report regularly.

c. Community Base

Based on the results of research conducted, it is known that community support, in this case parents and the general public, can be seen from two categories. First, community support seen from active involvement in the procurement of digital literacy facilities and infrastructure in schools is classified as very lacking. Second, community support in the form of moral support for their children/students to promote digital literacy is categorized as good.

The level of involvement of parents, communities, and schools in the development of digital literacy is not optimal, this can be seen from the availability of support from internet network providers in the implementation of digital-based learning activities, but it is known that the amount of support is still very minimal and still concentrates on the implementation of online learning, not online learning. on the implementation of the digital literacy movement in schools.

The role of schools and parents in supporting competency development is still not felt. However, the role of the community through association schools and cluster activity centers (PKG) in developing digital competencies is starting to appear from the programs carried out and the collaboration of digital learning media development programs carried out.



Fg. 3

Grouping pictures about workshop on making digital learning media for early childhood teachers. Source: researcher documentation (2022)

The community through the role of PKK (Family Welfare Empowerment) also carries out a digital literacy strengthening program by conducting digital competency training, especially in developing learning media. Among them in Figure 4 below in the form of workshop activities organized by the Pontianak City PKK Mobilizing Team.



Fg. 4

Grouping pictures about digital literacy development activities for early childhood teachers

Source: School documentation (2022)

Discussion

This research focuses on teachers' understanding of digital literacy. This is interpreted as the ability to understand and use information in various forms from a very wide variety of sources which are accessed through gadgets or other devices. The success of building digital literacy is one of the poster indicators in education and culture, (Nasrullah, 2017, p.35).

The digital literacy indicators then become the target of this research consisting of 3, namely class bases, school culture bases, and community bases. Among the 3 indicators it is known that the class base and cultural base tend to be lacking. Teachers still have limited access and opportunities in efforts to develop themselves in the field of digital literacy. Even though increasing competence and understanding through training and the like is highly expected (Roshanah, 2021, p.51).

Based on the results of the research that has been done, it can be written that the factors that influence the understanding of digital literacy for early childhood teachers in Pontianak are as follows:

- Teachers' understanding and views on the importance of digital literacy and its development for education units,
- Ability to master information and communication technology,
- Availability of facilities and infrastructure that supports the implementation of digital literacy in schools, such as good internet access, computers/PCs/or other digital devices, and the creation of a digital ecosystem in school areas such as digital literacy corners or digital libraries, etc.,
- Availability of teachers who are prepared to spearhead the implementation of digital literacy with the main task of providing strengthening concepts and mastery of digital literacy for teachers/other educators as well as providing direction for all students about digital literacy in schools,
- Availability of a good regulatory system related to policies for implementing digital literacy in the Education unit,
- Availability of forums for educators to conduct discussions around the implementation of better digital literacy; and

- Availability of support from the government in the form of policies and other support, and support from the private sector in the form of sponsors to carry out activities or other support aimed at increasing digital literacy in schools.

4. Conclusion

Based on the results of the research that has been done, it can be concluded that the digital literacy of early childhood education teachers in Pontianak in general is still lacking.

This is due to several things, 1. In terms of the class base, (a) The number of digital literacy trainings attended by teachers is still very low, both organized by the government and in collaboration with the private sector, b) The intensity of application and use of digital literacy in their respective learning activities very less. However, the Covid-19 pandemic situation which requires the implementation of online-based distance learning is a motivation, (c) The level of understanding of teachers in using digital media and the internet is still low. 2. Judging from the school's cultural base, (a) the number and variety of reading materials and digital-based teaching aids is still very lacking, (b) the frequency of using digital learning resources is still lacking, (c) some teachers have used digital tools to find information on learning materials especially when there are social restrictions, (d) the number of presentations of school information using digital media is still lacking even though several schools through operators have documented the school's activities on social media, (e) the number of school policies regarding the use of information and communication technology utilization in the school environment has not been found , (f) The level of utilization and application of information and communication technology in terms of school services is not yet optimal, still as a communication tool. 3. Viewed from the community base, (a) community support is seen from the provision of digital literacy facilities and infrastructure in schools (b) The level of involvement of parents, communities, and schools in the development of digital literacy is sufficient, especially through communities through associations and schools social community. However, support is still very minimal and still concentrates on the implementation of online learning, not on the implementation of the digital literacy movement in early childhood schools.

Researchers hope that the results of this study can be suggest managers of early childhood schools to help increase teachers' understanding of digital literacy. In addition, the researchers hope that the results of this study can be a suggestion for the Pontianak Education and Cultural Affair to help increase teacher digital literacy and facilitate increased digital literacy for early childhood schools in Pontianak.

