

# The Implementation of Digital Literacy in EFL Learning: A Case Study in SMP Muhammadiyah 1 Temanggung

Hana Amri Solikhati<sup>1</sup>, Bambang Widi Pratolo<sup>2</sup>

<sup>1</sup>Department of English Education, Ahmad Dahlan University

<sup>2</sup>Department of English Literature, Ahmad Dahlan University

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## ABSTRACT

As technology continues to grow rapidly, there is an explosive development in digital tools and million pieces of information. Digital literacy, a new concept of literacy has offered to process the information in meaningful ways. Educators have struggled to integrate digital literacy to raise students' literacy skill across languages. Thus, there is an increasing expectation and demand for English teachers to present digital literacy in the classroom. A major study has studied the implementation of digital literacy in an urban school with high-advanced technology facility. Therefore, an effort to investigate the practice of digital literacy in suburban school is pressingly needed. The study was conducted to reach four aims: (1) to investigate the implementation of digital literacy in SMP Muhammadiyah 1 Temanggung; (2) to identify teachers' attitude in practicing digital literacy, (3) to explore the challenges, and (4) how to cope with them.

This article involved two EFL teachers who were regarded as millennial teachers and capable to utilize technology. A qualitative research was used to explore the real practice of digital literacy. The excerpt were obtained through a semi structured interview and classroom observation.

The result indicated that computer and smartphone were used as digital devices. In practicing them, teachers showed positive attitudes by considering the syllabus as a core, understanding a teacher's position, developing effective learning, using multiple literacy and enhancing the four language skills. Meanwhile lack of technology, students' background, lack of time and limited budgeting are considered as obstacles in implementing digital literacy. Thus, as a strategy, teacher set an early preparation and backing up plan to cope with these challenges. Finally, this article has implications to improve the technological facility, technological pedagogy among teachers, and suggest the policy makers to give more consideration toward digital literacy.

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*Keywords: digital literacy, digital literacy challenges, and EFL learning*

## 1. INTRODUCTION

Technology in this 21<sup>st</sup> century has been absorbed in most fields of social work. This phenomenon brought significant changes in the teaching and learning process (Mishra Koehler, 2006). The evolution of the teaching and learning process in Indonesia can be seen from a book-based era to the paperless era since the internet has been a way of life. There is no limited access to knowledge, and enhancing learning can be done from various devices, including digital devices.

Digital Literacy Advocates Network (JAPELIDI, 2015) managed a mapping research toward the digital literacy movement in Indonesia. The study was conducted by 56 researchers and run in 9 cities in Indonesia. The study found that school institutions placed a lower rank in organizing digital literacy in Indonesia. It ranked 3,68%, which is lower than NGOs, communities, government, and universities, whereas school is expected to be the most significant organizer in providing information to students and stakeholders. JAPELIDI also revealed that teens/students topped as active partners (29,55%) in organizing digital literacy activity followed by university students (18,5%). This is because students are considered as the easiest cluster to spread negative influence. In the other hand, they are regarded as the agent of change in the middle of this digital society.

Students in this millennium era are acknowledged as digital natives as they grow with technology almost in everyday life. This digital generation is regrettable to be unwise to the digital utilization. To improve the digital literacy skills of students, the teacher should be digitally literate as well. The more digitally literate the teachers are, the more comfortable the teaching process will be. Indonesian teachers believed that language learning should integrate various technologies to improve student's language skills

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(Cahyani & Cahyono, 2012). Digital literacy accommodates students' learning styles of auditory learning and kinesthetic learners. Thus, in the atmosphere of the millennium era, teachers are demanded to have the skill in operating digital technology.

Technological advances that have spread in urban areas enabled students to access digital literacy easily. However, it was worth noting that students should experience technological education equally, including them who lived beyond the urban areas. Therefore, the current study intends to investigate how the implementation of digital literacy in school, which is not located in big cities. Is digital literacy only practiced in schools that have high-level advanced technology? The current study explored the practice of digital literacy, teachers' attitude toward digital literacy, the barriers, and how did the teachers cope with them.

