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EFL STUDENTS' DIGITAL LITERACY: BARRIERS TO DEVELOPMENT AND EFFECTIVE WEB APPLICATION PROGRAMS

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Abstract
This study was a mixed method research which was aimed to examine EFL students' digital literacy skills, as well as the factors impacting their growth and effective web application programs for enhancing their digital literacy skills. This study was conducted at a state-owned university in South Sumatra Province where the participants involved were the sixth semester students of English Education Study Program students from the university. Questionnaires (adapted from Ravitz, 2014) and interviews were used to gather data for the study. The questionnaire data were collected and analyzed using Google form while the interview data were collected through Zoom meetings and were analyzed using thematic analysis. Based on the findings of this study, the vast majority of sixth semester English Education Study Program students were in good to excellent level of digital literacy. More than half of them believed that the lack of digital devices on campus was the most significant problem impeding their development of digital literacy abilities. Furthermore, the vast majority of the participants (90,3%) thought YouTube was the most influential web application program for improving their digital literacy skills.

Keywords: Covid-19, digital literacy, digital native, ICT

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Introduction

Unlike any other period in human history, the twenty-first century is marked by technological advancements, with digital technology playing a critical part in the digital age, as well as universal access to knowledge (Black, 2009). This situation highlights the importance of making

efforts to reduce the gap in digital device accessibility and extend options for access to technology in order to achieve equity. On the other hand, many teachers and students are unable to apply their technical skills into the continuing student learning process. For example, students cannot use technology properly until they are digitally literate. Thus, digital literacy is critical for society in this information age because of the need to expedite technical advancements (American Library Association, 2013). Students with 21st-century skills can interact effectively with technology in a range of academic circumstances. As a result, students should be prepared to deal with such rapid technology developments by learning the essential skills. According to Fadel and Trilling (2010), twenty-first-century skills are divided into three categories: (1) innovative thinking; (2) information, media, and ICT (information, communication, and technology) skills (together known as digital literacy); and (3) life and career skills. Meanwhile, information literacy, media literacy, and information and communication technology (ICT) literacy are the three components of digital literacy. Given the era's strong links to digital technology, these abilities look to be important in the twenty-first century (Zook, 2019). The first component, information literacy, enables students to select, analyze, and use information to learn, apply, and share their knowledge in an effective and ethical manner. ICT abilities are the ability to access, manage, integrate, analyze, and produce information bodies using digital technology, communication tools, and networks (Panel, 2002). The third multidisciplinary component, media literacy, is concerned with various methods of accessing, interpreting, evaluating, and disseminating messages. According to Beetham and Sharpe (2007), digital literacy includes people's understanding, behaviors, and capacity to recognize, obtain, handle, incorporate, interpret, examine, and synthesize digital tools and information, develop new expertise, construct media expressions, and engage with others, in addition to the three required ICT skills acquired through technology.

As previously said, being digitally literate is considered essential for survival in this century because it will aid everyday living and professional advancement. It is the capacity of a person to comprehend and evaluate information presented in diverse ways via digital media (Gilster, 1997). It helps to promote contextual knowledge by combining cognitive and technical abilities. This highlights the significance of using critical thinking to examine and evaluate information obtained from the media, particularly digital media. To get the best outcomes from the learning process, a person must know how to utilize digital devices effectively and grasp everything about digital technology. Indonesians, particularly in the sector of education, must be well-prepared to deal with digital literacy. The advancement of science and information technology has ushered in a new generation of pupils that are digitally literate. In order to increase education quality in the twenty-first century, the field of education must continue to incorporate technology advancements. As a result, everyone, especially schoolchildren, must be taught digital literacy. Digital literacy is expected to encourage pupils to use technology more effectively in the classroom. Students can access more up-to-date educational information if they are digitally literate, which is one of the benefits of being digitally literate. (Alismail & McGuire, 2015).

