

# Perceptions of Technology in Language Teaching among English Pre-service Teachers

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**Abstract.** Teachers who engage in information, media, and technology must be critical thinkers with a broad perspective in order to prepare their students for the literacy demands of the twenty-first century. Language teachers' roles are crucial in developing students' literacies so that they can adapt to digital technologies in education. We've been teaching pre-service teachers about media literacy and educational technology in a variety of subject areas, as well as assisting them in incorporating new media and technologies into their curriculum design. The purpose of this study is to assess the level of digital literacy of pre-service teachers at Universitas Pancasakti Tegal and to investigate their perceptions of technology in language teaching. This study used a mixed method research design to investigate how pre-service teachers use digital technologies in the teaching and learning process during the practice of teaching in the Micro Teaching class. Furthermore, by investigating digital technologies in language teaching, pre-service teachers' perceptions are revealed. The research involved 40 pre-service teachers who are tested using Ferrari's model of digital competence areas such as information, communication, content creation, safety, and problem solving. The findings for qualitative data collection were based on classroom observation, interviews, and surveys. The findings reveal that higher levels of digital literacy in pre-service teachers influence their performance in integrating technology into their teaching process, and they are assured in motivating students to increase digital literacy skills. Their positive attitudes toward using technology in language teaching raise awareness of the importance of digital literacies and digitally literate people in developing digital literacy skills for survival in the digital age.

**Key words:** digital literacy; pre-service teachers; digital competence

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## INTRODUCTION

ICT or Information and Communication Technology is recognized as one factor that influences teacher success during the teaching process. ICT uses impact in learning depends on the technology's participant and type of use (Fernández-gutiérrez et al., 2020). As one of the technologies that integrate ICT, mobile environments make courses accessible anytime and anywhere. On the other side, using ICT should consider learners' characteristics and context to gain the aim of learning activity, especially during the Covid-19 outbreak. (Ennouamani et al., 2019)

During Covid 19 outbreaks education ecosystem was tremendously affected and shifted into online learning. Teacher and students need technologies in online learning. They are an online meeting platform and Learning Management Systems (LMS) built by stakeholders and the government to guarantee the learning process runs efficiently. Moreover, using ICT in learning positively impacts academic success (Mahdum et al., 2019; Makura, 2014). Align with it, ICT in the English teacher's learning process also brings happiness and

helpful (Muslem et al., 2018).

However, the success story of ICT in teaching and learning lack on the same side. Muslem et al., (2018) stated that the limited time and tools, a poor Internet connection, and a lack of knowledge and experience of ICT training were obstacles for the teachers using ICT. Align with it, Mahdum et al., (2019) also found that they are still faced with several issues related to facilities and technical expertise. The poor ability to use digital devices occurred in several research studies as the main problem. Meanwhile, the ability to use the digital device as known as digital literacy.

Digital Literacy brings a new perception of how far the teacher or student masters digital device use. Istiani et al., (2022) through the systematic literature review of digital literacy, found five domains that persist in using by many researchers from 1990s until the present. They are information, critical digital literacy, content creation, communication, and safety. The present domains of digital literacy also stated by Ferrari et al., (2013), which propose information, communication, safety, content creation, and problem solving.

However even though the domains by Istiani et al., (2022) are arranged by the time, the author

thought the suitable domains to measure how far digital literacy in pre-service teacher belongs to Ferrari et al.,(2013). The reason is the domains has problem-solving and content creation that strongly relate with the skill of pre-service teacher need to create a learning media, lesson plan, and solved problem in the classroom. It also supported by Reisoğlu & Çebi, (2020). According to their findings, pre-service teachers should receive training in information and data literacy, communication and teamwork, creating digital material, safety, and problem-solving. Furthermore, instruction in digital competence should cover professional engagement, use of digital resources, teaching and learning, assessment, and empowerment of students. Thus, currently, the pre-service teacher have to able to use ICT in their teaching process through the developed digital literacy. Finally, the fostering digital literacy was need to figured out in this research.

It is important not to assume the digital literacy level to measure how far the pre-service teacher used the ICT in their teaching process at school. As the kickstart point of pre-service, the measurement can be done by microteaching courses. It aims to find the current status of digital literacy and their perception about it and researcher will applied the treatment in each participant differently before they become a teacher. In case of this research, the researcher limits the research only figured out their perception and the level of digital literacy skill. It is important to do because the researcher will use the data in further research and could be considered in pre-service teacher research of digital literacy.

## METHODS

A mixed-methods research design was used in this study to investigate how pre-service teachers utilize digital tools in the teaching and learning process while placing their skills to the test in a Micro Teaching class. This study used a sequential explanatory mixed method to collect quantitative data from 40 pre-service teachers via questionnaire using Ferrari's model of digital competence, which covers information, communication, content production, safety, and problem-solving, and then determine the level of digital literacy based on the model.. The qualitative data of this research collected were based on observations made in the classroom, and interviews. The result of this stage visualized by NVIVO as the software to better understand the

interview result.