The term digital literacy appeared to enlighten a new way of literacy in this 21<sup>st</sup> century. Ozden (2018) defined digital literacy, as the skill to receive information from a digital format. To archive the information, needs a cognitive level to access, analyze, and produce information from digital tools (McCord, 2015). In the context of developing digital literacy for academic learning, Simpson and Obdalo (2014) suggested that Computer-Assisted Language Learning (CALL) meets the criteria of digital literacy practice. The reason why CALL meets the qualification is that CALL-based lesson includes both subject materials of the English Language. Smartphones agreed as an innovative means of teaching EFL (Origu, et.al, 2018). The advancement of smartphone proves that it is the most used mobile device for learning activity because of mobility and accessibility (Tayebink & Puteh, 2012). The mobility of the smartphone creates limitless space and time to be used out of classroom situations. The accessibility provides learners with a variety of applications in line with educational objectives. Durriyah and Zuhdi (2018) found the following order, such as Facebook closed groups, blogs, Skype, and WhatsApp were integrated within literacy activity.

The development of digital devices has shaped the way teachers teach English language. First, the teachers should understand what digital literacy is and why it is essential to be taught. Teachers' understanding about digital literacy drives the way the teachers present digital literacy in the classroom. The incorporation of technology in digital literacy was an effective way to teach English skills. However, Educational researchers have put much attention to investigating the obstacles in practicing digital media to access information.

McCord (2015) conducted a similar research to study the use of digital literacy in the classroom, which aims to investigate the teacher's attitude in implementing digital literacy. This qualitative research was held in 2015 in Toronto. A semi-structured interview was used to gain information from participants; two teachers who are qualified with the criteria: interest in instructional technology and expertise in technology. The difference between the current study and McCord's is that the researcher does not set any qualifications regarding the teacher's expertise in technology. English teachers should experience five up to ten years of teaching experience. McCord explored how the curriculum and education policy supports the implementation of digital literacy. However, McCord conducted a study in elementary school, which provided plenty of technological education. The current study helps to support the idea of whether digital literacy can not only be implemented in schools based in the city, but also the school district. The gap between the current study and McCord study is expected to bring significant implications for all of the education stakeholders.

Another similar study was held by Alice in Kenya. In her research, She explores teachers' and student's challenges in the use of instructional technologies. Alice involved educational technology policies in her research. The researcher does not involve any government policies at all regarding the focus of the study: the implementation and the perspectives among students and teachers. In the current study, the researcher explores specifically the development of ICT, the practice of digital literacy.

A significant contrary appears between Alice's participant and this research. Alice selected ten secondary schools secondary in Kenya, involving 16 students, all subject teachers in schools, and ten heads of departments. Data collection was obtained through interviews, questionnaires, and surveys. Questionnaire was sent to the teachers, students, and headmasters as they were asked about their biography, as well as the availability and the use of instructional technology and their challenges. Although the data collection method was different from the researchers' approach, this article explained briefly about the challenges among teachers and students. Thus, to explore the challenges in implementing digital literacy, Alice's study shown the instrument briefly. Data was analyzed using descriptive statics and presented by percentages, graphs, and tables.

Cahyani and Cahyono (2012) also conducted a similar study specifically about Indonesian teachers' attitudes toward technology in EFL Learning. This article was a quantitative research which aimed to explore the devices that teachers use in the classroom, why they applied them, and how they implemented them. Besides, it also revealed teachers' attitudes toward technology and how far technology brought a significant increase in the learning process. This research interviewed 37 teachers as representatives from three levels of education: 23 junior high school teachers, three senior high school teachers, and 11 university lecturers. They were chosen because the questionnaires which were sent to the teachers consists of 5 major questions. The

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question was opened by asking them on the types of technology teachers use in the classroom, which are classified into two types, namely web-based and non-web-based technology. In the second question, teachers were asked to mention the type of technology they used and how they applied them. Teachers were asked to respond about their attitude on the use of technology in the EFL classroom, or specifically how they see the relation between technology and students' achievement.

