Problematics of Digital Literacy Implementation in Early Children at Nurul Aulia Kindergarten, Depok

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Abstract
The Covid 19 pandemic that occurred from the end of 2019 to 2021 has made all aspects of our lives undergo a complete change. Education is an important sector because of the change from the offline learning process (face-to-face) to bold learning (online). The problem is then due to the unpreparedness of the education stakeholders, schools, teachers, parents, and students. This condition is almost felt by all schools in Early Childhood Education (ECE). The purpose of the study is to determine how problematics and application of digital literacy are carried out in Nurul Aulia Kindergarten, Depok. This study employed a qualitative approach through phenomenological research design. The results showed that online learning for early childhood was felt to be less effective. This was due to the unpreparedness of the infrastructure and the superstructure in the Nurul Aulia Kindergarten, Depok.

Keywords: Digital Literacy; Early Childhood; Problematic

INTRODUCTION
Early Childhood Education (ECE) is an effort to stimulate and give learning activities that can grow children's abilities and skills. Early Childhood is a child in the age range of 0 to 6 years. At this time, the growth and development of children will experience rapid progress. That is why this time is called the "golden age". In recent days, it has been necessary for parents and their surroundings to provide a good stimulus and education so that the child can develop and grow optimally (Budiarti, 2016).

Because of that, the government has issued the Minister of Education and Culture Regulation Republic of Indonesia number 146 of 2014. Early Childhood Education (ECE) is the most basic education because a child's growth and development today and in the future are largely determined by various stimulations since early childhood. According to Law No. 20 of 2003: National Education System (2003), education is a business that is conscious and planned to realize the learning atmosphere and the learning process so that participants educate themselves by active development of potency for having religious, spiritual, self-power control, personality, intelligence, morals, and the required skills for themselves as well as society.

The significance of early childhood education, for example, the United States, Germany, Japan, and others have already begun to do early childhood education with care, nurturing, and education as a whole and integrated into child development. So, it is important to develop children at an early age as a step in power strengthening carried out by nations worldwide.

We must all adapt quickly to the rapid development of increasingly digital technology, whether we want it or not, whether we like or dislike the message, and whether we reject the reality that must be faced to share goodness as educators. As a parent, of course, this occurs because digital systems are a part of and
inherent in today's life. Digital developments have given color to new ways of life in the economic, political, socio-cultural, and educational sectors. Especially when the COVID-19 pandemic occurs, everything must be done from home, including maintaining physical and emotional contact with others. Digital technology has become essential for online learning.

With the rapid advancement of technology, digital technology has permeated all levels of society, from children to adults, though nothing is yet capable of using technology for good and true. Technology is like a double-edged knife. When used for positive interests and appropriately by the user, it will greatly benefit people. But if used for negative interests and carried out by people who do not have good intentions, it will cause damage massively and will accumulate a negative impact on the individual or social life because digital literacy must be distributed and expanded to address society.

At the same time, problems almost always happen in all schools, especially in kindergarten and ECE. There are limitations to good infrastructure and digital learning in particular. The introduction of digital literacy, as mentioned by Rachmat & Hartati (2020), requires three series of roles, namely parents, teachers, and children, with the teacher playing a critical role in teaching children to have ethics in the use of the internet.

For teaching development, digital technology is challenging to learn how to think fast and creatively. Digital development requires speed and dexterity, which must be owned by a teacher to be able to control the learning process and teach without depending on one learning system. The whole learning system is part of the developmental process. If an educator is not capable of following development progress in technology learning, it will be very detrimental not only to him but also to the future of children’s education and the future of our education. For parents, digital literacy and understanding are also a must to accompany, supervise, and carry out evaluations independently of their children’s learning process. At the same time, the appearance of various digital platforms is a form of new creativity in learning moments. On the one hand, it gives them an easier time and improves their effectiveness in learning. That appearance becomes a highlight. These various digital platforms also have many constraints in their implementation.

