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INVESTIGATING PRE-SERVICE TEACHERS' ABILITY TO IMPLEMENT DIGITAL LITERACY SKILLS IN REAL ENGLISH INSTRUCTIONAL SETTINGS

(Research article)

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Abstract

Digital literacy is defined as the ability to use digital technology in obtaining and understanding information dissemination. It also contributes actively to the advancement of communication technology through the administration, distribution, interpretation, and composition of meaning. This study aimed to investigate the pre-service teacher's ability to implement digital literacy skills in real English instructional settings. This study used a mixed method approach by using the form of a Likert scale and percentage to describe the data. There were 24 pre-service teachers at one of university in Banjarmasin involved in this study. The result showed that pre-service teachers had used digital technology in their classes and always considered credible sources for the material they wanted to teach. Pre-service teachers also sometimes had challenges when using technological media, such as inadequate networks, inadequate facilities, and students' lack of knowledge of digital technology. Media technology was important to apply in class because it fosters students' interest in learning. Therefore, even though there is no media technology, the class will still run.

Keywords: Pre-Service Teacher, Digital Literacy, English Language Teaching, Instructional Setting

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1. Introduction

Education is one of our steps to fight ignorance and poverty in our nation, especially in Indonesia (Mansir, 2021). We all understand that if someone goes to school, they already know about various topics. Future developments are strongly influenced by education, not only for ourselves but also for our country, the Republic of Indonesia. No matter how we engage in education, as long as we intend to take it seriously in our daily lives, it will significantly influence our future and that of others. People will be better equipped to plan their future intelligently and think more critically when dealing with problems that arise in their daily lives as a result of education. Understanding education will enable us to collaborate with the government to fill open positions, reducing the number of unemployed in Indonesia. Therefore, we need to start realising how important education is to ensure our existence in the future.

A developed country is a country that follows a development era. Therefore, we, as Indonesian citizens, must learn international languages. English is at the first level with the most speakers (Cenoz & Gorter, 2020). Therefore, it is an international language in various parts of the world. People who use English as a second language have adapted to using it in two different ways. The first is the traditional form of the language they learn in groups with their friends, in public places, with coworkers, at work, while travelling, and in other situations. The other time was while they were studying English in school. There are many ways to learn English in both traditional and non-traditional ways. For example, non-traditional, there are already many technologies that support us in learning languages.

The rapid development of technology requires us to be even wiser in using digital. We must be able to sort out which information can be shared, is relevant, has guaranteed credibility, and does not contain hoaxes or the like. This ability is called digital literacy. More specifically, digital literacy is defined as the ability to use digital technology to obtain and understand information and to contribute actively to the advancement of communication technology through the administration, distribution, interpretation, and composition of meaning (Law et al., 2018). Digital literacy has become a common issue among language researchers since the fourth industrial revolution (IR 4.0). Since then, the rapid growth of information and digital technology has been born. English teachers in the 4.0 era must have a high level of digital literacy and be ready to apply digital technology in the classroom to meet the millennial generation's needs. Digital technology in this era has become something that will continue to be used and developed in schools and other fields. Generation Z will always be in touch with digital technology. Therefore, teachers are expected to be able to master digital literacy to support technological development and apply it in the classroom as a form of development of the times (Efendi & Atmarizon, 2022).

Teachers and other educators greatly aid the general learning process in schools. The four skills teachers must possess in education are educational, social, professional, and individual competencies. According to the definition of pedagogic competence, teachers must be able to utilise information and communication technologies to carry out learning. The teacher must provide a good example for studying technology, especially when learning to utilise it effectively and finding information on the subject matter. In addition, in the 21st century, teachers must be skilled in delivering the material taught, one of which is using technology as a learning medium. Therefore, the teacher should not be fixated on the face-to-face learning

model in the classroom but must also be able to use media that make it easier for him to deliver the subject matter (Al-Anshari & Suparno, 2020; Maswati & Faridah, 2022).

The Pre-service Teacher, Professional Education Program is an educational program organised to prepare bachelor Educational and Non-educational graduates who have talent and interest in becoming teachers in order to fully master teacher competencies in accordance with national education standards so that they can obtain professional certificates in early childhood education, basic education, and middle education. Training for pre-service teachers is important to prepare teachers to master digital technology, become role models for students, and become competent and student-oriented teachers. The purpose of this new model of pre-service is very much in line with the aims of pedagogy (Anisa, 2022). Teachers' challenges in dealing with digital literacy in the English learning process can be reduced if pre-service teachers or students of the English Education study program are required to have digital literacy competencies.

