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Depiction of Digital Literacy Practices by English Language Education Lecturers in EFL Classrooms

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Abstract

This present research explores the digital literacy practices of lecturers in the English Language Education Department at Universitas Negeri Yogyakarta. It comprises lecturers' perspectives and experiences to provide a vivid overview of digital literacy in EFL classrooms, particularly in higher education contexts. Through descriptive qualitative methods, the data were gathered from eight experienced English lecturers at Universitas Negeri Yogyakarta using snowball or chain sampling. The data were collected through semi-structured interviews, in-class observation, and a collection of learning artifacts. This research revealed that digital literacy was being incorporated within many English courses offered in the English department and several study programs at Universitas Negeri Yogyakarta. Unfortunately, the incorporation of digital literacy has only scratched the surface. Digital literacy practices were still limited to their application in classroom settings without effectively including a proper scheme on how it was incorporated and assessed. Thus, this research becomes 'eye-opening' for educators to leverage digital literacy in their teaching for forthcoming appropriateness.

Keywords
Digital literacy, digital literacy practices, EFL classroom, higher education, lecturers.

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Introduction

Digital literacy has been an intriguing topic and earned excessive attention in this digital era. Many scholars have kept an eye on digital literacy as it is one of the essential aspects of current circumstances. In the educational context, there has been adequate research eliciting the importance of digital literacy and its implementation in classroom settings (Fraile et al., 2018; Hobbs & Tuzel., 2015; Ilhami et al., 2021; Karagul et al., 2021; Rusydiyah et al., 2020; Wardhani et al., 2019). From these research, digital literacy is a concept that includes the required skills in this digital era, such as knowledge, operational skills, and social and ethical awareness. It is firmly believed that being digitally literate portrays far more than possessing the ability to find information amongst the mast of sites and sources.

As communication becomes digitally mediated in this era, English language learners (ELLs) are expected to activate their digital competencies to engage the effective communication. In this case, ELLs need support to develop digital literacy competency to prepare for a future in a digitally enriched environment. It requires a new approach to pedagogy in which digital literacy practices can be elevated for this purpose. This circumstance provides a broader opportunity for digital literacy practices to participate. Although the importance of digital literacy is widely acknowledged, unfortunately, some research reported that there is still a narrow understanding of digital literacy, which leads to limited integration of digital literacy practices in the teaching and learning process, especially in the EFL context (Akayoglu et al., 2020; Ekaningsih & Kurnia, 2022).

Additionally, existing literature on digital literacy (Akayoglu et al., 2020; Fraile et al., 2018; Rinekso et al., 2021) has attempted to provide an in-depth understanding of digital literacy, how it is implemented, as well as its contribution to language teaching and learning in definite areas. However, some of this research has investigated teachers' perceptions and explored digital literacy from language learners' (LLs) standpoint tends to examine digital literacy to provide critical links toward digital literacy's theory and practices. Linked to this, a paucity of research areas that provide a closer look at digital literacy practices in higher education contexts. Supporting this idea, Rinekso et al. (2021) underlined that lecturers are the pioneers in promoting and enhancing digital literacy practices in tertiary education as they become role models for generating innovative digital literacy practices for university students. In addition, the research focusing on lecturers' digital literacy practices is highly suggested to provide more overview of digital literacy in EFL classrooms.

Corresponding to this, the role of lecturers is significant for promoting innovative practices of digital literacy to university students as they are the pioneers for serving high-quality teaching, learning, and research. Therefore, this research intended to answer the following research questions:

1. What are lecturers' perspectives on the integration of digital literacy in EFL classrooms?
2. What is the digital literacy practice of lecturers in the English Language Education Department at Universitas Negeri Yogyakarta like?

Literature Review

Digital literacy in the Indonesian context

Literacy has always been a primary goal of education. The definition of literacy has changed over time. Hockly (2011) stated new skills and literacies are required in this constantly evolving digital landscape. With the evolution of the term literacy, it appears multiple concepts of related literacy are spreading nowadays, namely technology literacy, computer/IT/ICT literacy, e-literacy, media literacy, academic literacy, and information literacy. These several widely known terms are used interchangeably and naturally dealing with a single-set competence, which affects the ability to take advantage and critically evaluate the information available online safely, wisely, and productively (Akayoglu et al., 2020). In addition, Alexander et al. (2017) regarded digital literacy as one of the newly required competencies in this digital revolution, where it allows students to "become more effective in learning, better creators, smarter information consumers, and more influential members of their community" (Alexander et al., 2017). Mantiri et al. (2019) described what a digitally literate individual is. It refers to one's ability to use technology strategically to discover, evaluate, and communicate information, and possessing the ability to connect and collaborate with others using the Internet and technology tools to achieve many academic, professional, and personal goals.