During the COVID-19 epidemic, the demand to employ digital technology for teaching and learning activities grows as time passes. Virtual learning, which makes use of computer technology and the internet network, is used to provide lectures or class teaching activities. The use of virtual learning during the pandemic is crucial to government strategy aimed at preventing COVID-19 illness from spreading and becoming a worldwide epidemic. Many pupils appear to experience numerous challenges during virtual lectures. Students must be familiar with and handle different digital programs used by lecturers, such as zoom applications, Google classrooms, and so on, in

order to attend virtual lectures efficiently during the COVID-19 pandemic. In order to thrive in digital learning, language learners must also develop digital literacy abilities and linguistic learning strategies in technology-enhanced language learning environments (Hubbard, 2013). To evaluate EFL students' readiness for online learning during the Covid-19 pandemic, it is important to find out their digital literacy levels as well as the barriers that are stopping them from gaining digital literacy abilities. The goal of this study is to identify variables that impede EFL students' digital literacy growth and to identify effective web application programs to help them improve their digital literacy skills.

Literature Review

Digital literacy

Digital literacy serves as the foundation for the study. Digital literacy has been defined in a variety of ways by different authors. Digital literacy, according to Gilster (1997), is described as the ability to comprehend, analyze, and apply data. Pool (1997) defines digital literacy as an individual's ability to find and synthesize digital material, learn new skills, produce media expression, and interact with others in the context of specific life situations in order to engage in meaningful social action, as well as to reflect on the process (Martin, 2005). Digital literacy promotes the use of digital technology to handle various forms of data in online environments such as Web 2.0 and its online applications. According to Eshet (2004), in English teaching and learning contexts, young learners must improve their digital literacy. As a result, digital literacy has come to be seen as a "survival skill in the digital era." To ensure that young learners are digitally literate, supporting skills such as information, publishing, technology, learning, creativity, and life and job skills must be introduced (Warschauer & Matuchniak, 2010).

Several authors define digital literacies differently. Dudeney, Hockly, and Pegrum (2013) give definition of digital literacies as "the individual and social skills required to effectively interpret, manage, share, and create meaning in th***e*** expanding range of digital communication channels" (p. 2). Digital literacy, according to the definition, is defined as the ability to navigate, interpret, anticipate, and communicate across numerous digital platforms. It symbolizes the knowledge that young learners will need to excel in digital literacy. Information literacy, media literacy, information, communication, and technology literacy are all classified as digital literacy abilities. Information literacy, media literacy, knowledge, communication, and technical literacy are all important in the twenty-first century since it is heavily reliant on digital technology.

Importance of being digitally literate

Computer literacy is necessary for the bulk of the world population, including EFL teachers and students. According to Ferrari (2012), being digitally literate means being able to interpret media (most mediums have been or are being digitalized), search for and assess retrievable information (thanks to extensive internet use), and connect with people using a range of digital tools and apps (mobile, internet). Borders between/among countries are no longer a barrier in this digital era, thanks to advancements in digital technology, and long-distance communication between nations and continents is now simple. In today's world, almost every career demands some amount of digital literacy. Face-to-face meetings have been supplanted by online talks as a result of the current covid-

19 pandemic outbreak, which has had a huge influence on education and work. Many people are persuaded by this scenario to learn digital literacy abilities in order to interact with others or with themselves via technology (Chetty et al., 2018). EFL teachers and students who are digitally literate can be seen from their abilities to work with digital technologies. Chu, Reynolds, Tavares, Notari, and Lee (2017), present three characteristics that must be owned by them to be considered digitally literate. They are as follows:

> IL is the ability to effectively and ethically select, evaluate and use information to gain, apply and share their knowledge…, ICT skills … refer to the ability to use digital technology, communication tools, and/or networks to access, manage, integrate, evaluate and create bodies of information, [and] ML … is associated with the ability to access, analyze, evaluate and communicate messages in a variety of forms. (p. 22)

Being technologically savvy is now regarded highly important. Because digital media is virtually ubiquitous these days and most students are already digital natives, technologically aware EFL teachers may use ICT to create creative teaching and learning environments both within and outside the classroom. However, before the ICT program is fully integrated into EFL instruction, the current level of digital literacy abilities of EFL students, as well as any variables impacting the use of ICT in the classroom, must be addressed. Students' digital literacy needs may be met in this fashion, allowing them to fulfill the demand for 21st-century skills (Eryansyah, Petrus, Indrawati, & Ernalida, 2019).

