

# The Urgency of Digital Literacy for Students in Disruption Era

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**Abstract:** Digital literacy information may still be foreign to some people but it is an important thing to be owned by the community in this disruption era. Someone who is digital literate is not only skilled in technically accessing the internet, but is able to filter various information and entertainment provided by the internet. This digital literacy skills information is useful for dealing with information explosion on technological progress. But is that digital literacy as simple as that? What is digital literacy? What is the role of the family and the role of the school in developing digital information literacy skills for children? This paper tries to answer these questions.

**Keywords:** digital literacy, students, disruption

## I. INTRODUCTION

At present, we are experiencing a severe shock facing the challenges of the disruption era. The era has become a paradigm and a reference in the order of life today which is characterized by the shifting of conventional services into online services, ranging from buying and selling goods to services such as “ojek” online, taxi online, entertainment, and others. Of course, with the development of globalized technological progress, this has affected all aspects of life. Many jobs that are routine and daily are now lost that are replaced by robots or man-made intelligence. The people needed today are not just those who are able to understand science but more broadly. At present, the community is required to be able to think critically, creatively, and innovatively. This is very important to support more complex problem-solving. For that, we need new literacy in addition to old literacy, of course. New literacy certainly will not be separated from the three main components of old literacy, namely the ability to read, write and count which is now only a basic capital, not the main capital to take part in the community.

Digital literacy is one of the next literacy capitals after the old literacy certainly needs to be possessed to be able to survive the challenges in the current era. In this digital era, technological developments have accelerated the flow of information and transfers between devices connected to the internet in just an instant. Whether it's appropriate information or not worth studying. For this reason, the individual's ability to sort, choose, and understand information and communicate becomes something that every individual need. Thus, digital literacy becomes an urgent matter and needs to be immediately owned by each individual not only as a compliment but as the main thing for internet users. This is in line with Eshet's opinion [1] that digital literacy is a gradual skill of living in the digital era that is indispensable for every individual.

Education certainly has a very important role to face these challenges. For this reason, Education is expected to be able to prepare human resources that cannot be replaced by the machine. This means that education should be able to prepare human resources capable of critical thinking, creative, innovative, and

able to solve problems, communicate better, and be able to collaborate with a lot of people that would make human resources to succeed in work and life. This ability can be possessed by human resources if the individual has skills such as digital literacy. Of course, this is not obtained if the learning process only emphasizes old literacy competencies. For this reason, the task of the world of education needs to be phased in to strengthen the strengthening of new literacy that integrates into strengthening the competence of scientific fields and expertise or professions so as to create literary human resources.

In order to improve digital literacy skills, parents, teachers, government, and education observers need to understand in advance what digital literacy is. Not only that, but it is also important to realize why digital literacy needs to be a concern in the Education environment. With this understanding, it is expected to provide direction on how strategies can be used to increase both in the family and in the school environment.

## II. DIGITAL LITERACY

Indonesia is one of the countries with the largest number of internet users in the world. According to the results of research conducted by the Indonesian Internet Service Providers Association (APJII) together with the University of Indonesia's Communication Studies Center (Puskakom), the total number of Internet users in Indonesia as of early 2015 was 88.1 million [2]. However, according to the research reported by Wearesocial.sg in 2017 there were 132 million internet users in Indonesia and this number grew by 51 percent within a year.

The development of the digital world can lead to two opposing sides in relation to the development of digital literacy. The development of digital equipment and access to information in digital form have both challenges and opportunities. One concern that appears is the number of young people who access the internet is very large, ie approximately 70 million people. They spend their time on the internet, either via cell phone, personal computer, or laptop, approaching 5 hours per day. The high achievement of the young generation in the use of the internet certainly needs to be balanced with ethical skills and is

responsible for obtaining information and communication. These skills are digital literacy that the digital generation needs to have.