Based on the background that has been parsed above, then the focus of this study is on the problem of digital literacy implementation faced by Nurul Aulia Kindergarten in Depok, Indonesia. The study aims to determine how problematics and application of digital literacy are carried out in Nurul Aulia Kindergarten, Depok. It also becomes a problem to know to what extent the effectiveness of digital media is in learning.

LITERATURE REVIEW

Definition Of Digital Literacy

Suherdi (2021) explains in his book “The Role of Digital Literacy in the Pandemic Period” that digital literacy is the knowledge and skills of users in utilizing digital media, such as communication tools, internet networks, and so on. Skills needed in the use of digital media include being able to find, use, create, and use media wisely, follow the flow of frameworks, establish relationships, and communicate with other people in everyday life (Suherdi, 2021).

According to UNESCO (2011), there is a link between digital literacy and life skills (These abilities involve not only technology but also the ability to learn, think critically, create and innovate. According to the guidelines of the National Literacy Movement (The Ministry of Education and Culture, 2017), the scope of digital literacy covers six basics of literacy: literacy skills including reading and writing; literacy numeracy; science and technology literacy; digital literacy; literacy culture; as well as literacy citizenship.
Digital literacy is not only interpreted as the ability just to use the computer but also the ability to understand all the information circulating in various media. Martin Alan mentions that digital literacy is a collaboration of the ability to use computer technology at the same time as the ability to access information through technology and media communications (Martin, 2008).

For the time being, Livingstone believes that digital literacy refers to the skills and competencies possessed by someone who can use and utilize digital technology in order to avoid all risks of harm caused by it (Livingstone, 2011). Digital literacy can also be interpreted as the ability to access, manage, understand, integrate, communicate, create, and correct information using digital technology.

Digital literacy exists as the basic skill required for anyone to contribute to the digital world today. This is in accordance with a statement from Nasrullah et al. (2017). Digital literacy is very important for development as it needs to participate in the world of digitalization as it should be with reading, writing, arithmetic, and science. It is also important to pay attention to children.

According to Jimoyiannis and Gravani (2011); Anggeraini (2019), digital literacy helps students gain the knowledge, skills, and attitudes needed to operate digital media effectively, use digital media in everyday life, understand aspects of social media, and realize the influence of digital media on society. Additionally, digital literacy helps students develop positive attitudes toward digital media and readiness for technology development.

Digital Literacy in Early Childhood Learning

Early Childhood Education (ECE) is a targeted effort for children from birth to the age of six (6) years, which is carried out through present-day stimulation education for growth and development, both physical and spiritual so that children are prepared to enter education more fully in accordance with the Constitution. Law No. 20 of 2003: National Education System (2003) Chapter 1 Article 1 Point 14 and Article 28 also mentions that ECE is implemented through three (3) paths: formal education in kindergarten or its equivalent, child care, similar education units, and other comparable informal forms and channels, such as family education or education held in a family environment. As mentioned in Budiarti (2016), the concept of meaningful ECE is the cultivation of independence from an early age; therefore, every aspect of the activity must be comprehensive.

Digital literacy is very important for development so that people can participate in the world of digitization as it should be with reading, writing, arithmetic, and other sciences. Digital literacy is also very important to introduce to children at an early age. According to Jimoyiannis and Gravani (Anggeraini, 2019), digital literacy helps students get the knowledge, skills, and techniques required to operate digital media effectively. Children can take advantage of digital media daily to solve life’s problems.

According to Yusuf (2020), digital literacy in context education plays a role in developing knowledge (cognitive) in children through stimulating curiosity and creativity in early childhood. Hence, the ability to use digital technology can be done in a simple way. Digital literacy in children's early years covers the ability to use simple and easy digital technology (Anggrita, 2019; Safitri, 2021).