Digital literacy skills

Digital literacy encompasses competencies such as information, media, and information and communication technology literacy (ICT). All of these skills are intertwined with technological advancements. These skills are lacking in the majority of millennials. However, digital natives are not always digitally literate, even if they are historically tech-savvy. They must continually renew their resources and experience to keep themselves digitally literate. For example, they must have information literacy abilities in writing, reading, and interpreting, which are the basic concepts of information management and related procedures or methodologies. This category contains discussions of issue definitions, problem identification, and problem-solving techniques for acquiring, analyzing, understanding, and using information. The increasing use of information and communication technology has both beneficial and bad consequences. As a result, the environment has evolved into a multicultural society. In the subject of education, information and communication technology (ICT) is a critical component. The use of information and communication technology (ICT) in educational or teaching and learning activities helps to enhance and broaden access to learning resources and materials. Of course, using advanced teaching techniques, improving learning results, reforming or better managing the education system, reflecting on what may be improved, and temporary publishing work that recognizes Internet information copyright rules can all assist to improve education quality.

Information and communication technology (ICT)

The increasing use of information and communication technology has both beneficial and bad consequences. As a result, the environment has evolved into a multicultural society. In the

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subject of education, information and communication technology (ICT) is a critical component. The integration of information and communication technology (ICT) in educational or teaching and learning activities aids in the enhancement and expansion of access to learning resources and materials. Advanced teaching approaches, higher learning outcomes, and education system reform or better administration can all help to improve educational quality. As science progresses, the variety of ICT tools and components are expected to expand. Some of them have been in use for decades, such as computers and telephones. Other examples include cellphones, digital televisions, and robotics, which emerged as a result of the evolution of prior technologies. The system employs a variety of ways and methods in sharing, receiving, and processing relevant information without restriction in order to improve the quality of language and adapt to changing world needs (Akele, 2014).

ICT in language learning

The use of digital technology for language learning has grown among the younger generation, and it is now a significant concern among EFL teachers, students, and stakeholders. Digital technology encompasses not just software and hardware, but also digital architecture, which is constantly evolving and widely employed in teaching and learning activities across the world (Lee & Finger, 2010). Instructional technology, computer-based systems, learning technology, or information and communication technology are all terms that can be used to describe this concept (ICT). The use of information and communication technology (ICT) has altered people's daily lives. Surprisingly, as digital technology has progressed, young children have started to use a variety of digital literacy tools, such as the internet, cellphones, online and offline games, messaging, and sketching tools. Digital literacy tools can assist young learners better grasp each word, text, and meaning offered by a range of digital devices. Turula (2017) claims that young learners who push themselves to study English improve their digital literacy utilizing digital literacy approaches, supporting self-regulated learner autonomy.

ICT has an impact on students in three areas: education, communication, and enjoyment. In terms of education, today's technology advancements have transformed the teaching and learning activities that take place in the classroom. According to Ciroma (2014), ICT can improve student learning and teaching methods, based on the findings of an international study. The definition of digital literacy is the knowledge, competence, and behavior of literacy actors who use digital technology for their everyday requirements. Karpati (2011) defines digital literacy as "contemporary life skills comprising of knowledge, skills, capacities, and motivating elements generated from individual requirements in each area," as published by the UNESCO Institute for Information Technologies in Education. The general population has to be informed that digital technology can assure continuous learning. Students' actions shift from passive to active as a result of this circumstance. While being assisted by the teacher, students should work together to gain new skills and information (Lachica, 2015).