Mufidah (2019) claims that pre-service teachers have difficulty in time management, fluency, and accuracy in using the target language for teaching. Based on these findings, it is suggested that the English department carefully design teaching practice programs so students can gain experience teaching all language skills. They need to pay more attention to the training of student's language skills, especially related to their pronunciation and mastery of grammar. This program also should not overlap with other subjects so that students can show their true potential in teaching. Supervisors are also expected to provide detailed feedback on student performance as it impacts their professional development. Students are expected to be able to add insight and always be updated about the world of language teaching because, every day, there will always be new information and technology.

Furthermore, Asfihana (2022) investigates pre-service English teachers' strategies in incorporating character education during the teaching practice program at *Universitas Islam Negeri* (UIN) Antasari Banjarmasin. She found that pre-service English teachers have carried out various strategies and activities to incorporate character education into lesson plans and teaching assignments. In developing lesson plans, pre-service teachers try to integrate character values by carefully choosing learning activities and materials. They also consult lesson plans with supervisors to get feedback before implementation (Junaidi et al., 2021). This consultation is important because character Education requires careful planning and continuous learning. Characters or characteristics of the lesson have in common, namely being responsible, honest, trustworthy, respectful, and religious. Current findings concluded that the Teaching Practice program has the potential as an alternative to pre-training teacher services to include character education in the context of teaching English.

The application of digital literacy in the learning process must have preparation before its implementation, such as completing facilities and targets that support digital literacy, e-learning-based literacy, and holding digital literacy-based training (Masyhura & Ramadan, 2021). Digital literacy can be implied in various ways, including using Google Apps, WhatsApp as a digital literacy media, and YouTube as a social media platform (Khosiyah & Gunawan, 2019; Sahidillah & Miftahurrisqi, 2019; Salehudin, 2020). Teachers use multiple literacies (visual, textual, and digital literacy). To illustrate, the teacher used power points, film, and songs to teach English (Solikhati & Pratolo, 2019). By promoting digital literacy in

the classroom, teachers can help students develop the ability to discern quality sources, understand copyright and authorship rules, and evaluate the credibility of online content.

Teachers can combine it with other media such as Google Meet, Zoom Meeting, and Google Classroom, and with the help of social media such as Facebook, YouTube, and Instagram (Mer et al., 2022). Pre-service teachers provide learning materials through Google Classroom and then conduct questions and answers on WhatsApp via voice notes. Then, consider using Instagram as a means of giving assignments to students, which of the course students are very familiar with and can also increase their creativity, such as uploading video assignments with the reels feature on Instagram. Facilitating the delivery of learning is not always the same. Therefore, a teacher must be able to bring fresh air into his learning method, such as inserting videos from YouTube in the material so that it can stimulate visuals and promote a spirit of learning (Nasution, 2019).

The use of digital literacy certainly challenges teachers when implementing it in the classroom from a student's point of view. They are having difficulty asking the teacher and the lack of feedback during the online learning process. As a result, students find it difficult to interact online, unlike in a classroom where students can interact easily. According to Hosseini (2018), students' self-management skills frequently present a greater challenge for teaching technology. From the teacher's point of view, the lack of digital literacy-themed training so that knowledge about digital literacy is still minimal, the lack of direction and teaching about procedures for using digital literacy, the lack of reciprocity during the learning process between teachers and students (Masyhura & Ramadan, 2021). The school only provides computers and projectors as digital literacy sources because the school prohibits the use of smartphones in the learning process. Thus, related to the lack of facilities, teachers must look for strategies to implement digital literacy amid inadequate facilities. When students can face digital challenges and experiences, this will have a positive impact on them.

There are several studies related to pre-service teachers and digital literacy. Exploring teachers' perceptions and views of digital literacy (Ata & Yıldırımismla, 2019), scale and perceived and readiness toward digital technologies (Liza & Andriyanti, 2020), levels of pre-service teachers, views on distance education, and pre-university school memories (Polat, 2021), and digital awareness, competence, and fluency in the profiles (Karakuş & Kılıç, 2022). However, it is still limited to discussing English pre-service teachers' ability to implement the digital literacy lessons teaching practice. In fact, it can show significant things related to how pre-service teachers implement digital literacy in the classroom.