Within limited amounts of research related to digital literacy in the Indonesian context, some research results will be examined (Ekaningsih & Kurnia, 2022; Hamidah, 2021; Hasyim, 2021; Rinekso et al., 2021; Rusydiyah et al., 2020). Some of this research reported distinctive results according to different contexts of the research and dissimilarity among the groups of participants involved in the research. To begin with, research conducted by Rusydiyah et al. (2020) found that many teachers in Indonesia still have limited knowledge and skills in operating digital tools. It deals with teachers' attitudes and motivation in incorporating technologies in their classes, that not all teachers (in-service & pre-service teachers) are confident and comfortable in utilizing technology in teaching and learning which results in narrow technology integration in its practice. In addition, Rinekso et al. (2021) revealed that post-graduate students' digital literacy in Indonesia is good. The research showed that more than half of the total participants perceived that they had adequate skills in managing digital information. It represents various actions, including accessing, navigating, incorporating, interpreting, assessing, evaluating, engaging with, interacting with, comprehending, understanding, composing, and creating digital content (Rinekso et al., 2021). In addition, these respondents are advanced in utilizing various digital tools to support them in teaching and learning activities. This research shed positive attainments toward the Indonesian digital skills particularly their competencies for operating, managing, and evaluating information through digital technologies.

In conjunction with the previous issue, digital literacy has proven to bring numerous advantages in the education context. Thus, the penetration of digital literacy should be increased in classroom settings to maximize the potential use of digital technologies for teaching and learning activities. Accordingly, educational researchers are also encouraged to conduct adequate research on digital literacy and information skills at different levels of education including primary, secondary, and tertiary education to provide a vivid view of the

actual condition in the field and possibly examine the needs for improving digital literacy skills of students in Indonesia.

Digital literacy frameworks

There are several digital literacy frameworks emerging from the past few years. It is an evolving concept that is always developed by current circumstances and needs. First, one of the most famous frameworks was the ICT Framework for Teachers published by the United Nations Educational, Scientific and Cultural Organization (UNESCO). This framework developed into several editions, published in 2008, 2011, and 2018. One of the latest updates toward this framework was presented in the IIOE (International Institute of Online Education) Asia-Pacific in its mid-year meeting in 2021. This framework focused on three levels of pedagogical use of the technology in learning which is dealing with: (1) Knowledge Acquisition, (2) Knowledge Deepening, and (3) Knowledge Creation. In total, this framework presents a total of 18 ICT competencies, which are structured into six dimensions namely: (1) Understanding the role of ICT in education policy, (2) Curriculum and assessment, (3) Teaching, (4) Application of digital skills, (5) Organization and administration, and (6) Professional learning of teachers. Specifically for digital literacy, UNESCO also published "A Global Framework of Reference on Digital Literacy Skills for Indicator" for a specific reference in digital literacy implementation (Law et al., 2018).

Followingly, another well-established framework is the TESOL Technology Standards Framework which was published by the TESOL Project team from various well-known universities around the globe (Healey, 2018). This framework was developed to provide comprehensive standards for students and teachers in its implementation. The scope of this framework is also broad, where it connects the approaches intended for young learners, and adults, and covers distinctive levels of students all at once.

Another worth mentioning source is DigComp (The Digital Competence Framework for Citizen) which was elaborated by the Human Capital and Employment Unit (Joint Research Centre) on behalf of the European Commission. Several versions are available, they are DigComp 2.0 (2016); DigComp 2.1 (2017); and DigComp 2.2 (2022). This framework provides ample knowledge, and many examples associated with different contexts to help citizens engage confidently, critically, and safely with digital technologies. According to this source, digital literacy does not merely involve basic technical mastery of digital technologies, but it affects the abilities to (1) browse, evaluate, and manage information; (2) communicate and collaborate; (3) create digital content; (4) preserve safety; and (5) solve problems. These action sequences are expected to be applied in formal and non-formal learning contexts. Through this variety of learning contexts, students are expected to make the best use of excessive possibilities associated with digital technologies and be able to conquer the challenges or obstacles that these platforms and/or tools pose. These frameworks are developed to provide support and guidance for educators, especially on how to properly penetrate and integrate digital literacy into teaching and learning in a classroom context.