This is a portrait reality moment. Use of gadgets is almost universally used by all classes, including young children. Parents use gadgets to timetable their son's moments of anger. Parents consider that giving gadgets to children will cause complete trouble. But the method is the right way to handle children when upset, have tantrums, and so on. Parents can give gadgets to children but need to control and limit the time that has been determined. Parents of children are already using their cell phones to record and capture the cuteness. Cell phones have replaced the position of parents.
The Ministry of Education and Culture (2017) defines digital literacy in early childhood as attitudes, knowledge, and skills for children to find and use information, learn, play, and search for entertainment with parental assistance or the adults around them. Electronic learning (E-Learning) was first proposed by Jay Cross in 1999. Due to the progress and development of technological tools, various explanations and terminology have emerged, such as internet-based training, web-based training, online learning, network learning, and distance learning, as applied in Indonesia. That is why Holzberger et al. (2013) define digital learning as the delivery of digital media content (e.g., text or images) via the Internet, and content learning and teaching methods are provided to increase student learning and aim to increase the effectiveness in teaching or increase knowledge and skills in private. Learning digitally in a systematic and complete way by recording all online teaching materials is one of the advantages of digital learning.

Different points of view have different definitions based on position or angle. The most representative is the definition put forward by the American Society of Training and Education (ASTD). This defines e-learning as a learning process that applies digital media to study. Digital media includes the internet, network companies, computers, broadcast satellites, audio cassettes, video cassettes, interactive television, and compact disc. It also includes learning-based networking, learning-based computers, virtual classrooms, and digital collaboration. Digital learning is a tool for acquiring digital teaching materials for online or offline activities via network, cable, or wireless (Hockly, 2012).

Aside from that base theory above, these researchers also try to connect with several relevant previous scientific works to get links with the scientific work above, as follows:

1. **The Effect of Digital Technology on Student Learning Motivation (Muhasim, 2017)**
   Many researchers discuss the impact of digital technology in research, especially in studies using the giveaway technique for students. The novelty of seeing this is on the side of the problems faced by educators as well as parents and students.

2. **The Role of Technology in Education in Globalization (Lestari, 2018)**
   In this study, the discussion of technological developments in education is in accordance with reality. This has become a necessity in facing the era of Globalization 4.0. Researchers discussed the readiness and problems faced by educators, as well as parents and students.

   According to this research, more and more people are discussing the common problems caused by learning changes that combine offline systems with online learning. So, the more general the description of the problems faced by educational institutions in online learning. The novelty of seeing this is the problems faced by educators as well as parents and students at Nurul Aulia Depok Kindergarten.

**RESEARCH METHOD**

This study employed a qualitative approach through phenomenological research design. This design strives for quality investigations with substance explanations of phenomena centered on the researcher, the respondents in the research, and the research location (Creswell, 2009). This research was done at Nurul Aulia Kindergarten, Depok. It will involve the researcher as a teacher and also observe directly each class consisting of 10-15 children. Data collection and identification using a method equipped with a descriptive study, observation, and analysis of documents as an instrument of research. As for the
data analysis, it is looked for this through three of the stages of the model (referring to the theory of Miles and Huberman (1994): data reduction, data presentation, and data conclusion.

The steps that will be carried out in data analysis to obtain findings are as follows: (1) Data reduction, which is a selection process for data sets and discarding the non-required. Information data obtained from the field will be summarized and compiled so that the data can be easily verified. (2) Data Presentation. All data obtained will be analyzed after explanation, sorted, and viewed to identify reducing data bias. Data results via interview or documentation will be narrated for ease of use. (3) Drawing conclusions from data will be conducted continuously to get the conclusions that have been verified. When more evidence is found, the strong and supportive researcher reviews the records, forming a firm conclusion.

FINDINGS AND DISCUSSION

The COVID-19 pandemic that hit all over the world, especially in Indonesia, has forced us to adapt to new habits and ways of life. When there is a pandemic, schools prohibit students from bringing and using smartphones to school. Excessive use of social media and gaming applications is a problem. Especially during the pandemic, it has become part of important learning.