This study investigates the pre-service ability to implement digital literacy skills in real English instructional settings. The overarching question of this study is the implementation of digital literacy in universities associated with the teaching, information, and media literacy approach, educators' role, and the learning location.

2. Method

2.1 Research Design

To evaluate pre-service teachers' capacity to use digital literacy abilities in actual English educational situations, this study employs a mixed-methods research design that incorporates both quantitative and qualitative methodologies. A Likert scale was used in the quantitative phase to examine overall patterns and generate numerical insights. Pre-service teachers were

polled on their level of confidence and competency in adopting digital literacy skills. To get deeper insights during the qualitative phase, qualitative data was collected through semi-structured interviews with participants. These interviews gave a richer understanding of the problems and possibilities involved with integrating digital literacy skills in real-world classroom settings.

2.2 Sampling

Participants in this study were chosen based on a variety of factors, including gender, age and major. The researchers used a non-probability sampling method known as purposive sampling (Anggraini et al., 2022). This strategy enables the careful selection of individuals who fit specified criteria and can give useful insights into the study issues. As a consequence, 24 people took part in this study. Participants in this study represent a wide range of demographic groups, which guarantees a comprehensive analysis of the topic and enhances the validity and trustworthiness of the research findings.

Table 1.
Information of participants

Characteristics		Total of Participant	Percentage
Gender	Male	10	41.7%
	Female	14	58.3%
Age	18	5	20.8%
	19	12	50%
	20	5	20.8%
	21	2	8.3%
Academic Majors	English Education	10	41.7%
	Math Education	6	25%
	Islamic Education	4	16.7%
	Islamic Early Childhood Education	4	16.7%

2.3 Data Collection Tools

A Likert scale questionnaire was used in the quantitative phase to measure pre-service teachers' self-perceived digital literacy abilities and their capacity to apply these skills in English instructional contexts. This questionnaire contained statements on digital literacy, and participants used a 5-point Likert scale to indicate their degree of agreement. Furthermore, semi-structured interviews with pre-service teachers were done throughout the qualitative phase. The interviews go into their experiences, problems, and triumphs in adopting digital literacy skills in real-world teaching settings. To guarantee uniformity in the themes discussed, an interview guide was employed.

2.4 Data Analysis

The quantitative data acquired via the Likert scale questionnaire in this study was analysed using statistical software. To summarise the participants' self-perceived digital literacy skills, descriptive statistics such as mean scores and percentages were generated. Furthermore, thematic analysis was used to analyse the qualitative data from the semi-structured interviews.

The interview transcripts were coded in order to find recurring themes and patterns connected to the capacity of pre-service teachers to integrate digital literacy abilities. This analysis provides valuable insights into the study's qualitative components. The combination of quantitative and qualitative methodologies provided a thorough knowledge of pre-service teachers' digital literacy abilities and their deployment in real English instructional environments.

3. Results and Discussion

Most pre-service teachers admit that using technology in class is not very difficult to use. As many as 16 of 24 pre-service teachers stated that they often use PPT (PowerPoint) in presenting the material. In providing material above 50%, pre-service teachers have been able to distinguish whether the source is credible. As much as 41.7% of pre-service students stated that school students felt happy when their teachers used technological media in class. However, the lack of digital media is the lack of school facilities and inadequate internet networks, so digital media is less effective when looking at the deficiencies; as much as 41.7% of pre-service teachers stated this deficiency. Therefore, the use of technology in the classroom is not always the main thing in implementing it in class. Classes will still run even if they do not use technology, but the use of technology is important to increase the sense of learning because students enjoy exposure to technology.

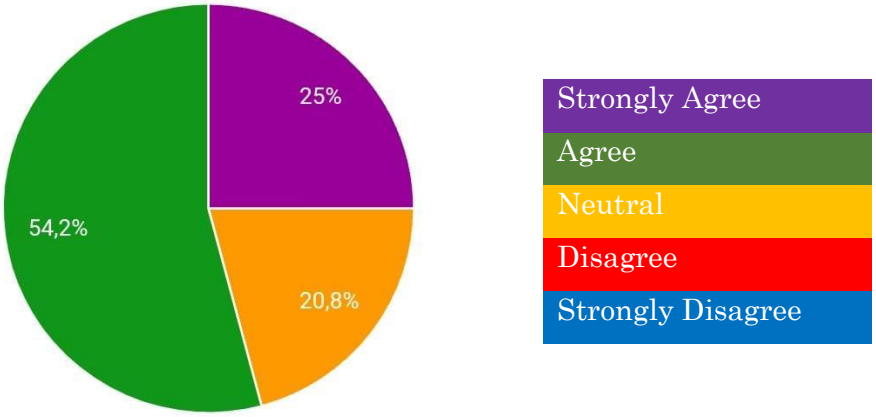

Figure 1: Result of the First Question (You feel that it is not difficult to use technological media in class)