Factors inhibiting EFL students' digital literacy development

Digital literacy is defined as the knowledge, competence, and behavior of literacy actors who use digital technology for their everyday requirements. Karpati (2011) defines digital literacy as "contemporary life skills comprising of knowledge, skills, capacities, and motivating elements

generated from individual requirements in each area," as published by the UNESCO Institute for Information Technologies in Education. The general population has to be informed that digital technology can assure continuous learning. Several studies have demonstrated the benefits of utilizing digital technology to improve students' English skills, including more efficient learning through social networking services and improved motivation to study. In Asia, notably in Indonesia, many EFL students lack basic computer literacy skills (Eryansyah et al., 2020). The lack of digital devices on campus was cited by the vast majority of pre-service EFL instructors as the most significant issue impacting their development of digital literacy abilities. The pupils' lack of financial resources was the second major factor influencing their digital literacy growth. Last but not least, there is a scarcity of supporting resources. This is in accordance with a research done by Mudra (2020), which showed that owing to a lack of internet connection, expensive demands and tools, and the complexity of material content, digital literacy among learners is declining.

Methodology

Research design, site, and respondents

This study applied a mixed method design. According to Johnson and Christensen (2016), "Mixed research involves the mixing of quantitative and qualitative research methods, approaches, or other paradigm" (p. 108). The quantitative data used were in the form of questionnaire while the qualitative data used were in the form of interview. The purpose of this study was to look into the factors that prevent EFL students in a state-owned university in South Sumatra from developing their digital literacy skills and participating in an effective ICT program to improve their ICT skills
The participants in the study were 74 sixth-semester English Education Study Program students from a state-owned university in South Sumatra Province. They were chosen using a convenience sampling method. Etikan, Musa, and Alkassim (2016) defined convenience sampling (Haphazard sampling) as a non-probability or non-random sample method in which individuals of the target population who fulfill certain practical criteria for any study's goal are selected. The students were chosen for this study because, in comparison to 4th and 2nd semester students, they had fewer subjects taken over the semester. To put it another way, they had more time to devote to this research. As a result, they were thought to be the best candidates for this study's sample.

Data collection and analysis

The information gathered in this study came from questionnaires and interviews. The questionnaire used was a ready-made questionnaire adapted from Ravitz (2014). It consisted of 21 closed-ended questions utilizing the five-Likert scale (never, rarely, sometimes, frequently, always), with students selecting one of five options in each statement and open-ended question. The purpose of the questionnaire was to learn more about the factors that influence the usage of digital technology for language learning and to develop effective ICT programs to help EFL students enhance their ICT abilities. The other instrument, the interview was a semi-structured interview made by authors focusing on collecting data related to factors affecting digital technologies for language learning and effective ICT programs to improve EFL students' ICT skills. An interview protocol with pre-set questions was used to construct this semi-structured interview. There were 12 questions prepared for the interview. The questions were already validated before they were used for

data collection. The questionnaire was sent out via Google Form to 74 people, however only 72 of them responded. Meanwhile, there were six people who took part in the interview. Zoom Cloud meetings were used for the interviews. The data from the questionnaire was automatically analyzed by Google Form, and the findings were delivered to participants shortly after they finished the survey. Authors manually evaluated the data from interviews using a thematic analysis to obtain extra information to corroborate the questionnaire findings in order to answer the research questions.

Findings

EFL students' self-rating on basic digital literacy skills

The questionnaire included five questions about self-rating digital literacy skills, ten questions about attitudes toward the use of ICT in language learning, and two lists of items about factors preventing EFL students from developing digital literacy skills and successful ICT programs for developing EFL students' ICT capabilities.

Table 1. *Self-rating on basic digital literacy skills*

No	Statements	Very Poor	Poor	Acceptable	Good	Excellent
1.	How would you rate your typing abilities are?	0 0%	3 4,2%	19 26,4%	42 58,3%	8 11,1%
2.	How would you rate your ability to conduct an online search?	0 0%	1 1,4%	5 6,9%	44 61,1%	22 30,6%
3.	What would you say your level of computer literacy is?	0 0%	1 1,4%	13 18,1%	46 63,9%	12 16,7%
4.	How would you evaluate your knowledge of the internet?	0 0%	0 0%	6 8,3%	44 61,1%	22 30.6%
5.	What would you say your level of digital literacy is?	0 0%	3 4,2%	12 16,7%	39 54,2%	18 25%

The majority of the EFL students in this study had excellent or good digital literacy abilities, as seen by the statistics in Table 1. The majority of them were proficient in web search (30.6%), internet literacy (30.6%), and digital literacy (25%). Furthermore, according to the statistics in the table above, more than half of the EFL students (54,2%) had a good degree of digital literacy. Based on the above data summary, EFL students' current digital literacy abilities are in the good to excellent level.