Methodology

This research applied a descriptive qualitative research design. The primary data of this research was obtained through semi-structured interviews with the participants and in-class observation to gather a more in-depth exploration of the research topic. Additionally, this research is supported by a collection of learning artifacts (course syllabus, learning materials, students' assignments, rubrics for assessments, etc.) as supplementary data.

Settings and participants

Universitas Negeri Yogyakarta is the research setting in response to the *Gerakan Literasi Digital* (Digital Literacy Movement). It is known that this university is aware of the importance of equipping students with digital literacy (Jordana & Suwarto, 2017). Thus, educators at Universitas Negeri Yogyakarta are in demand to promote and generate digital literacy practices that are expected to elevate digital literacy in Indonesia.

The focus of this research is to explore digital literacy practices for empowering ELLs with digital competencies at Universitas Negeri Yogyakarta. Therefore, initial participants were selected by referring to these criteria:

1. Lecturers in the English Education Department at Universitas Negeri Yogyakarta
2. Lecturers who teach these courses:
   - English language skills
   - English Language Teaching & Technology and/or IT-based English Language Learning Materials and Media Development
   - Practicum of English Language Teaching and/or Microteaching

Followingly, this research also applied a snowball or chain sampling strategy to cluster the participants of the research. The starting point of this strategy is to list the primary participants in principle and then ask them to recruit more participants who are like them in the investigation (Dörnyei, 2007).

Research instruments

To obtain the data, the interview protocols were piloted in advance. This research applied semi-structured interviews, which are also known as "interview-guided approach" (Zacharias, 2012). With this design, pre-prepared guiding questions and prompts for the research questions are arranged to elicit participants' perspectives, opinions, and experiences in implementing digital literacy in the EFL classroom. The format of the question is open-ended, but the participants are encouraged to elaborate their statements on the issue raised in an exploratory manner, and the researcher is keen to follow up on interesting developments to allow emergent issues to be explored in the interview process (Dörnyei, 2007).

The interview protocols were designed by a framework developed by Law et al., (2018), namely "A Global Framework of Reference on Digital Literacy Skills for Indicator" which was published by UNESCO (United Nations Educational, Scientific, and Cultural

Organization) along with most current the framework, DigComp (Digital Competence Framework for Citizen) (2022), which is published by the European Commission. There are five primary competence areas, which involve (1) Information and Data Literacy, (2) Communication and Collaboration, (3) Digital content creation, (4) Safety, and (5) Problem-solving. The details on each of these competencies' areas are provided in turn:

Table 1. *The primary aspect of the interview*

Competence area	Competencies
Information and data literacy	1.1 Browsing, searching, and filtering data, information, and digital content 1.2 Evaluating data, information, and digital content 1.3 Managing data, information, and digital content
Communication and collaboration	2.1 Interacting through digital technologies 2.2 Sharing through digital technologies 2.3 Engaging in citizenship through digital technologies 2.4 Collaborating through digital technologies 2.5 Netiquette 2.6 Managing digital identity
Digital content creation	3.1 Developing digital content 3.2 Integrating and re-elaborating digital content 3.3 Copyright and licenses 3.4 Programming
Safety	4.1 Protecting devices 4.2 Protecting personal data and privacy 4.3 Protecting health and well-being 4.4 Protecting the environment
Problem-solving	5.1 Solving technical problems 5.2 Identifying needs and technological responses 5.3 Creatively using digital technologies 5.4 Identifying digital competence gaps

To ensure the validity of the research instrument, this interview protocol was reviewed by one of the lecturers at Universitas Negeri Yogyakarta and validated to be used in this current research. Regarding the need to observe digital literacy practices and gain insights into their implementation in the classroom, the documents for conducting an observation are also prepared in advance. It involves an observation checklist, which was developed by DigComp 2.2 2022. It is the latest version of the framework with eight proficiency levels of digital literacy and examples of use in earning and employment (Vourikari et al., 2022). Additionally, the researcher's field notes were incorporated to enrich the data collection.

