CHAPTER I

INTRODUCTION

This chapter provides an overview of the research background, research questions, purpose of the study, scope of the study, and significance of the study.

1.1 Background of Study

These days, everything is digital, and more fields are relying on technology. This has changed what is expected from teachers. To fulfil the needs of both students and society, teachers are now expected to use technology in their lessons in a useful way (Tondeur et al., 2015). They are expected to do more than just use digital tools, they are also expected to show their students how to use technology responsibly and effectively (Siddiq et al., 2016). Pre-service teachers who have used technology since they were young are often called "digital natives," but being comfortable with technology does not always mean they are good at using it (Li & Ranieri, 2010). Exposure to digital tools alone is not enough. Future teachers must also develop specific skills and know how to apply them effectively in the classroom (Gámez et al., 2021). To make teacher education programs better and close digital literacy gaps, it is important to know both the current competency level in digital skills and how teachers think they are progressing in this area.

Digital literacy competence is now recognized as a major indicator of quality education in the 21st century (Maderick et al., 2016), and its importance to active engagement in today's society and economy is growing (Fraile et al., 2018).

It refers to the ability to use digital technologies effectively, efficiently, and responsible manner across a various of educational contexts, that is included in digital competence, which can also be referred to as digital literacy or fluency (Kay, 2006). Digital competence includes knowing how to use digital technologies technically, finding your way around formal and informal digital spaces to search for, evaluate, and manage information, communicating and working with others, making digital content, using digital media, staying safe online, solving problems, getting a job and getting involved in your community, and learning about digital technologies to help you think critically and creatively with confidence (Ferrari & Punie, 2013). Furthermore, Ilomäki et al. (2016), stated that digital competence involves technical skills, using digital devices in work and personal life, judging digital tools critically, and being involved in digital culture online. Additionally, it includes taking advantage of the benefits digital technologies bring while also addressing the problems they might cause (Fraile et al., 2018). The needs of 21st-century classes mean that programs that train people to be language teachers should teach future teachers not only the theory and methods they need to teach, but also how to use technology effectively. Including digital literacy in teacher training helps future teachers make lessons that are current and interesting, which improves teamwork, creativity, and critical thinking (Sarkar, 2012).

In practice, however, integrating digital skills into English Language Teaching (ELT) remains a challenge. Many pre-service teachers in Indonesia still rely heavily on traditional teaching methods (Kurniawati et al., 2018). Teachers accustomed to paper-based tools often struggle to transition to digital platforms (Wiannastiti et al., 2019). Çebi and Reisoğlu (2020) found that while pre-service

teachers performed relatively well in areas such as accessing information, collaborating, and ensuring online safety, they encountered more difficulties in digital content creation and problem-solving, which can be attributed in part to teacher education programs that emphasize theoretical knowledge while providing limited opportunities for practical application. Similarly, Harahap et al. (2023) highlighted that in the Society 5.0 era, teachers are expected to combine soft skills with technological competence, such as effectively using platforms like WhatsApp, Google Classroom, Google Meet, and Zoom. These findings underscore the importance of systematically developing digital literacy among future teachers and investigating how they perceive their own readiness.

Previous research emphasizes the need for more advanced digital training in teacher education. A study by Maderick et al. (2016) found that teaching teachers digital literacy makes students much better at using technology. However, Çam and Kiyici (2017) said that having access to a stable internet connection and digital tools is still a major factor that affects digital literacy levels. This highlights the need for fair and organized training. Limited digital skills may impact the quality of teaching and student learning (Antonietti et al., 2022). On the other hand, teachers who are comfortable with digital tools are more likely to make learning environments that are interesting and effective. Cahyani and Cahyono (2012) similarly argue that technological skills enhance teaching effectiveness and that teachers with positive perceptions of technology tend to adopt it more often, leading to dynamic and student-centered instruction. Therefore, understanding teachers' perceptions becomes essential, as it shapes their attitudes, readiness, and willingness to adopt technology in real teaching practices.

Several studies have investigated digital literacy from different perspectives, showing that many English instructors still have limited digital skills and therefore rarely integrate digital media in their classrooms. Akayoğlu et al. (2020) found that although digital literacy is essential in ELT, teachers demonstrated diverse perceptions and varying levels of competence. Similarly, Wang et al. (2024) revealed that future EFL teachers often lacked higher-level skills, including tasks like producing digital content, critically assessing resources, and engaging meaningfully with technology, with factors like mentor support, infrastructure, and teaching experience shaping their readiness. Despite the growing importance of digital competence, the UNESCO Digital Literacy Global Framework (DLGF) has not yet been widely applied in studies examining pre-service teachers' perceptions, particularly in the Indonesian context.