EFL Students' attitude toward the use of ICT in language learning

The opinions of EFL students about the use of ICT in language learning are shown in Table 2. It is clear that 37 students (51.4%) love using ICT devices, 30 students (41.7%) enjoy using digital

devices, and 31 students (43.1%) feel that technology enhanced language learning instruction is vital. Additionally, 36 students (50%) desire to learn more about digital technology, and 40 students (55.6%) are certain that using digital tools and resources would improve and support their learning system.

Table 2. *EFL Students' attitude toward the use of ICT in language learning*

No	Statements	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1.	Using digital devices is genuinely enjoyable for me.	0 0%	1 1,4%	2 2,8%	32 44.4%	37 51,4%
2.	It's perfectly fine, and it's easy to run in.	0 0%	2 2,8%	5 6,9%	35 48,6%	30 41,7%
3.	I'm familiar with a variety of digital gadgets.	2 2,8%	4 5,6%	7 9,7%	42 58,3%	17 23,6%
4.	I've grasped and comprehended the true meaning of digital technologies.	0 17,8%	5 6,9%	12 16,7%	35 48,6%	20 27,8%
5.	I'm quite interested in learning more about digital technology.	0 0%	0 0%	5 6,9%	31 43,1%	36 50%
6.	When I got a question about digital devices, I felt like I was in jeopardy.	8 11,1%	28 38,9%	15 20,8%	13 18,1%	8 11,1%
7.	In terms of using digital technology, I believe I am lagging behind my peers.	4 5,6%	26 36,1%	21 29,2%	16 22,2%	5 6,9%
8.	It is essential for me to study more in order to increase my understanding of digital gadgets.	0 0%	0 0%	2 2,8%	32 44,4%	38 52,8%
9.	I am confident that utilizing technology will result in a higher-quality education system.	0 0%	0 0%	2 2,8%	30 41,7%	40 55,6%
10.	I believe that technology-assisted language learning should be included in language education programs.	0 0%	0 0%	8 11.1%	33 45,8%	31 43,1%

Factors impeding the development of digital literacy skills among EFL students

Table 3 shows that the majority of EFL students, or 69.4 percent, believe that the lack of digital devices on campus is the most significant problem impeding their development of digital literacy abilities. Students' lack of funding was the second most critical problem impacting their digital literacy skill development, according to 62,5 percent of them. Students' lack of learning and learning resources were cited by 58,3 percent of respondents as the following cause. Teachers' lack of understanding of digital literacy technology was cited by more than half of them (56,9%) as the

next factor impacting their digital literacy growth. A lack of supporting resources and students' lack of enthusiasm were cited by around half of them (55,6%), while the other half (54,2%) cited students' lack of understanding as other issues preventing them from improving their digital literacy abilities. The biggest difficulties restricting their digital literacy skill development, according to a smaller number of them, were instructors' limited knowledge in digital technology (40.3 percent), students' time constraints (37.5 percent), and teachers' lack of passion (34.7 percent).

Table 3. *Factors impeding the development of digital literacy skills among EFL students*

No	Statements	Frequency	Percentages
1.	Students' time constraints	27	37,5%
2.	Teachers' Lack of knowledge	41	56,9%
3.	Teachers' Lack of expertise	29	40,3%
4.	Teachers' Lack of interest	25	34,7%
5.	Students' Lack of learning	42	58,3%
6.	Lack of supporting resources	40	55,6%
7.	Students' lack of budget	45	62,5%
8.	Students' Lack of knowledge	39	54,2%
9.	Students' Lack of skills	38	52,8%
10.	Students' lack of interest	40	55,6%
11.	Lack of learning materials	42	58,3%
12.	Unavailability of facilities	50	69,4%