The first question is whether it is not difficult to use technological media in the classroom. The questionnaire results show that as many as 54.2% agree, 25% strongly agree, and 20.8% are neutral, which is sometimes difficult and sometimes not. These results show that most pre-service teachers do not find it difficult to use technology in class. They are young people who understand the development of today's technology. They are always in contact with technology daily, so it is not difficult for them to apply it in class. This is evidenced by their high frequency of using the internet, computers, multimedia, and social. This finding relates to

Liza and Andriyanti (2020), who state that they are adept at applying digital technology to teaching English.

In-depth interviews with pre-service teachers provided light on their perspectives on utilising technology media in the classroom, providing useful insights beyond the results of the questionnaire. Pre-service teachers reported comfort and excitement for using technology in their teaching during interviews. They confirmed their agreement with the questionnaire findings, emphasising that using technology in the classroom is not difficult for them. Many said they are part of a tech-savvy generation that has grown up with continual exposure to changing technology. This familiarity gives students the confidence to use technology media as a teaching tool. They emphasised that technology is a natural extension of their tech-infused living, and bringing it into their teaching is a natural extension of that existence.

> "For us, the digital world is like a second home. We're comfortable with technology, and it's not daunting to bring it into our teaching. In fact, it's exciting to explore new ways to engage our students." Participant 7

The interview findings demonstrate that pre-service teachers' technological competency extends beyond their questionnaire responses. Their everyday use of technology, familiarity with digital tools, and eagerness to integrate technology demonstrate their preparedness to leverage it as a powerful educational asset. This preparation enables them to improve classroom experiences and engage students successfully in the digital learning environment.

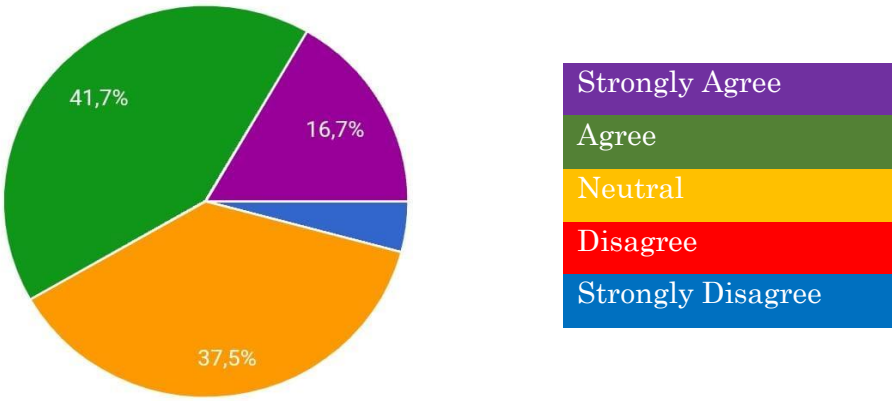

Figure 2: Result of the Second Question (You often encounter challenges when using technological media such as the internet that does not support it and lacks facilities)

The second question determines that pre-service teachers often encounter challenges when using technological media such as the Internet, which does not support and lacks facilities. As many as 41.7% stated that they often found class such as inadequate facilities, slow internet

connection, and a lack of digital skills and knowledge by students in class. These findings were in line with the fact that many schools have inadequate facilities and a lack of students' skills in technology (Matt et al., 2022). The interview analysis corresponds to the issues raised in the second question regarding employing technological media. Pre-service teachers typically confront challenges in the classroom, such as poor facilities, sluggish internet connections, and students' lack of digital skills and understanding.