The term digital literacy has been implemented throughout the 1990s by a number of authors [3]. This term refers to the ability to read and understand various information presented in the digital age. According to Gilster in A'yuni [2], digital literacy is explained as the ability to understand and use information from a variety of formats that include mastery of ideas, not keystrokes. In addition, Gilster does not provide a list of skills, competencies or attitudes define completely what digital literacy is like [4]. So Gilster emphasizes more on the critical thinking process when dealing with digital media rather than technical competencies as deep core skills digital literacy, and emphasizes critical evaluation of what is found through digital media.

This is in line with Eshet's opinion [1] that digital literacy is not just the ability to use software or operate digital devices but involves complex cognitive, motoric, sociological, and emotional skills that individuals need to function effectively in a digital environment. Based on the above opinion, it can be seen that the definition of digital literacy has evolved to be wider, not just clever in using software, but leads to the ethical and responsible use of digital media.

Gilster in A'yuni [2] classifies four core competencies that need to be owned by a person so that it can be said literacy: first, Capacity of to do a search on the internet information using search engines, as well as perform various activities in it. Second, the skills to read and understand dynamically navigation (direction) to the hypertext environment in the web browser certainly very different from the text found in textbooks. Third, the ability to think critically and provide an assessment of what is found online accompanied by the ability to identify the validity and completeness of the information referenced by the hypertext link. Fourth, the ability to compile knowledge, build a collection of information obtained from the various source with the ability to collect and evaluate facts and opinions with good and without prejudice. If every individual has four components,

that will create a society with the mindset and outlook creative-critically. They won't be easily consumed by the provocative issue, be victims hoax information, or digital-based fraud victims. Therefore, a social and cultural life of society will tend to be safe and conducive.

### III. THE URGENCY OF DIGITAL LITERACY IN LIFE FOR STUDENTS

Based on the understanding previously explained, digital literacy is a person's ability to use digital media ethically and is responsible for obtaining information and communication. This will encourage someone to be sensitive when obtaining information and communication in daily life. These skills are increasingly important because this skill will equip students to be able to think and behave critically as independent learners throughout life.

In addition, this digital sensitivity will help someone to think creatively, and innovatively in order to critically analyze and solve problems in everyday situations with more confidence. In addition, students who have good digital literacy will be able to choose and sort information circulating on the internet because today the virtual world is increasingly filled with false news, hate speech, and radicalism, as well as fraudulent practices. Thus students can be responsible for how to use technology to interact with the surrounding environment. There are still many daily life problems that require digital literacy skills. Starting from simple things to complex things.

So important is digital literacy, so digital literacy skills need to be developed. According to Mayes and Fowler in Knobel [5], the development of digital literacy is gradual. There are three levels of literacy digital. First, the digital competence which includes skills, concepts, approach, and behavior. Second, digital usage refers to the application of digital competencies related to context certain. Third, the digital transformation that requires creativity and innovation in the digital world. These three levels can be described as below (Figure 1). The three development principles are the principle of gradual development and need to be started early and starting from the family, school and community environment.

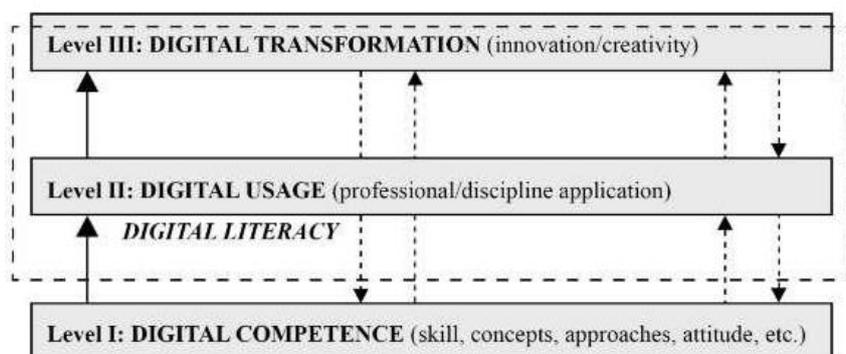


Figure 1  
 Three Levels of Digital Literacy  
 Source: Lankshear and Knobel [5]

#### **IV. DIGITAL LITERACY AT SCHOOL**

Understanding digital literacy cannot be separated from the Educational Institution. Thus, digital school literacy needs to be developed as an integrated learning mechanism in the curriculum and can be connected to the teaching-learning system. In elementary school, there are several skills that students must master such as reading, listening and writing. If connected with digital literacy then reading, listening and writing skills are done with digital media such as computers, internet (blogs, social media, web), and smartphones.