Durriyah and Zuhdi (2018) conducted a qualitative paradigm study about students' and teachers' perceptions in incorporating digital literacy into English instruction. A course for 35 undergraduate students was held to build students' concept and teachers' understanding of implementing digital literacy for a semester long. The curriculum included a critical activity to discuss technology in education, types of technology, and the application of digital literacy in teaching.

Another similar study was conducted by Hosseini (2018). He came up with a research about the obstacle and support system of digital literacy in early elementary school (kindergarten up to 2<sup>nd</sup> grade). Hosseini used an online survey and a primarily closed-ended question for the teachers. He invited early elementary teachers in the district (approximately 140 teachers). The online questionnaire asked about teaching experience, assignment based on grade-level, and teachers' belief about integrating multi-digital literacies in the classroom and how to introduce them. Factors that enhance teachers to use digital literacy are also explored.

To conclude, a similar study was conducted to investigate digital literacy practice in the learning process. The implementation of digital literacy is mostly studied in the learning context rather than the teaching context. Hence, concerning the limited study discussed above, the current study aims to explore teachers' practice in teaching digital literacy into English learning. Several studies have investigated about digital literacy at all levels of education. The implementation of digital literacy in higher education and elementary education is the most research but not in junior high school.

The middle school also requires any improvements in digital literacy practice as teenagers of the junior high school considered as the leading group of digital literacy target (JAPELIDI, 2017). The need for practicing digital literacy to teenagers is because adolescent is considered as the most vulnerable group who will receive the most harmful impact from digital media. Or conversely, they are considered as the agent of change who are expected to take part in overcoming various problems of the digital community. In the scope of EFL learning, many of the studies have studied digital literacy in high-advanced technology schools but not in less-advanced technology schools. The lack of technology education in the suburban area needs to be overcome in this 21<sup>st</sup> century learning. Based on that issue, this article aims to contribute to the number of literature and theoretical frame of digital literacy.

## **2. RESEARCH METHOD**

The research is conducted as descriptive qualitative research conducted in SMP Muhammadiyah 1 Temanggung. A semi-structured interview was used because it allowed the researcher to develop the nature and flexibility of the interview (Rabionet, 2011). This article composed of interview guidelines and observation through video recording.

This research included two EFL teachers, Nagita and Dewi (pseudonym) who are eligible to the criterias: have been experiencing the job for 5-10 years as suggested by Kyriacou (2001) and considered skillful in operating technology (McCord, 2015). The teachers are digitally literate teachers indicated by their participation in technology training, able to utilize various applications in their gadget, computer and other digital devices, and ready to perform technology in the classroom. Furthermore, they were born in the 1980s and considered as the millennial generation. The time and resource limitations interfere with the researcher to meet the ideal number of the participant, as suggested by Dornyei (2007). The ideal participant size to be interviewed in qualitative data is between 6-10 participants. However, he added that qualitative is concerned with how representative the participants in the population are, but instead to figure out individuals with varied and rich experiences.

## **3. RESULTS AND ANALYSIS**

The result of the study explored what types of technology were used in digital literacy classroom, how the teachers practiced digital literacy, the challenges in practicing digital literacy and teachers' strategy to overcome the barriers.

### **3.1. The practice of digital literacy in EFL classroom**

Based on the study done by the researcher, it is found that teachers used computers and smartphones as digital literacy sources. The concept of using a computer in teaching language supports the idea of Simpson and Obdalo (2014) that CALL (Computer Assisted Language Learning) can be utilized to promote digital literacy. Concerning the teacher's integration of smartphones in language learning, it is agreed that the use of smartphones is an innovative means in teaching EFL (Origu, et.al, 2018). Nonetheless,

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Cahyani and Cahyono (2012) stated that teachers should be provided with various types of technology to shape the way teachers teach language.

The finding also shows that the computer is used by Nagita and Dewi to deliver English materials while the smartphone was only used by Dewi, merely to accommodate students' assignments. The teachers' utilization of technology indicates that teachers mostly used a computer and rarely used smartphones in digital literacy. This finding reinforces the previous study of Cahyani and Cahyono (2012) who reported computers as the most favorable device used by teachers for everyday teaching and learning activities.