Effective web application programs for EFL students to increase their ICT skills

Table 4. Effective ICT programs for EFL students to increase their ICT skills

No	Statements	Frequency	Percentages
1.	Blog	36	50%
2.	E-learning	57	79,2%
3.	YouTube	65	90,3%
4.	Instagram	33	45,8%
5.	Twitter	19	26,4%
6.	WhatsApp	33	45,8%
7.	Google classroom	43	59,7%
8.	Zoom	42	58.3%
9.	Facebook	22	30,6%
10.	Wikipedia	39	54,2%
11.	Google	63	87,5%

Based on data in Table 4, the vast majority of EFL students, or 90.3%, believed that YouTube is the most impactful ICT program for improving their ICT abilities. According to 87,5 percent of EFL

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students, Google was the second most beneficial ICT program for them to improve their ICT abilities. 79.2 percent of respondents evaluated e-learning and 59.7% rated Google Classroom as successful ICT initiatives. Zoom is a beneficial ICT software for increasing ICT abilities, according to more than half of those questioned (58.3%). About half of them (54,2%) believed Wikipedia and blogs (50%) were the best ICT programs for developing their ICT skills. Meanwhile, less than half of them (45,8%), Facebook (30,6%), and Twitter (26,4%) believed Instagram and WhatsApp (45,8%), Facebook (30,6%), and Twitter (26,4%) were other beneficial ICT apps for developing their ICT skills.

Interviews

There were 12 questions used to find out the reasons that prevented EFL students from gaining digital literacy abilities and the successful ICT programs that helped EFL students improve their ICT skills. For the first question, the author inquired about students' knowledge of ICT. Several students stated that ICT means for information, communication, and technology, which refers to all communication technologies, and that ICT is a tool for people to communicate, as well as to assist in the teaching and learning process while we are separated. "All I know about ICT is that it has to do with information, communication, and technology," S2 explained. So, if we compare it to our classroom activities, it's probably similar to when the instructor and pupils used technology in the classroom. Moreover, S4 said, "I think ICT is a kind of technology where we can find and communicate with technology." The authors asked students what they thought about the necessity of becoming digitally literate in the second question. The majority of students responded that being digitally literate is important because current circumstances have forced us to stay at home and rely on technology to meet and study, so if we are not digitally literate, we will be unable to participate in online activities or study in this pandemic era. "Of course, in this globalized period, it is necessary to develop our digital literacy abilities to conduct such activities," S5 added. For the third question, the author asked students to assess their digital literacy skills on a scale of one to one hundred. Furthermore, the majority of the participants rated their digital literacy abilities between 70 and 80. "Maybe, 80," S2 answered, "because I can run some technological tools and programs, and I can also filter the information I get from the Internet, therefore, I suppose I am on 80."

For the fourth question, the author inquired as to what obstacles EFL students have in gaining digital literacy abilities. As S1 stated, "In my opinion, it is about supporting facilities and infrastructure since campus must have excellent and complete facilities such as computers, laptops, and projectors, as well as the availability of internet and e-mail." Meanwhile, instructors' lack of skills, followed by students' lack of skills, financial constraints, and lack of facilities, are all issues influencing students' digital literacy skill development, particularly in the classroom, according to S2. "Perhaps a lack of teacher training," she said, "since one lecturer could not utilize eLearning because he did not know how to run it while I was in the fifth semester." The authors inquired if pupils' digital literacy abilities would increase if all problems had a solution in the fifth question. The majority of participants believe that if they tackle the difficulties or causes listed in question number four, their digital literacy abilities will increase. "Of course," S3 replied, "for example, if the institution offers facilities, it aids my digital literacy skills." "Perhaps sure, if those problems are resolved, the student's digital literacy abilities can be improved," S6 added.