The UNESCO Digital Literacy Global Framework (DLGF), introduced in 2018, offers a comprehensive and internationally recognized benchmark for assessing digital competences. Unlike earlier models, the DLGF integrates cognitive, social, and ethical dimensions of digital participation. Of its domains, five are particularly relevant to teacher education: information and data literacy, communication and collaboration, digital content creation, safety, and problem solving (UNESCO, 2018). These competences are essential for pre-service English teachers, as they not only require the ability to use technology but also the readiness to collaborate, ensure safe practices, and create meaningful digital content for learning (Law, et al., 2018). Employing the DLGF as a framework enables this study to analyse pre-service teachers' perceptions systematically, while aligning the findings with an internationally credible standard.

Despite its relevance, the framework has rarely been applied in studies exploring pre-service teachers' digital competences in Indonesia. Addressing this gap, the present study adopts the UNESCO DLGF to investigate how pre-service English teachers at Universitas Negeri Jakarta (UNJ) perceive their competences across these five domains. The findings are expected to reveal both strengths and challenges, providing insights into areas that need further development to prepare them as digitally competent English language teachers.

1.2 Research Question

Based on the background described, this study addresses the following research questions:

1. How do pre-service English teachers perceive their digital literacy competences across the five domains of the UNESCO Digital Literacy Global Framework (DLGF)?
2. Which aspects of digital literacy competences do pre-service English teachers identify as areas for further development to meet the demands of technology-integrated language teaching?

1.3 Purpose of the Study

This study aims to investigate how pre-service English teachers perceive their digital literacy competencies, framed within the five domains of the UNESCO Digital Literacy Global Framework (DLGF): information and data literacy, communication and collaboration, digital content creation, safety, and problem

solving. By examining participants' self-assessed competencies across these areas, the study seeks to understand how these future educators comprehend and apply digital literacy in both academic and teaching settings. Additionally, the research aims to identify specific aspects of digital literacy in which pre-service teachers may need further development or support, considering require additional enhancement to address the shifting demands of technology-integrated language instruction. The results are anticipated to guide teacher education programs regarding current strengths and limitations in digital literacy training, providing essential insights for more focused curriculum development and professional growth within the Indonesian EFL setting.

1.4 Scope of the Study

This study examines the perceptions of pre-service English teachers from the English Language Education Study Program concerning their digital literacy skills. It aims to explore how these future educators assess their own competencies and to identify areas where they feel further development is needed to effectively integrate technology into English language teaching. The investigation is structured around the five domains of the UNESCO Digital Literacy Global Framework (DLGF): information and data literacy, communication and collaboration, digital content creation, safety, and problem solving.

1.5 Significance of the Study

This study investigates the digital literacy skills of pre-service English teachers at Universitas Negeri Jakarta, using the UNESCO Digital Literacy Global Framework (DLGF) as a guiding framework. It examines how these future educators perceive their abilities across key competency domains and highlights areas where teacher preparation and support could be enhanced. The findings provide insights for more effective integration of technology in language instruction and contribute to the broader discussion of digital literacy in Indonesia's teacher education programs.

1.5.1 Theoretical Significance

This study contributes to the theoretical development of digital literacy within teacher education by adopting the UNESCO Digital Literacy Global Framework (DLGF) as its conceptual foundation. It provides an in-depth analysis of pre-service English teachers' self-perceptions of their digital competencies and examines how these perceptions relate to their readiness to integrate technology effectively into teaching practices.

1.5.2 Practical Significance

The practical significance of this study is in its ability to serve several stakeholders:

1. **Pre-service Teachers**

The study can help pre-service English teachers become more aware of the importance of digital literacy and reflect on their current digital competences. It

may also encourage them to strengthen their readiness to incorporate digital tools in future classrooms.

2. **Lecturers**

The findings offer important insights for reviewing and improving course content on digital literacy, helping to ensure that students are better prepared to navigate the demands of technology-rich teaching environments.

3. **Policymakers**

This study may serve as a reference for policymakers in designing and implementing digital literacy initiatives in teacher education curricula, particularly for English language programs.

1.6 State of The Art

Previous studies serve as a foundation for analysis, enriching the discussion of research and distinguishing it from the current study. In this research, five previous journal articles are included (see Table I-1), all of which are relevant to the concept of digital literacy competences among pre-service teachers. These journals include:

1. The first study is titled "*Digital Literacy Competence, Digital Literacy Practices and Teacher Identity among Pre-Service Teachers*" Conducted by Zhang et al. (2023) in China, this quantitative study involved 910 pre-service teachers from multiple disciplines. The findings indicated that competencies in information literacy, communication, and digital safety significantly influenced their digital teaching practices, which in turn shaped their professional teacher

identity. This international study strongly reinforces the current research focus by showing how digital literacy not only affects classroom practice but also plays a key role in the formation of teachers' professional identity, especially relevant in the context of English language teaching.