Results and Discussions

The central inquiry of this research is to explore the digital literacy practices of English Language Education Department lecturers at Universitas Negeri Yogyakarta. The discussion below centered around (1) providing a depiction of digital literacy practices specifically

theoretical background, course design, applied learning methods, and assessment; (2) examining digital literacy's set of competencies; and (3) outlining digital literacy contribution to English teaching and learning. Before the analysis, the participants of this research are Mr. Helmi, Ms. Poppy, Ms. Dinda, Ms. Fitri, Ms. Riri, Mr. Hendra, Ms. Sherin, and Ms. Angela. All the respondents were given a pseudonym for confidentiality concerns.

Theme 1. Digital literacy practices: Depiction on theoretical background, course design, applied learning methods, and assessment.

The first research finding is that digital literacy was introduced through various courses, including IT-based, English language skills, and English as general courses at Universitas Negeri Yogyakarta. The scope of digital literacy implementation is widened as some participants also teach English in other faculties, including the Faculty of Language and Arts, Faculty of Economics and Business, Faculty of Sports Science, etc. Predominantly, the concrete depiction of how digital literacy is incorporated into the learning process is covered in this section. This will start by reviewing the theoretical background of implementing digital literacy, how lecturers design course syllabi, revisiting the applied learning methods, describing technologies and media used in the learning, and assessing the method. Outlining the theoretical background of implementing digital literacy, most participants refer to several research and frameworks to guide them on technology in teaching, such as TPACK (Technological Pedagogical Content Knowledge), PIC-RAT, and 21st century skills. The other stated that they did not refer to one theory to incorporate digital literacy in teaching, instead, they tried to review previous research on digital literacy about the principles and general guidelines for implementing it. Ms. Angela recapitulates what other lecturers have explained in the following excerpt:

> *"…yang jelas saat kita mau mengaplikasikan sesuatu ke pembelajaran kan otomatis prinsip-prinsipnya itu tetap mengacu."* (…when we want to apply something to learning, the principles are automatically still referred to.)

Chanunan and Brückner (2019) shared the same result, it is stated that TPACK has been widely used as a reference for integrating digital technologies to elevate digital literacy in teaching. However, this reference did not specifically concern digital literacy although some ideas, concepts, and implementation may overlap. Unfortunately, there is a narrow understanding of digital literacy frameworks since it is barely discussed. Several tangible sources have been designed for this purpose. Counting some of them, there are the ICT Competency Framework for Teachers by UNESCO (2011) and (2018). Else, UNESCO also published "A Global Framework of Reference on Digital Literacy Skills for more specific reference (Law et al., 2018). Another worth mentioning framework is the DigComp, which stands for The Digital Competence Framework for Citizens. This framework has several models developed throughout the years. DigComp 2.0 (2016) was completed with a conceptual reference model, followed by DigComp 2.1 (2017) with eight proficiency levels and examples of use, and the latest version DigComp 2.2 (2022) with more brief examples of knowledge, skills, and attitudes on digital literacy to put into practice.

Followingly, lecturers' background knowledge of digital literacy underlies how they design the course syllabus. It related to the course was arranged, putting into consideration the learning methods that will be applied, deciding on the technology and media that will be used, as well as the assessment methods, for instance, in Ms. Fitri's and some other lecturers' classes. They arrange the course syllabus by looking at the course description first. Ms. Dinda also provides a scheme for designing the course syllabus. She stated that a group project that derived from definite problems to be solved is her primary choice. She also arranges the project to be in digital form so the students can collaborate, communicate, and complete the project by utilizing various technology and media available. Then, Ms. Riri also gives a brief explanation of how she designs the course syllabus. She uses Universitas Negeri Yogyakarta learning management system called BeSmart to provide the students with descriptions of a course syllabus, learning materials, and sources, as well as assignments and online quizzes. However, these lecturers underlined that digital literacy practices have been incorporated into teaching and learning. However, the implementation of digital literacy is not explicitly stated in the course syllabus or lesson plan. Thus, it is not one of the points in the assessment.

Take an eye on this, it is only worth considering exceeding the implementation by redesigning the course syllabus. Harris (2015) strengthened this idea as a pressing call for educators and/or course designers to integrate digital literacy practices into lessons, curricula, and programs to provide support at every level. A considerable number of published research describes the crucial role of educators who are involved in the process of developing lesson plans through integrated digital literacy practices. Ussarn et al. (2022) stated that the digital literacy skills development of the students highly weighted on the lessons enlightened by the teachers, on the same note, Mantiri et al. (2019) stated that the largest part of the duty is to incorporate digital literacy as a focal point in teaching plans, and its educators' responsibility to generated it. More importantly, for English Language Learners, it is an urge for educators to adapt to new learning patterns of digital natives (Weerakanto, 2019).