## RESULTS AND DISCUSSION

### Level of Digital Literacy

The level of digital literacy is divided into five domains: information, communication, safety content creation, and problem-solving. This research asses forty students of pre-service teachers. The result of the digital literacy level can be seen in the table below:

**Table 1** Digital Literacy Level

Categorize	Number of Students
Advance	2
Intermediate	33
Basic	5

Figure 1 shows that most students reached the digital literacy level at the intermediate level, followed by two students at an advanced level and five students at a basic level. Then project in the specific course influences their digital literacy level.

The students at a basic level of digital literacy did not create a lesson plan that integrated with ICT as teaching media. Then their way of evaluating students still used paper-based tests. However, they often use ICT to search the sources to create a material. It aligns with the European Commission, which states that students have a set of abilities that allow important use of digital media in their teaching and learning process (Celot & Pérez Tornero, 2009). This is consistent with their digital literacy, which is low skill at content creation as the domain. In contrast, their ability to search and find valid information use ICT to explore wider than traditionally a bit, fostering their digital literacy level. It aligns with the current research regarding the low level of content creation.

The Intermediate level of pre-service students is dominant as the level of digital literacy is fostered through ICT in their teaching and learning process. It can be seen by their decision and practice to use ICT as teaching media, the way to search sources on various appropriate websites, and many of them used game-based teaching in the evaluation process. It synergizes the way they use ICT in teaching and learning with the level of digital literacy. This aligns with Cartelli (2013), which states that fostering 21st Century Digital Literacy and Technical Competency offers the latest research on the

technological advances in computer proficiency in the educational system and society. Digital Literacy can support their ability to use computers and ICT in learning and vice versa.

The Advance level of digital literacy, which was the lowest number of students in this research, has a good understanding and maximizes ICT in their teaching and learning process. It can be seen by the use of ICT in their teaching practice as teaching media, the way to search the sources of teaching material, and the use of ICT in the evaluation process. They use various media such as images and videos to stimulate students' learning process. They compiled it into appropriate media to teach. Then they also use game-based learning to evaluate their understanding of English Education material and a high understanding of how they manage private data. This research is limited by how the student is familiarized with and updated with the ICT in learning. Furthermore, developing digital literacy today not only by using the standard of ICT in learning, such as images and video, but it can also be AR/VR to foster digital literacy skills (Weitze, 2020).

Based on the study result, it can be concluded that the use of ICT in teaching and learning could foster their digital literacy level to the intermediate level. Then many of them reach the level of advanced level through the improvement in game-based learning and understanding of privacy data.

### Perception of Technology in language teaching.

ICT in teaching and learning has become one of issue that never been enough to discuss around the academic world. Several researchers stated if ICT development is always integrated with the learning process (Rusydiah et al., 2020).

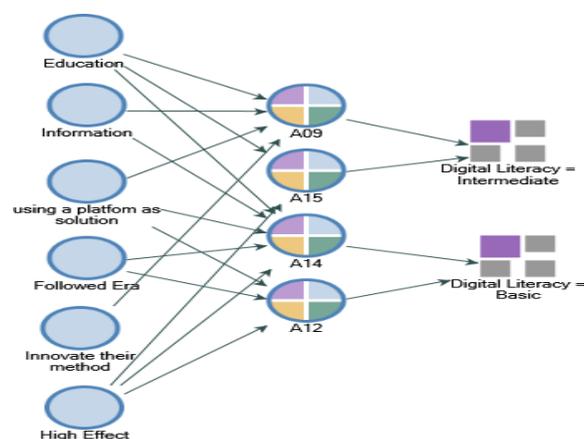


Figure 1. Perceptions of Digital Literacy

Figure 1 shows the perceptions of digital literacy that refer to technology in English language teaching. A09 and A15, who have an intermediate level of digital literacy, thought that technology in English language teaching could be important in the educational field and greatly affect their way of teaching. Furthermore, A09 has a practical perception that technology took a role as the solution to improve their method using an online platform such as game-based learning on the internet. It aligns with the role of technology as the source of information that will support them in developing the lesson plan. This is consistent with the theories of three models of digital literacy [5,6] that indicates if students of pre-service teacher have focused on creative literacy. It means they have an ability to technical skills that lead to the production of educational content with a moderate understanding of copyright knowledge.

Meanwhile, in digital literacy, the students in basic levels, A14, and A12, perceive if they used technology to follow the era and understand that they are using a platform as a solution. It aims to create an interactive environment while using technology in the teaching and learning process. They also agreed that the high effect of technology influences their teaching process, such as preparation stages to find sources via the internet, using ICT as their teaching media, and using ICT to evaluate the class.

### CONCLUSION

The findings of this study reveal that the higher level of digital literacy of pre-service teachers affects their quality in incorporating technology into their teaching process, and they believe in empowering learners to have digital literacy skills. Their positive attitudes toward using technology in language teaching contribute to a better understanding of digital literacies and the improvement of digital literacy skills for surviving in the digital era.

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