In the sixth question, the author inquired as to what motivates pupils to use digital gadgets. Participants stated that digital devices are simple to use or adaptable, that they may use them

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anywhere, at any time, and, of course, that digital gadgets offer several advantages that can help students perceive the world in new ways. "By utilizing technical gadgets, we can do it anywhere, anytime, and the time used is also less than when we find it manual on books, therefore that is the primary reason I love using digital devices," S2 explained. In the seventh question, the author inquired as to how pupils felt about using digital gadgets in the classroom. When utilizing digital gadgets in class, the majority of students said that they enjoy, are pleased, and are eager. "I get excited when I utilize digital devices," S3 remarked. "I love and am excited," S4 said, "and, of course, I adore utilizing technology all day when I have online classes." The author questioned what digital gadgets the students utilized in the eighth question. The laptop and mobile phone were the most common devices used by students. The authors questioned how students might enhance their digital literacy abilities in the ninth question. Several participants indicated that YouTube and Google are helpful in improving their digital literacy. "I constantly watch YouTube to develop my digital literacy abilities by looking for a variety of topics on YouTube," S5 explained. "I believe that the best approach to enhance digital literacy abilities is to utilize digital tools frequently; if we use them more frequently, we will be able to master them fast and learn something new that we did not know before," S6 added.

The author posed the tenth question on the obstacles students faced when using digital technologies. Furthermore, inadequate internet networks or signals, as well as unfamiliarity with new apps, were common problems students encountered. "It can be tough to discover an issue with the internet network that makes it difficult to obtain information," S1 explained. "Perhaps when we don't understand how to properly use digital technology," S3 speculated. In the eleventh question, the author asked what ICT programs might assist students improve their ICT skills. Furthermore, students responded that the most essential ICT programs for enhancing pupils' ICT abilities are Google and YouTube.. "They're a lot," S2 explained, "like graphics design applications like Corel, and then social media, like YouTube, which will be especially helpful for us language learners, and then Google; I think Google is the most valuable tool because we can find anything, like an e-book, learning materials for learning." "I usually utilize YouTube to develop my ICT abilities, as usual," S5 remarked. I'm familiar with Microsoft Office, Canva for editing, and Edmodo for practicing English. The authors inquired why those programs successfully increase student language acquisition in technology in the twelve questions. The majority of participants stated that those ICT programs are beneficial since they are both accessible and efficient for pupils. "It requires a little bit of money because it is regarded efficient and simpler to access anytime or there is no time limit," S1 explained.

Discussion

Focus of the discussions are directed to answer the three research questions stated at the end of the introduction, EFL students' levels of digital literacy, factors impeding their digital literacy skills, and web application programs that helped students improve their digital literacy skills. Data from the questionnaire findings indicated that EFL students' level of digital literacy skills were categorized good to excellent. This information can be seen in Table 1, more than half of the students rated themselves in good category and around quarter of them rated themselves in excellent category. Findings from interview supported the findings from the questionnaire. When they were asked to rate their digital literacy levels from 1 to 100, majority of them rated themselves 70 or 80.

The obstacles that prevent EFL students from improving their digital literacy abilities could be divided into three categories (See Table 3). They came from the EFL students themselves, their

lecturers, and the campus as a whole. From the students' own side, around half of them considered their low budget, knowledge, ICT skills, and interest to be factors impeding their digital literacy skills. Lecturers' lack of ICT skills, knowledge, and interest affected their digital literacy skills as well. The problems in campus were the lack of digital gadgets on campus that students could test for free, as well as their digital literacy not developing correctly due to a lack of supporting resources. Furthermore, no training in the use of digital technology was provided on campus. These three issues made it difficult for students to improve their digital literacy on campus. Findings from interview as seen from their responses on the fourth question asked in the interview strengthened the three factors as the factors that inhibited EFL students' digital literacy skills.