Following further discussion, some learning methods applied by the lecturers in teaching English along with incorporating digital literacy are project-based learning, problem-based learning, and task-based learning. These learning methods go together with collaborative learning to escalate students' collaboration in learning. Specifically for writing skills, Ms. Dinda stated that she applied a text-based approach and/or genre-based approach to teach English skills and implement digital literacy. Another view given by Mr. Hendra is that it is crucial to draw a line between what students should do in learning to what they are facing or will face in real-life context. Therefore, Mr. Hendra allocates tasks based on contextual situations, such as writing Instagram captions for personal posts within some requirements and guidelines to keep the students to be on the corridor. Data from Harris (2015) corroborated this finding and revealed that digital literacy skills can be learned through student-centered instructional approaches processes, such as discovery learning, problem-based learning, project-based learning, and other student-centered approaches to English language acquisition (Harris, 2015). It can also be embedded in lessons, activities, and tasks by offering learning content into which authentic digital tasks can be integrated. Conversely, Weerakanto (2019) is concern about the innovative teaching strategies that are necessary for educators in this digital era to keep up with the rapid advancement of educational technologies. Thus, a plethora of research on providing practical implementation of digital literacy in teaching are significant for

improvement in practice. Especially in English Language Learning, a companion learning resource on integrating digital literacy into English language instruction by Jenkins (2015) is an excellent reference. It is a project of the American Institutes for Research to give concrete illustrations of strategies, resources, tools, and lesson ideas to support the development of digital literacy skills within the context of English language instruction. There are three initial actions formulated in advance, they are 1) Integrating Digital Literacy Activities into Instruction (Planning); 2) Multilevel and Differentiated Instruction (Instructing); and 3) Evaluating Learner Outcomes (Assessing).

To carry the teaching and learning, the lecturers utilized various technology and media to support and enhance the experience in the classroom. The technology and media used are also varied, such as learning management systems (i.e. BeSmart, Spada Dikti), interactive language apps (i.e. Word Clap, Padlet, HotPotatoes), online learning platforms (i.e. Google Classroom, Edmodo), online quizzes (i.e. Kahoot, Quizizz), grammar and plagiarism checker (i.e. Turnitin, Grammarly), and even social media (i.e. TikTok, YouTube, Instagram) also incorporated as well. All things considered; it is only worth following up on the discussion on how the assessment technique for assessing students' digital literacy. All the participants stated that digital literacy is not specifically included as one of the points for assessment. Mr. Helmi's response regarding how the digital literacy assessment on English language teaching is given in the excerpt below:

> *'Tidak, karna saya bukan dosen yang 'mensyaratkan' istilahnya untuk mata kuliah saya terkait digital literasi. Hanya saya menggunakannya atau menerapkannya saja."*
> (No, because I am not a lecturer who 'requires' for my courses related to digital literacy. I just use it or apply it."

From the statement above, digital literacy practices are still limited to their application in classroom settings without any further plan to effectively embed them in teaching and learning that includes a proper scheme on how it is incorporated and assessed. A similar case was found in Ms. Angela's class. She stated that she focuses on the student's language competency and content knowledge towards the course. Unfortunately, she claimed that she did not assess digital literacy separately but managed to assess the language competency in the 'digital package'. Another view given by Mr. Hendra stated that the digital literacy assessment should be supported with feedback given to the students so they will have an insight into what things they should pay attention to next for improvement. In conclusion, students' competency in digital literacy has not been included as one of the components yet. Hence, Ms. Dinda stated that it became 'eye-opening' for her, then proceeded to include digital literacy as one of the aspects in the assessment afterward. She stated:

> **"***Ya, terus terang hal itu belum pernah saya terapkan. Seperti yang tadi saya sampaikan, tujuan pembelajaran saya itu belum memasukkan literasi digital jadi akhirnya memang dari wawancara ini akhirnya eye opening 'oh iya ya, kalau memang saya ingin literasi digital siswa itu maka saya harus memasukkan juga di tujuan pembelajaran sehingga nantinya bisa dinilai."*
> (Yes, honestly, I have never implemented this. As I said earlier, my learning objectives did not include digital literacy, so in the end, from this interview, it is eye-opening 'Oh

yes, if I want students' digital literacy then I have to also include it in the learning objectives so that later it can be assessed'.)