2. The second study is titled "*Pre-Service Teachers' Digital Competencies: A Transformative Medium Toward Language Teaching*" carried out by Fernandez & Hadiyanti (2023) at Atma Jaya Catholic University, this mixed-method study involved 55 pre-service English teachers. It examined their competence in five digital literacy areas and found high overall ability. Nevertheless, the study emphasized the importance of curriculum integration and ICT-based support, echoing the aim of this current study to examine digital literacy using the UNESCO Digital Literacy Global Framework (DLGF).
3. Another study is titled "*Digital Competencies of Pre-Service Teachers in Indonesia: Are They Qualified for Digital Education?*" This research was conducted by Rahim et al. (2023) at Universitas Negeri Padang and involved 248 students and alumni from the Physics Education program (2017–2022). It aimed at assessing self-perceived digital competencies in teaching contexts. While participants showed confidence in communication and collaboration, their skills in digital content creation were limited. This study highlights the need for enhancing specific digital competencies, which is highly relevant to the current research focused on English language education.
4. The fourth study, titled "*Digital Literacy in EFL Learning: University Students' Perspectives*" Conducted by Pertiwi & Siti (2022) at Universitas Pendidikan Indonesia. This qualitative research involved 22 students from the English

Education program and employed Trilling & Fadel's framework. The findings indicated that while students demonstrated strong abilities in accessing and evaluating information, they encountered challenges such as limited technical resources and distractions. This study supports the current research by emphasizing EFL learners' digital readiness and the significance of incorporating digital literacy into English language teaching.

5. The final study is titled "*Digital Competence: A Study from the Perspective of Pre-service Teachers in Turkey*" Authored by Çebi and Reisoğlu (2020). This comprehensive quantitative study surveyed 1,178 pre-service educators from four different colleges in Turkey. Findings revealed that participants showed strong competence in communication and digital safety, although reported weakened competence in digital content creation and problem-solving. This study supports the need for structured digital skills training, reinforcing the context of this research by showing how institutional and disciplinary contexts shape digital competence development.

Table I-1 Previous Studies (State of the Art)

No	Title	Author & Year	Location	Method	Participants	Main Findings
1.	Digital Literacy Competence, Digital Literacy Practices and Teacher Identity among Pre-Service Teachers	Zhang et al. (2023)	China	Quantitative (Survey, SEM Analysis)	910 pre-service teachers	Information, communication, and safety competence predicted digital teaching practices and influenced teacher identity.
2.	Pre-Service Teachers' Digital	Fernande z &	Atma Jaya Catholic	Mixed Methods (Quantitative	55 pre-service English teachers	High competence in all five areas; need for

	Competencies : A Transformative Medium Toward Language Teaching	Hadiyanti (2023)	University, Indonesia	& Qualitative)		curriculum and institutional ICT support.
3.	Digital Competencies of Pre-Service Teachers in Indonesia: Are They Qualified for Digital Education?	Rahim et al. (2023)	Universitas Negeri Padang, Indonesia	Quantitative (Survey)	248 students & alumni of Physics Education	Strong in communication and collaboration; weak in content creation.
4.	Digital Literacy in EFL Learning: University Students' Perspectives	Pertiwi and Siti (2022)	Universitas Pendidikan Indonesia	Qualitative (Questionnaire & Interview)	22 first-semester English Education students	Good information literacy; challenges in technical use and digital distraction.
5.	Digital Competence: A Study from the Perspective of Pre-service Teachers in Turkey	Çebi and Reisoğlu (2020)	Turkey (4 major universities)	Quantitative (Survey)	1,178 pre-service teachers	Competence in communication and safety; weak in content creation and problem-solving; gender/department influence noted.

Based on the five studies reviewed above, it is evident that while many pre-service teachers possess general digital skills, particularly in communication, safety, and basic information literacy gaps still persist in areas such as digital content creation, pedagogical integration, and problem-solving. Moreover, most of the existing research focuses either on general teacher education or student perceptions in EFL, with limited emphasis on digital literacy competences specifically among pre-service English teachers in Indonesia. Therefore, this study seeks to fill that gap by exploring how pre-service English teachers perceive and develop their digital literacy competences using the framework of the UNESCO

Digital Literacy Global Framework (DLGF), thus offering a more focused and pedagogically contextualized analysis.

Incorporating digital competencies into language teacher education plays a crucial role in improving the effectiveness of language teaching and learning. In the context of language teacher education, digital literacy competence has been identified as a key factor in preparing future teachers to integrate technology effectively (Ambarwati et al., 2025). This encompasses the capacity to critically assess digital resources, create technology-enhanced learning experiences, address issues of digital equality and accessibility, and promote digital citizenship among students (Limbong & Wadham, 2024). Furthermore, this integration supports pre-service teachers in developing their own digital competencies, which are essential for shaping effective and innovative teaching practices in their future professional careers (Sarkar, 2012).