Learning distance is supported with media assistance in the form of embedded digital gadgets (smartphones) through the internet network. It is also called the "dare to learn". This method gives an opportunity for children to catch up with digital and connected technology through the internet (Suhendro, 2020).

With draft online learning with the application, digital interaction literacy causes experience straight away. Education could be upgraded through technology and media during the learning process. As mentioned by Garsia and Herrero (2008), technology, information, and communication (ICT) play a main role and positively change the environment. It allows for a more diverse and interactive environment where knowledge can be generated, including active and cooperative learning techniques and interactions among peers of the same age.

The utilization of digital technology starts with a global pandemic in the world of education for the learning process to be more creative. Digital technology requires educators and parents to strengthen and facilitate children to adapt to the environment to find alternative ways, document various ways, cultivate media literacy, and transfer appropriate teaching materials to meet their needs. Collaboration between teachers and parents increases motivation for study by using non-monotone and more creative learning models.

In ECE learning, the COVID pandemic requires parents to maintain the same empathetic competencies that must be possessed as an educator, including personality skills, pedagogic skills, and professional skills. ECE character building is needed in dealing with the speed and uncertainty of digital development in the future, as well as the ability to apply digital literacy. However, every child playing has freedom in choosing activities which is an important process. The rich and abundant nature, as well as the history of various cultures, are alternative sources of digital literacy. The idea of teachers, parents, and children to comply with necessary mutually agreed upon rules.

Learning activities can be carried out not only at school but also at home or anywhere. So in a COVID pandemic situation like this, it is hoped that the existence of a study program at home can help maintain the implementation of activities for children where study programs from home are held in their own homes. Existing policy research at home compels parents repeatedly reaffirm their commitment as first educators, especially for their children. At home, there is only one teacher: father and mother. So parents
are the people who play the most role in educating children as it should be delivered (Kurniasari et al., 2020). These are learners, and they have unlimited access to matrices and learning resources. Parental involvement can also be interpreted as a form of education for children in the digital literacy era of technology at this moment. Because children will see their parents using digital technology in their activities, coaching and supervision are necessary. Children will never do what parents do, even if not all but one child will adopt things that are good to see.

It exemplifies the use of digital media, which is critical for every parent to do in educating their children in the current digital technology era. Parental assistance to children will reduce the negative impact of digital technology. When parents dominate technology, then technology can be used by parents to educate children with various positive learning strategies using digital media so that the impact is positive for growing children. Parents’ responsibilities to their children include providing assistance to children, establishing good communication, providing opportunities for trust, providing supervision for children, maintaining good supervision and direction, directing children, and providing effective parenting and learning (Ingram et al., 2015). The COVID-19 pandemic places a responsibility on parents to become educators for their children, as a companion for children in work assignments, implementing methods to help children work, learn from their environment, and educate their children.

As explained by the Ministry of Education and Culture, digital literacy in early childhood is the attitudes, knowledge, and skills that children age early in using existing digital media to find and use information, learn, play, and search for entertainment, with parent assistance or the adults around them. Application Digital literacy in Nurul Aulia Kindergarten, Depok, is still limited to general public media use, i.e., Whatsapp media. This is due to limitations in many aspects of the existing but still very limited infrastructure network. Not all parents have cell phones as a means of learning via Whatsapp Messenger. The main issues in implementing digital literacy in Nurul Aulia Kindergarten in Depok City are illustrated in the following data in Table 1.