Students can be invited to differentiate false information and correct information spread on the internet. Besides being told site addresses and educational games that are useful for learning and how to use them. Many strategies for developing students' digital literacy. The following are the strategies proposed by Kemendikbud [7]:

##### **A. Strengthening the Capacity of Facilitators**

Strengthening facilitators in the school environment are emphasized in training principals, supervisors, teachers, and education personnel on digital literacy. The training is of course in order to develop a culture of digital literacy. The training is related to the use or utilization of ICTs which emphasize the example given by the principal, teachers, and education personnel related to the application of digital literacy in the school environment.

##### **B. Increase in Amount and Variety of Quality Learning Resources**

Increasing the number and variety of quality learning sources is the main thing that needs to be prepared to support the development of digital literacy. Some things that can be done by the school are: addition of digital literacy reading materials, provision of teaching tools as learning resources related to digital literacy, providing educative sites as learning resources for school residents, using educational applications as learning resources for school residents, and making school wall magazines or classroom wall magazines that can be filled with digital themed things or utilizing information and communication technology.

##### **C. Expansion of Access to Quality Learning Resources and Scope of Study Participants**

Schools need to provide several things to support the development of digital literacy including the provision of computer equipment and internet access as well as providing digital display and information boards at some point in the school including the development of world science, facts simple science, news stories, educational games challenging ones, etc. that can add to the insight of school residents.

##### **D. Increasing Public Engagement**

This strategy can be done by inviting experts to schools related to the world of technology information and communication so that it can improve digital

literacy of school citizens through various activities fun, like in class inspiration and sharing classes are certainly adjusted to the needs of the school. In addition, it can invite stakeholders and parents to be involved in controlling students to access the device and the internet outside of school.

##### **E. Strengthening Governance**

Schools need to develop an electronic administration system for example in recording student data, school expenses, and others. In addition, schools need to make policies regarding the use of digital technology and media that can support the development of better and innovative schools. For example, teachers are required to use technology-based learning media, use the report card application integrated with the head schools and parents, encourage students to play applications of certain educational games, use staff and the internet at certain times, manage the school library by utilizing digital media and technology, and manage infrastructure about technology good and periodic.

With digital literacy, students will learn common values to be adhered to by each user such as freedom of expression, privacy, cultural diversity, intellectual rights, and so on [3]. Thus, students will understand that even though digital media is very profitable, it is necessary to understand ethics in using it so that it does not harm itself.

#### **V. DIGITAL LITERACY IN FAMILIES**

The purpose of strengthening the culture of digital literacy in the family, especially for children is to improve the ability to thinking critically, creatively and Posit in using digital media in everyday life. Parents are also expected to be able to wisely and appropriately direct and develop a culture of digital literacy in families. In addition, strengthening the culture of literacy in the family also increases the ability of family members to use and manage digital media (information and communication technology) wisely, smartly, carefully, and precisely to foster communication and interaction among family members with more harmony and to obtain useful information for family needs. However, digital literacy targets in more specific families are as follows [7]:

1. Increasing the number and variety of digital literacy reading materials owned by the family;
2. Increased frequency of reading digital literacy material in families after a day;
3. Increased number of digital literacy reads by family members;
4. Increased frequency of family members' access to internet usage wisely;
5. Increased intensity of the use of digital media in various activities in the family; and
6. Increased number of digital literacy training that is applicable and has an impact on families.

The strategy of developing family digital literacy starts with parents because parents must be examples of literacy in using digital media. Parents

must create a social environment that is communicated in the family, especially with children. Building interaction between parents and children in the use of digital media can be in the form of discussion, sharing with each other the use of positive digital media. The next step in the strategy of developing digital literacy in the family is to introduce basic material given to family members, namely father, mother, and child, among others, by doing the following things [7].