Nagita described digital literacy as the ability to read through digital devices to understand visual information nowadays. This belief reflects the definition of Ozden (2018), which explained digital literacy as the capability to process information and to understand the goals from a digital monitor. Dewi argued that digital literacy is the ability to utilize technology regarding the information in digital devices, including the ability to consume and create information properly, wisely, and meaningfully. Her belief is similar to Alkalai (2004). Alkalai described digital literacy as the capability to utilize software and digital devices which involves cognitive, sociological, motoric, and emotion to gain what the users needed. Therefore, both participants understood the concept of digital literacy in classroom practices.

Both participants in this article indicate that they agree to incorporate technology in the 21<sup>st</sup> century learning. Nagita believed that technology drives the learning process to be more interesting and helps students reach the learning objectives. However, Dewi revealed that technology is like a double-edged knife, positive and negative side. The positive side is that technology brings engaging learning, while the negative side is when students are not able to use technology appropriately. In sum, both teachers show positive beliefs about integrating technology in the classroom. It has proven that the success of integrating technology in the classroom is reflected by the teachers' positive understanding about using technology (Johnson & Sadaf, 2017).

It was worth noting that it is essential to keep the learning goals within ICT practice (Clarke, 2006). In implementing digital literacy, Nagita considered the syllabus to make sure that the learning process achieves the course objective as designed in the curriculum. In practicing digital literacy, teachers should realize their position as the primary role to manage classroom situation. Dewi emphasized that a teacher has a significant role as a teaching planner and classroom organizer. By realizing these important roles, teachers are able to practice digital literacy effectively. This finding extends the existing literature in which teachers' role brings essential influence in digital and multiple literacies (Grisham and Wolsey 2006). This article found that digital literacy is not merely used in the EFL classroom. Both teachers used multiple literacies (visual, textual, and digital literacy). To illustrate, the teacher used power points, film, and songs to teach English. Unsupportive students and feasible conventional equipment caused the rationale behind the use of multiple literacies. Based on the literature, multiple literacies cannot be divorced from digital literacy (McCord, 2015). In this article, teachers created effective learning to practice digital literacy. In this article, the teacher reflected an appropriate attitude, that is using technology to conduct effective and feasible education. In this case, Dewi used WhatsApp to share students' assignments. Most of the previous studies also shows that teachers agree that technology constructs an effective learning process (Cahyani & Cahyono, 2012).

The practice of technology has encouraged students with an environment where they can reinforce their language skills. Nagita considered that digital literacy could enhance the four skills; she added that teaching English with a song that can encompass the four language skills. Nevertheless, Dewi suggests that digital literacy more specifically foster listening and speaking than other skills. She emphasized audiovisual and visual techniques work the most. In short teachers in the current study have integrated technology to promote English skills.

### **3.2. Challenges in implementing digital literacy in EFL learning**

This article's findings showed that the school has a lack of technology sources. The school only provides computer and projector as digital literacy sources because the school prohibited the use of smartphones in the learning process. Unlike Durriyah and Zuhdi (2018), they found that multi-applications are used to teach digital literacy such as Facebook closed groups, blogs, Skype, and WhatsApp. Durriyah and Zuhdi concluded that the students enrolled in their study could be considered as active users of social media platforms as the students live in an urban city. Meanwhile, the current study explored how digital literacy was practiced in suburban areas. Thus, regarding the lack of facility in this present study, it brings a considerable impact on the quality of technology integration in classroom instructions. Consequently, teachers have to find strategies to implement digital literacy in the middle of an inadequate facility.

A teacher is a huge demanding profession with classroom and social responsibilities (Luciana, 2004). This research found that besides the complexity of students and subject materials, administrative duties demands extra effort. Seeing that a suitable material requires a complex idea and extra hours, hence the teacher often lacks time to create good material. Besides, it can be pointed out that teachers had the

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concepts, but they had limited time to organize them as learning media. A similar conclusion was reached in previous investigations of Hosseini (2018) that indicated the lack of time in technology planning lessons as the most significant obstacle in digital literacy instruction.