The factors from the students' side found in this study seemed to be relevant to what Spiers and Bartlett (2012), Supratman and Wahyudin (2017), and Tampubolon (2017) have previously stated, namely that, despite being digital natives, current EFL students still lack quality knowledge, particularly digital knowledge and skills. Or, to put it another way, they are not technologically literate yet. Meanwhile, the lack of knowledge, skills, and motivation on the part of lecturers tended to make them hesitant to integrate ICT into their EFL teaching and learning activities. This condition, according to Kurniawati et al. (2018), was because of the lecturers were still working on incorporating ICT into their lessons. With their current skills, they could only utilize digital devices to a limited extent. As a result, even greater efforts to increase pupils' digital literacy knowledge and abilities are required. Azmi (2017), Houcine (2011), Husain (2018), and Papadima-Sophocleous, Giannikas, and Kakoulli-Constantinou (2014) all believe that the advantages of ICT in language learning can improve EFL students' digital literacy as well as their language learning performance. The answer rests in the previously mentioned difficulties, yet EFL students' digital literacy abilities can still be enhanced, and students can "employ [digital] tools and resources for language acquisition in genuine situations" (Son, Park, & Park, 2017).

Five issues were preventing EFL students from effectively developing their digital literacy abilities, according to EFL students. Students' lack of funds, education, skills, motivation, and time were all contributing issues. The EFL students thought the university-related variables were the most significant of the three sets of criteria. What the researchers discovered through their analysis appears to be similar to and relevant to what Spiers and Bartlett (2012), Supratman and Wahyudin (2017), and Tampubolon (2017) have previously stated, namely that, despite being digital natives, current EFL students still lack quality knowledge, particularly digital knowledge and skills. Or, to put it another way, they aren't yet technologically literate. Although some initiatives to increase students' technical literacy have been carried out (as indicated in Table 2), the effects achieved from these efforts appear to be insignificant (Kurnia & Astuti, 2017). Findings from the questionnaire and interview suggested that large majority of EFL students considered YouTube was the most influential web application for strengthening their ICT abilities, based on the following interpretation of the data. According to them, Google was the second most successful ICT program for EFL students to improve their ICT abilities. The other web applications that EFL students considered playing important roles to improve their digital literacy skills were e-learning, Gmeet, and Zoom. These all indicated that the more they were involved in web-based teaching and learning activities, the better they could improve their digital literacy skills.

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Conclusion and Recommendations

Digital literacy is important and may have a major influence on people's lives, especially when it comes to teaching and learning. Because of the present unclear circumstances caused by the Covid-19 Pandemic, instructors and students will need to use digital literacy and technology to enhance the teaching and learning process. The investigation of EFL students' digital literacy and successful ICT programs was the subject of the study. To satisfy the expectations, researchers looked into their present digital literacy levels, factors inhibiting them from effectively improving their digital literacy skills, and successful ICT programs. The majority of them were found to be above the normal level. Based on the research findings, 25% of them had outstanding digital literacy abilities, while another 54.2 percent had moderate digital literacy skills. The lack of open access to digital devices, as well as a lack of supporting resources and training in utilizing digital devices for study, were the primary issues impacting their digital literacy growth. This situation deteriorated as a result of the majority of them lacking the financial means to purchase digital gadgets and subscribe to internet, as well as their professors' less understanding and concern in digital technology. All of these variables appear to make clear why just a small fraction of the entire EFL students who took part in this survey were considered to have high digital literacy. This research has certain limitations, such as a small number of samples, time constraints, a limited number of instruments utilized, and non-generalizable research findings. Its results, on the other hand, have provided important information. As a result, the authors recommend that the research subject be further investigated using additional samples, various research methodologies, and a longer study period. As a consequence, a more generalized conclusion about digital literacy levels of pre-service EFL teachers may be drawn.to keep up with the needs of 21st century education.

Following up on the explanation in the conclusion, there are a few comments and recommendations that should be made. Students are expected to enhance the frequency with which they use online technologies to achieve academic goals. According to the findings of the study, just about 25% of pupils have a high degree of digital literacy. Lecturers and teaching staff must offer mentorship and motivation for students to enhance their digital literacy and ICT abilities, as well as providing mentoring and encouragement for students to use technology and the internet. Finally, for further research, it is suggested that a more in-depth study of the influence of digital literacy on EFL students be conducted in order to obtain more references on the use of ICT in EFL education.

Disclosure statement

During the research and publishing of this work, the authors state that there was no possible conflict of interest.

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