#### **A. Capacity Strengthening Facilitator**

Counseling about the healthy internet to parents. Strengthening digital literacy for parents can be done through counseling, seminars, and training about how to use the healthy internet. Parents are taught to use a safe site that can be used by children, taught how to use social media wisely, how to maximize the internet in searching for information and knowledge, and so on.

#### **B. Increase in Amount and Variety of Quality Learning Resources**

##### **1. Provision of Reading Materials Related to Digital Media at Home**

Increasing the number and variety of reading materials with the theme of information and communication technology in the form of newspapers, magazines, books, and in the form of soft copies that can be accessed through computers and devices.

##### **2. Educative Television and Radio Program Selection**

The choice of educated television and radio programs for family members, especially for children, can be a source of knowledge. Parents must filter out events that are worth watching and hearing by children. From the educator television and radio programs, children also get fun learning materials and literacy activities in the family.

##### **3. Site Selection and Educative Applications as a Learning Source for Family Members**

The education site and application can be used by family members. For example, parents can use the [TemanKeluarga.kemdikbud.go.id](http://TemanKeluarga.kemdikbud.go.id) or family site or other sites to develop self-knowledge related to the family. Children can open sites and applications to increase knowledge and hone their creativity, such as smart kids' applications, guess pictures, math games, or sites like [kbbi.kemdikbud.go.id](http://kbbi.kemdikbud.go.id), [inibudi.com](http://inibudi.com), and so on.

#### **C. Expansion of Access to Quality Learning Resources and Scope of Study Participants**

##### **1. Provision of Computers, Laptops, Devices, and Internet Access in the Family**

The provision of computers and internet access is one of the important efforts in the development of knowledge in this digital era. Learning resources needed can be obtained by using internet access very quickly and efficiently. The family needs especially children in learning information and communication technology must be supported by the availability of

computer and internet devices at home. Parents and children can follow online classes with various knowledge and skills.

#### **2. Provision of Television and Radio as a Source of Information and Knowledge**

Television and radio can be used as sources of information and knowledge for family members. Currently, television is widely developed and connected with television shows from various world channels through cable TV. Thus, family members have many choices to determine TV stations and events that can develop family knowledge and skills.

#### **3. Increased Public Session Sharing Session**

Sharing sessions can be conducted by inviting experts, practitioners, and volunteers who are supported by the central government, local government, business and industry, education volunteers, and the media to share information about how they apply digital technology in their profession and daily life. The involvement of experts, practitioners, and volunteers personally or institutionally is related to the use and use of information and communication technology for families. Sharing session activities can be carried out through activities in schools and communities, but the focus of the discussion is tailored to the needs of digital literacy development on the family.

#### **D. Strengthening Governance**

##### **1. Agreement Making or Family Rules**

Making agreements or family rules related to the use and use of digital media and technology can support the self-development of family members, especially children. For example, encourage children to play certain educate game applications, use access devices, television, and the internet at certain times.

##### **2. Accompaniment. Families participate in the use of digital media as a means of developing literacy (digital media safety and security)**

Family assistance especially parents to children in using electronic devices and accessing the internet at home is very important in the midst of the free flow of information. Parents must assist children in using the internet to help with schoolwork, supervise the functions that may be used and cannot be used, maintain politeness in communicating on social media, ensure that information obtained comes from reliable and accountable sources, maintains so that children do not send or upload messages, pictures, and videos that can hurt others, and others.

## **VI. CONCLUSION**

Schools and families have a very important role in shaping the character and personality of students. The disruption era presents progress in the field of information technology and telecommunications. Supervision of the family must be done well. This is considering the rapid development of social media. The influence of the development of the digital world as it is today must be addressed wisely. The role of

parents and schools as educational institutions is very important. With the right digital literacy, it will be a filter for negative internet content. On the one hand there is a positive element that can be used to increase students' knowledge and talent so they can continue to innovate. Because that is the urgency of digital literacy for students in disruption era as it must now be important.

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