References

- Amilia, F. (2019). Kompetensi Literasi Infomasi Guru Paud di Era 4.0: Antara Tuntutan dan Realitas. *Jurnal Ipteks UM Jember*, 5 (2), 124-129. DOI: <https://doi.org/10.32528/jpmi.v5i2.2936>
- Aswandi. (2018). *Manajemen Perubahan: Sebuah Pengantar*. Depok: Rajawali Press
- Chabibie, H. (2017). Literasi Digital sebagai Tulang Punggung Bangsa. <https://pusdatin.kemdikbud.go.id/literasi-digital-sebagai-tulang-punggung-pendidikan/>
- Effendy, M. (2018). *Gerakan Literasi Nasional, dalam Kilasan Kinerja Kemendikbud 2018'*, Jakarta: Kemendikbud RI.
- Hardiyanti, W. E. (2022). Analisis Kemampuan Literasi Digital Guru PAUD pada Masa Pandemi COVID-19. *Jurnal Obsesi: Pendidikan Anak Usia Dini*, 6 (2), 3759-3770
- Khan, S. (2013). *The One World Schoolhouse*, diterjemahkan oleh: Nadiyah Abidin, Jakarta: Mizan.
- Kosnik, C., White, S., dan Marshall, B. (2016). *Building Bridges: Rethinking Literacy Teacher Education in a Digital Era*. Rotterdam: Sense Publisher
- Marnita, Nurdin, D., dan Prihatin, E. (2023). The Effectiveness of Elementary Teacher Digital Literacy Competence on Teacher Learning Management. *Journal of Innovation in Educational and Cultural Research*. Vol. 4., No. 1. DOI: <https://doi.org/10.46843/jiecr.v4i1.444>
- Nasrullah, R., dkk. (2017). *"Materi Pendukung Literasi Digital"*, Jakarta: Kementerian Pendidikan dan Kebudayaan RI.
- Oblinger, D. G., dan Oblinger, J. L. (2015). *Educating the Net Generation*. New York: Springer
- OECD. (2016). *Innovating Education and Educating for Innovation*, Paris: OECD Publishers.
- Restiantiny, A. (2018). Literasi Digital, Sebuah Tantangan Baru Dalam Literasi Media. *Jurnal Kehumasan Universitas Pendidikan Indonesia*, 1 (1), 72-87
- Roshonah, dkk. (2021). Pelatihan Literasi Digital untuk Guru PAUD di Wilayah Sukabumi Jawa Barat. *An-Nas: Jurnal Pengabdian Masyarakat*, 1 (1), 47-56
- Saidilah, R., dan Subhan, A. (2020). Literasi Media Digital Bagi Guru PAUD Gugus Kenanga di Kecamatan Dukuhseti Kabupaten Pati. *Jurnal As-Sidanah*, 2 (1), 1-19
- Saleha, L., Baharun, H., dan Utami, W. T. (2022). Implementation of Digital Literacy to Develop Social Emotional Early Childhood. *Indonesian Journal of Early Childhood Education*. 1 (1), 1-10.
- Setiasih, O., dkk. (2022). Pengembangan Literasi Digital Guru Paud Pada Era Revolusi Industri 4.0 Berbasis Techno-Pedagogy Approach di Kota Bandung. *Jurnal Pasca Dharma Pengabdian Masyarakat UPI Bandung.*, 3 (1), 39-45
- Setiawan, A., Lukmanulhakim, dan Linarsih, A. (2023). Efektivitas

- Gerakan Literasi Digital di Sekolah Jenjang Pendidikan Dasar di Kota Pontianak. *Jurnal Visi Ilmu Pendidikan*. DOI: 10.26418/jvip.v15i1.60994
- Silalahi, D. E., Handayani, E. A., Munthe, B., et al. (2022). *Literasi Digital Berbasis Pendidikan: Teori, Praktik, dan Penerapannya*. Padang: Global Eksekutif Teknologi
- Sudarti, Rusman, Sukirman, D., dan Riyana, C. 2022. Effectiveness of Digital Literacy Training to Improve Early Childhood Education Teacher's Competence. *European Online Journal of Natural and Social Sciences*. Vol. 11., No. 3. <https://european-science.com/eojnss/article/view/6462>
- Sugiyono. (2018). *Metode Penelitian Kualitatif*. Bandung: Alfabeta
- Surawjo, Haryanto, et al. (2022). Digital Literacy Analysis of Elementary School Teachers on Distance Learning Instructional Process in Yogyakarta. *Jurnal Pendidikan Al-Ishlah*. Vol. 14., No. 2. DOI: <https://doi.org/10.35445/alishlah.v14i2.1233>
- Zulfahmi, M. N. (2021). Implementasi Pelatihan Pemanfaatan TIK Bagi Guru Sekolah Binaan KB Sya'roniyah Purwogondo. *Jurnal KIDDO: Pendidikan Anak Usia Dini IAIN MADura*. Online. <https://doi.org/10.19105/kiddo.v2i2.5040>