Rinekso et al. (2021) asserted that digital literacy assessment in tertiary education can be accomplished in numerous ways. To specify, Sparks et al. (2016) highlighted that a performance-based assessment is suggested as it provides a more authentic assessment to represent students' digital literacy competence. Additionally, a companion learning resource by Jenkins (2015) provided a comprehensive discussion on the assessment point of digital literacy in English Language Acquisitions (ELA). The author suggested doing a formative assessment which can be scheduled along the running course to check students' progress. It is recommended to do a formative assessment throughout the learning process, so it allows the instructors to reflect on their teaching as well. Moreover, another promising assessment technique to assess students' progress in digital literacy is through developing portfolios. Jenkins (2015) revealed that portfolios are very effective for measuring students' competence in digital literacy as they showcased many learning artifacts and/or learning products derived from using digital technology.

Together these results provide important insights into digital literacy practices by executing a sequence of actions in embedding digital literacy into teaching and learning. Jenkins (2015) emphasized that educators should regularly look at every stage of a lesson, especially on the course plan, activities, tasks, and assessments to properly integrate digital literacy in learning instructions.

Theme 2. Digital literacy's set of competencies is covered in its practice.

This research found that all the participants are covered digital literacy competencies areas by Digital Literacy Framework for Citizen (DigComp) published by the European Commission. This framework has five core competencies namely: 1) Information and Data Literacy, 2) Communication and Collaboration, 3) Digital Content Creation, 4) Safety, and 5) Problem-Solving. Although these competencies are indeed covered in teaching and learning, unfortunately, there is narrow attention towards the importance of safety and problem-solving in its practice. A more detailed discussion on each of the competencies is provided in turn.
Firstly, in **Information and Data Literacy**, this competency is a crucial aspect of learning English. Ms. Fitri, Mr. Hendra, Ms. Poppy, Ms. Riri, and Ms. Dinda all together confirmed that this competency is highly relevant for English students in learning. Ms. Fitri said in the following excerpt:

"*Information and data literacy penting dalam pembelajaran Bahasa Inggris karena memungkinkan mahasiswa untuk mengakses sumber informasi yang kredibel, mengidentifikasi informasi yang relevan, dan mengolah data dengan baik untuk mendukung proses belajar mengajar."*

(Information and data literacy is important in learning English because it allows students to access credible sources of information, identify relevant information, and process the data well to support the teaching and learning process.)

In addition, several classes that have been observed showed great use of the Internet for obtaining information and data to support their learning. The students were all encouraged to utilize their devices for browsing, sharing, editing, writing, and other related activities. Thus, information and data literacy are arguably crucial in teaching and learning. This competency is linked to critical thinking as well. Ms. Poppy and Ms. Riri stated that "the implementation of information and data literacy plays a vital role in exercising students' critical thinking". Additionally, Yuan et al. (2019) noted a finding to ensure a more appropriate teaching pedagogy that cultivates English Language Learners to be critical consumers and producers of information. ELLs are presumably capable of being proactive digital citizens by not only passively receiving digital information, but also being able to locate credible and reliable information, create digital content, and communicate it properly in digital settings (Yuan et al., 2019).

Proceed to the second competency, which is Communication and Collaboration. The core competency is in the ability to interact, share, engage, and collaborate in digital technologies. All the participants are informed that they actively encourage the students to communicate and collaborate in digital settings, including plotting some activities and assignments to have the students enhance this skill. One of the fascinating examples of communication and collaboration exhibited in Ms. Angela's class. In this class, the students were asked to create digital storytelling which is a project called '*the blend of literacy and technology to express yourself*'. In this project, the student was divided into several groups and asked to develop digital storytelling starting from brainstorming ideas, plotting the narratives, writing script, editing, creating digital stories, evaluating, and so on. Throughout the process, Ms. Angela not only provided the students with some requirements and examples of the project but also allocated a workshop for students to complete the project. In one of the observations, Ms. Angela did a presentation discussing visual literacy along with mentioning digital literacy as it is delivered to enhance students' understanding of its importance and how this skill can support them in completing the project.