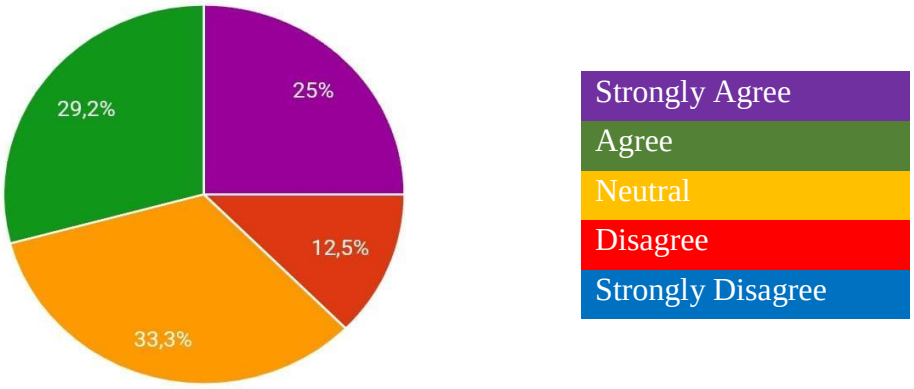

Figure 3: Result of the Third Question (Is media technology very effective for use in class?)

The third question considers whether media technology media is effectively used in class. As many as 33.3% said they were neutral, 29.2% agreed, and 25% said they strongly agreed, and it was effective depending on the conditions. Sometimes, things such as networks and inadequate facilities become obstacles that make the technology media itself ineffective to use (Ibrahim et al., 2021). The network is up and down when it takes time to turn on the projector. In addition, the pre-service teacher thinks that sometimes, only with books students also understand, but with different techniques such as PPT, students also understand, so whether the presence of technological media or not, the class will continue.

The interview analysis confirms the conclusions of the third question about the efficient use of media technology in the classroom. Many pre-service teachers stated neutrality, but a sizable majority agreed or strongly agreed that the efficacy of technology is conditional. They highlighted barriers, such as network troubles and insufficient facilities, that occasionally impede the smooth usage of electronic media. This is consistent with Ibrahim et al.'s (2021) observations, which emphasise the impact of technological flaws and infrastructural restrictions.

"I find it sometimes effective, sometimes not, depending on the conditions. Our school's network can be quite unreliable, and technical issues like projectors taking a long time to start can disrupt the flow. But, honestly, sometimes students grasp the concepts just fine with books alone. However, using techniques like PPT can also help. So, whether we have technological media or not, the class continues." Participant 2

"I agree with Participant A. The effectiveness varies, and it's often tied to external factors like the network or technical glitches. It's true that students can learn from traditional materials, but technology adds an extra dimension to the learning experience. So, I'd say it enhances the class, but it's not the sole factor for effective teaching." Participant 3

Interestingly, pre-service instructors stated that while traditional teaching approaches, such as textbooks, are useful, technology provides new tools and ways to improve students' learning. They emphasised the adaptability of techniques, suggesting that class may be held successfully with or without modern means. This approach emphasises pre-service teachers' capacity to traverse various teaching styles dependent on classroom conditions and learning objectives.

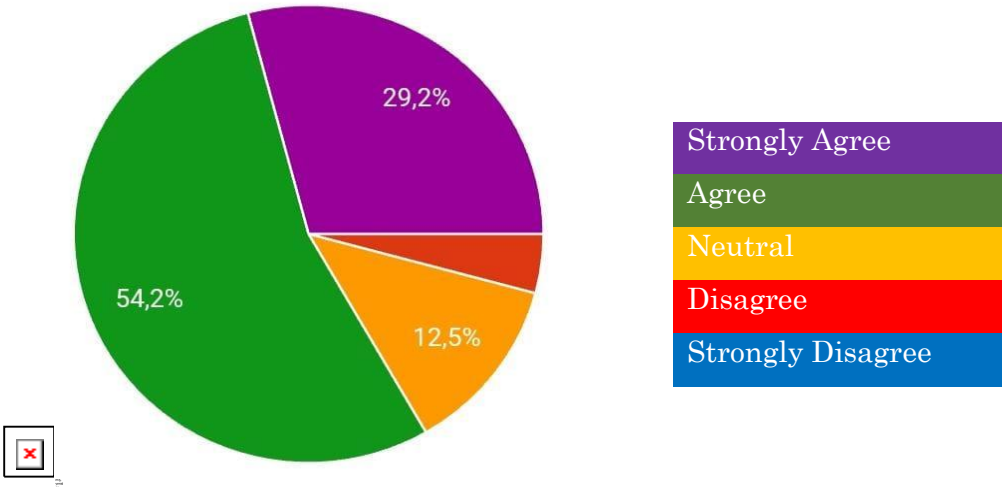

Figure 4: Result of the fourth question (Does the pre-service teacher distinguish between bad and good sources to be used as learning materials?)