While teachers' practices and school facilities are essential in implementing digital literacy, these aspects must also be integrated with students' readiness to access technology. Hosseini (2018) points out that student's self-management skill often presents a greater challenge to teach technology. The present study found that students are not yet ready to utilize technology. Participants in this article revealed that students have low motivation in learning English. Therefore, teachers mainly focus on classroom management rather than elevate instructional technology in the classroom atmosphere. This article's finding is consistent with a prior research by McCord (2015) about teachers' preference in using a contemporary method rather than technology, due to students' capability to excel in lessons delivered using technology. What is more challenging is the absence of technology for some students concerning the incapability to afford technology. Consequently, teachers are unable to perform various technologies in English learning. This finding against the finding of Durriyah and Zuhdi (2018), which found that students' high-level of economic background supports and facilitates them to experience digital literacy.

Another crucial barrier in implementing digital literacy is poor budgeting to purchase technology. To implement digital literacy, a school should provide high performing technology to enhance students' technological skills. Meanwhile, the precious advancement of technology makes it high-priced. The actual reality is that low-cost student tuition cause incapability to buy technology. Alice (2012) also posit that school poor budgeting prevents a teacher from practicing a wider application of technology.

### **3.3 Teachers' Strategy to Cope with the Challenges in Implementing Digital Literacy**

Considering the lack of technology, the teacher prepares the learning early. Thus the teacher can ensure the presence of technology in the classroom. This strategy provides similar results obtained by Spencer (2003) cited that an essential part of doing first is preparation to create good learning.

Another strategy to overcome the barrier is always planning for backing up activity. The strong reason is that classroom conditions can change every time that encourages the teacher to be creative. Dealing with the various classroom situations, the teacher has undergone various and complex situations. By planning for backing up, it allows the teacher to overcome the unexpected condition of the classroom situation. This finding is in line with Harmer's (1998) statement that having a back-up plan is necessarily require in the teaching process.

This article shown that technology, as language teachers believe, is inseparable with the success of teaching and learning activities. The teachers were skillful in practicing digital literacy during EFL learning. Regardless of the minor types of the technology and students' readiness to face technology, the teachers still had positive attitude on how important technology to be integrated in learning process. This article was able to answer the real practice of digital literacy in suburban school, which was unequal with the practice of digital literacy in urban school. The details of how teachers integrated technology in digital literacy answered the question of how digital literacy practiced in the learning process. This finding provided insight which differed from previous studies. McCord (2015), Alice (2012) only investigated how technologies are utilized, without exploring how each technology used in details especially to teach English. This article also showed the challenges that interrupted teachers to teach digital literacy and their strategies to overcome the barriers. Thus, it required improvements done by the policy makers to reach the equality of technology education.

## **4. CONCLUSION**

The present study revealed how digital literacy practices by millennial teachers to middle school students. The current study found that computers and smartphones are utilized as digital literacy sources in teaching English. Under the teachers' belief about the importance of integrating technology in the English classroom, both teachers set several strategies to ensure that technology in the classroom is used. Considering learning objective as a guide, understanding teachers' role, using understanding teachers' role, and bringing effective learning in the English classroom, help teachers to reach literacy goals, not merely entertainment. Furthermore, it can be pointed out that teachers integrated digital literacy to promote language skills, especially listening and speaking skill. Teachers who were considered as digitally literate found some difficulties in practicing digital literacy. The difficulties are mainly due to external factors, such as the lack of technology source, school's limited funds to afford technology and students' readiness to learn technology. Furthermore, the current study found that being a teacher is a demanding profession that prevents teachers from planning digital literacy. Thus, to overcome the barriers, teachers plan the learning process earlier and always prepare for the back-up plan.

The current study leads to a series of implications to improve digital literacy practices, particularly in the English classroom. The school should recognize the potential of digitally literate teachers

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and provide students with technology. This current study found that the technologies provided by the school are less than adequate to provoke technological learning activity. Adequate facility can improve students' skill in operating technology and makes technology a habitual learning. Thus, it creates more opportunities to develop digital literacy practices

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