The activities and assignments given to the students required the students to be active in digital content creation. It is the third competency of the DigComp framework where the students are encouraged to be Digital Content Creation. In its practices, most participants, such as Mr. Hendra, Mr. Helmi, Ms. Riri, Ms. Dinda, and Ms. Angela often assign the students to create videos at the end of their project. For instance, Ms. Dinda stated that she often requires the students to produce 'digital content' in written or spoken form. She explained:

> "…*misalnya kelas writing ya itu saya minta mereka membuat website pakai Google Site dan mereka bisa men-publish tulisan mereka di website itu. Kalau di kelas speaking, saya meminta mereka membuat vlog dan upload di YouTube boleh, di TikTok boleh, di Instagram boleh, silahkan. Nah itu kan paling tidak mereka sudah menjadi digital content creator ya."*
>
> (…for example, in writing class, I ask them to create a website using Google Sites and they can publish their writing on that website. In speaking class, I ask them to make a vlog and upload it on YouTube, maybe on TikTok, maybe on Instagram, if it is allowed. Well through this at least they have become digital content creators right.)

Proceed to the next competency, Safety regarded as one of the competencies that received narrow attention. In this case, some participants stated that they promote the importance of raising awareness for surfing and interacting in digital settings. However, some participants also perceived that this competency should be possessed by 'adult' learners and developed by them. Thus, reminders and advice are rarely given. As stated by Ms. Dinda in the excerpt below:

> "…*untuk masalah safety itu saya juga sama sekali tidak menyinggung karena saya berasumsi bahwa mahasiswa S1 dan S2 itu paham bagaimana menjaga diri di dunia maya. Itu memang nggak saya address masalah safety. Padahal ya mungkin bagus juga ya, mungkin tidak semua sadar ya tentang safety di dunia maya."* (…regarding safety issues, I also did not mention it at all because I assumed that undergraduate and graduate students understood how to protect themselves in cyberspace. I did not address this issue indeed. Even though yes maybe it is also good, maybe not everyone is aware of safety in cyberspace.)

Ms. Angela also stated similar argument regarding this issue:

> **"***Belum, belum kalau tentang itu. Apalagi yang terkait personal data and privacy itu saya belum pernah memberikan semacam guidelines tentang atau advice tentang itu."* (Not yet, not yet regarding that. Moreover, regarding personal data and privacy, I have never provided any kind of guidance or advice about that).

On the last competency, problem-solving is one of the core competencies that deals with creativity in using digital technology, solving technical problems, and identifying needs and gaps of digital competency in its practice. The research participants revealed that students' independence regarding solving their problems is still lacking. Ms. Dinda stated that the students rely on her to solve any problem that they encounter during the learning process. Among these competencies, the two least developed areas achieved in safety and problem-solving. There is narrow attention towards the importance of pertaining safety and problem-solving skills, which causes insufficient competence in dealing with obstacles, risks, and threats in digital environments performed by the students. This result is aligned with Fraile et al. (2018), which pointed out safety as the second-best area developed but it comes up with notable difficulties as well. This competency involved the ability to protect devices, personal data, privacy, health, and well-being, as well as the environment. According to this list, the research findings declared that the students consider themselves at a basic level in protecting personal data and privacy.

Additionally, Karagul et al. (2021) investigated the digital literacy levels of learners of different ages, genders, and school degrees – high school, undergraduate, graduate/master, and graduate/PhD students. This research declared that the lowest rates of students' digital literacy were found in security & safety and ethics & responsibility dimensions. Moreover, it is also carrying weight to the acquisition of other dimensions of the competencies. Although the students are fluent in using and communicating through digital technology, they are found to be still lacking in citizen participation, unaware of netiquette or the codes used in digital settings, and unable to manage digital identity and generate true cooperation online (Fraile et al., 2018). Therefore, it is only fair to allocate adequate incorporation of these two least

developed values namely safety and problem-solving into the teaching and learning for positive attainments.

Theme 3. Digital literacy contribution to English teaching and learning

Digital literacy plays a crucial role in supporting the learning process. The research result elicits that digital literacy builds students' 'radar' in using technology and equips them with essential skills for becoming global citizens in this digital era. Particularly in learning, digital literacy provides a bigger chance for students to have a wide range of access to learning materials, exercise their skills in selecting and evaluating the data and information, and most importantly stimulate their critical thinking to be in active mode. Ms. Poppy's view on this is provided in turn:

> **"***Literasi digital merupakan keterampilan yang harus dikuasai untuk mengakses materi belajar, pemetaan materi belajar, dan lebih dari itu diajari berpikir kritis untuk memilah dan memilih."* (Digital literacy is a skill that must be mastered to access learning materials, map the learning materials, and more than that, it teaches to think critically to sort and choose.)