### Table 1. Online Learning Schedule Of the An-Naml Group

<table>
<thead>
<tr>
<th>No</th>
<th>Day</th>
<th>Learning Model</th>
<th>Total of Students</th>
<th>Time</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>MONDAY</td>
<td>Give tasks through Whatsapp. Then the duty sent to the teacher through Whatsapp</td>
<td>15</td>
<td>60 Minutes</td>
<td>Followed by 5 people</td>
</tr>
<tr>
<td>2</td>
<td>TUESDAY</td>
<td>Learning Via Zoom</td>
<td>15</td>
<td>60 Minutes</td>
<td>Followed by People</td>
</tr>
<tr>
<td>3</td>
<td>WEDNESDAY</td>
<td>Google Classroom</td>
<td>15</td>
<td>60 Minutes</td>
<td>Followed by 3 people</td>
</tr>
<tr>
<td>4</td>
<td>THURSDAY</td>
<td>Give tasks through Whatsapp. Then the duty sent to the teacher through Whatsapp</td>
<td>15</td>
<td>60 Minutes</td>
<td>Followed by 5 People</td>
</tr>
<tr>
<td>5</td>
<td>FRIDAY</td>
<td>Give tasks through Whatsapp. Then the duty sent to the teacher through Whatsapp</td>
<td>15</td>
<td>60 Minutes</td>
<td>Followed by 5 People</td>
</tr>
</tbody>
</table>

Teachers try to innovate in methods, conduct home visits, and use WhatsApp and the like to make the learning process happen. They make every effort with their creativity. Educators at Nurul Aulia Depok
Kindergarten try to maximize communication and visits for children to educate so that the teaching and learning process continues to work through limitations.

The difficulty of operating a gadget is also an obstacle to the nature of parents accompanying their children to study. Low technology ability by parents when a courageous education is a common obstacle. Remember, if no parent is capable of operating a gadget in the new education, it means that communication between parents and teachers is critical in this new education. Teachers can minimize the level of difficulty in the use of gadgets for parents who have complaints about gadget operation. A teacher can share a short message from a professional student’s past with parents while also assisting the child in fully accepting it.

Besides, these efforts are always carried out incorrectly. The only thing is to do a home visit as part of a strategy to anticipate limitations. Digital technology in-home visit activities, besides loading activities, are also used for learning through video shows. The educational material prepared by the teacher also contains simple knowledge about the use of digital learning by the teacher to the guide of the Nurul Aulia Kindergarten, Depok. Schools recognize that parents’ ability to fulfill the facility of online education is also very low. For example, they use internet networks that require little cost, though this could be mentioned as a phenomenon common to many schools, especially at an early age. Dare to learn in comparison to other countries with fulfillment capabilities.

<table>
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<th>Time</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>MONDAY</td>
<td>Introduction: Educational Videos</td>
<td>90 Minutes</td>
<td>Followed by 5 people</td>
</tr>
<tr>
<td>2</td>
<td>TUESDAY</td>
<td>Introduction: Tell a story Videos</td>
<td>90 Minutes</td>
<td>Followed by 5 People</td>
</tr>
<tr>
<td>3</td>
<td>WEDNESDAY</td>
<td>Introduction: Animation Videos</td>
<td>90 Minutes</td>
<td>Followed by 3 people</td>
</tr>
<tr>
<td>4</td>
<td>THURSDAY</td>
<td>Introduction: Tell a story Videos</td>
<td>90 Minutes</td>
<td>Followed by 5 People</td>
</tr>
<tr>
<td>5</td>
<td>FRIDAY</td>
<td>Introduction: Letters and Numbers via Animation Videos</td>
<td>90 Minutes</td>
<td>Followed by 5 People</td>
</tr>
</tbody>
</table>

In activities learning, the level of participation is still very low, especially in things that need 100 percent mentoring by adults, like by their brothers, their parents, or those closest to them who can accompany them in a happy learning process. Parents do not have enough time to accompany their children to study because they must do their household chores.