The ability to evaluate information for more wise and productive use is highly significant, especially with a mass of data and information available online. In this case, the implementation was aligned with the learning objectives of the course, so the students are encouraged to develop their digital literacy skills in this matter. In addition, Ms. Riri also stated that digital literacy allows students to have a 'radar' for evaluating information and using technology in general. She explained:

> "I think that is important and you must expose yourself to a lot of digital resources for you to have this 'radar', like 'oh this is not right, this cannot be trusted'..."

Some research supports the notion that digital literacy can build students 'radar' in using technology, especially in navigating the wealth of information (Wardhani et al., 2019; Yuan et al., 2019). Additionally, Rinekso et al. (2021) made a similar point in their research. It is stated that emphasizing students' digital literacy skills in learning will contextualize their competency in dealing with digitally mediated communication exchange. The students are in demand to be more analytical, evaluative, and selective when they are utilizing and sharing information in digital settings. Especially for higher education students, Adeleke and Emeahara (2016) and Ankrah and Atuase (2018) reported that university students deal with more complex information, linguistic features, and language contents, particularly in learning English. They are also required to do several tasks regarding academic/research purposes, which involve accessing online journal databases, reviewing and synthesizing journal articles, writing research papers, and evaluating journals websites/published. These activities demand them to have good digital literacy skills to thrive in their academic journey. In the English Language Teaching context, the incorporation of digital literacy in the teaching and learning context contributes to various advantages. To begin with, Ms. Fitri stated in the following excerpt:

> "The benefits of incorporating digital literacy in English language teaching include increased student engagement, access to a wide range of learning resources, and improved language proficiency."

Ms. Fitri uttered that students' engagement is increasing with the incorporation of digital literacy in the learning activity. It also allows the students to be exposed to a wide range of learning resources and improves their language proficiency. It is supported by a statement by Ms. Riri as below.

> "When it comes to technology, the way you present or display information can take various forms, and it is quite attractive for the students to look up different forms of information. It can be pictures, moving pictures, texts, colourful text, and all other things."

In the same vein, Chanunan and Brückner (2019) revealed that the utilization of digital technology helps students visualize and grasp the contents of concepts more easily. Additionally, Shariman et al. (2012) supported the finding that the students highly preferred digital content serving in various forms, and the presence of visuals and graphics help the students to comprehend the acquired information better and invite them to explore further into a digital content site. Through this, students can widen their scope of mastering some skills required to access these diverse learning materials. As Ms. Poppy also outlined digital literacy provides a higher chance for students to "know and mastery of certain software".

Subsequently, with the incorporation of digital literacy, the teaching and learning become more 'meaningful' as it allows the students to not only develop their content knowledge, English language skills, and 21st century skills but also seize the opportunity to put these competencies in use for different purposes. In sequence, Mr. Hendra supports this argument as shown in the following excerpt:

> **"**…*ketika kita menekankan digital literacy maka saya kira pembelajaran yang kita lakukan akan lebih meaningful."* (…when we emphasize digital literacy, I think the learning that we do will be more meaningful.)

Collectively, digital literacy is considered highly relevant in today's education landscape as it equips students with essential skills for communication, information gathering, and problem-solving. The exposure to using technology through digital literacy practices also builds students 'radar' in using technology, allowing them to determine what should be accepted, avoided, and pay extra attention to.

Conclusion

Based on the research, this research provides a more comprehensive and nuanced picture of how digital literacy practices in English Language Teaching and Learning by outlining the theoretical background, course design, applied learning methods, and digital literacy assessment. More importantly, it breaks new ground in our understanding of numerous

contributions of digital literacy practices that empower English Language Learners with digital literacy competence in higher education context. The research results can be used as input for the development of the higher education curriculum in Indonesia that embraces digital literacy to be embedded in practices. There is a pressing call for educators and/or practitioners to reinforce digital literacy practices and convert standard lessons into digitally enriched ones to provide the best course of action in teaching English language skills and foster digital literacy competence simultaneously. Further research directions are open to investigate and explore digital literacy practices within a distinctive context. Purposefully, in the Indonesian context, where the research on digital literacy is still inadequate, further research on designing digitally enriched lessons, incorporating digital literacy in action, and assessing digital literacy competencies are essential to gain an in-depth understanding of it.

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