The COVID-19 pandemic is the right time when the role of parents is needed for children. That’s because parents are the earliest educators for children in the family. This often happens because of the tight schedule of parents’ work outside. From the data above, the participation rate only reached 30 percent or 5 people out of a total of 15 students. While in the second group, the level of learning participation is as follows:
Online Learning Model in Covid-19 Pandemic at Nurul Aulia Kindergarten, Depok

Table 3. Online Learning Schedule of the An-Nahl Group

<table>
<thead>
<tr>
<th>No</th>
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<th>Learning Model</th>
<th>Total of Students</th>
<th>Time</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>MONDAY</td>
<td>Give tasks through Whatsapp. Then the duty sent to the teacher through Whatsapp</td>
<td>13</td>
<td>60 Minutes</td>
<td>Followed by 4 people</td>
</tr>
<tr>
<td>2</td>
<td>TUESDAY</td>
<td>Learning Via Zoom</td>
<td>13</td>
<td>60 Minutes</td>
<td>Followed by 3 people</td>
</tr>
<tr>
<td>3</td>
<td>WEDNESDAY</td>
<td>Google Classroom</td>
<td>13</td>
<td>60 Minutes</td>
<td>Followed by 3 people</td>
</tr>
<tr>
<td>4</td>
<td>THURSDAY</td>
<td>Give tasks through Whatsapp. Then the duty sent to the teacher through Whatsapp</td>
<td>13</td>
<td>60 Minutes</td>
<td>Followed by 4 people</td>
</tr>
<tr>
<td>5</td>
<td>FRIDAY</td>
<td>Give tasks through Whatsapp. Then the duty sent to the teacher through Whatsapp</td>
<td>13</td>
<td>60 Minutes</td>
<td>Followed by 4 people</td>
</tr>
</tbody>
</table>

According to Table 3, the second group (the An-Nahl group) also has very low participation for a variety of reasons, such as busy parents or close relatives, preventing them from accompanying children in learning, smartphone learning, or having to use media with their older sister, which can be seen more closely, or the lack of an internet data plan. This is what has made the learning process at Nurul Aulia Depok Kindergarten since the pandemic hit the country “very ineffective”.

We recognize that integrating digital technology into schools and implementing digital learning is a moderate challenge that is complicated by various factors. One of them is because of the confusing word in accessing and adopting technology "but not in the time frame or as society expects" (Howard & Mozejko, 2015). Community expectations are exacerbated by the fact that the process of change is very complex and inconsistent (Blundell et al., 2016).

Introduction to digital literacy is carried out by tiers and done by the environment closest to the child, such as parents at home and teachers at school. According to Rachmat & Hartati (2020), it takes three roles in an effort to educate a child as follows: parents, children, and teachers play an important role in teaching children to have happy surfing or internet ethics. As a result, parents and teachers should receive digital literacy training. Lack of parental competence to develop technology or technological stuttering will endanger the privacy and safety of children. Parents should be committed to parental privacy by setting a good example.

Various efforts were made by both the teacher and the Nurul Aulia Kindergarten in Depok to realize digital literacy, even though it was still very limited. The continuity of the educational process in any condition and situation must work as a form of responsibility and concern for the future of the nation’s children’s education. Children are the future that must be prepared. Therefore, government involvement is needed as a stakeholder.

CONCLUSION

Technology is increasingly developing among the upper class, from children to adults, from the family environment to the social environment. Everyone can use technology wherever and whenever needed. The role of educators and parents in solving digital literacy problems at ECE is important and
impossible to do, even though a child has been educated in an institution equipped with digital technology, due to the lack of understanding of digital literacy among education stakeholders. Educators must use creativity and innovation to make learning more enjoyable for children.

The main obstacle faced by Nurul Aulia Kindergarten, Depok, is the busyness of parents who do not allow them to provide direct assistance to their children. The main issue is the lack of availability of internet data quota on infrastructure-based communication devices such as smartphones and internet networks. Apart from HR considerations and so on, the limitations of digital devices, especially smartphones, one family can only have one cell phone. To overcome this problem, digital literacy is needed for educators and parents to be achieved in accordance with the expected effectiveness of the process of teaching and learning activities at Nurul Aulia Kindergarten during the COVID-19 pandemic.

REFERENCES