The fourth question determines whether pre-service can distinguish between bad and good sources for learning materials. As many as 54.2% of pre-service-service participants stated that they could distinguish good sources for teaching materials. Some quotes come directly from Google Scholar, Academia.edu, and Zlib. Knowledge of how to find good sources to turn in the material is from the internet and his school teacher (Rahman et al., 2022). The interview results corroborate the questionnaire findings. Many pre-service teachers indicated confidence in their abilities to identify appropriate sources for instructional materials. However, these findings also reveal that their ability to select quality sources is frequently linked to recognising well-known website names, indicating that more nuanced digital literacy abilities may require further development. Therefore, most of them can distinguish it only from the website's name.

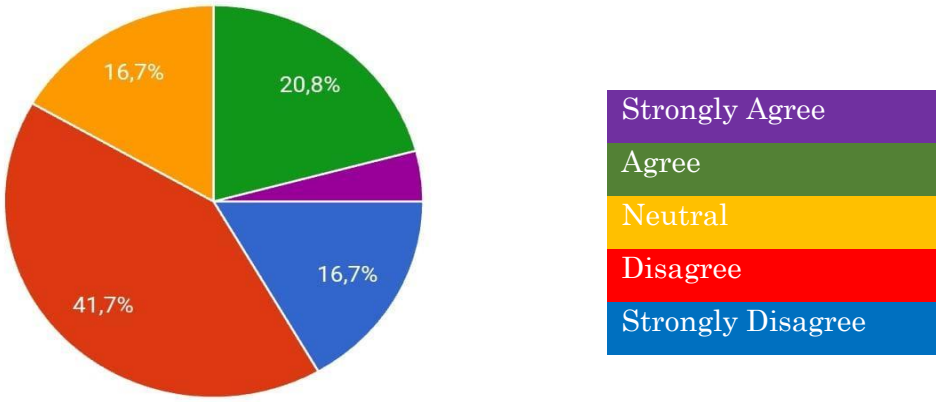

Figure 5: Result of the Fifth Question (Do you feel your class will fail if you do not use technological media?)

This question states that they feel their class will fail if they do not use technological media. As many as 41.7% stated that they did not agree, 16.7% stated that they strongly disagreed, and 20.8% agreed. One of them stated that the class would still run regardless of technology. This again depends on the teacher whether the teacher can improve it with traditional media if technological media experiences problems (Nengsih et al., 2022). Another opinion says that PPT media is the only suitable way to convey material in class. Without PPT, the class will be silent and feel lifeless.

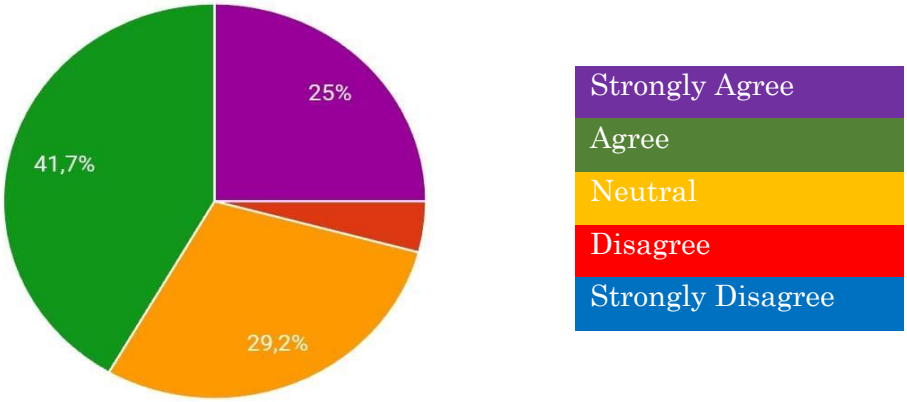

Figure 6: Result of the Sixth Question (Your students always feel happy every time you use technological media?)

This question shows that their students always feel happy whenever they use technological media. As many as 41.7% stated that they agreed, 25% strongly agreed, and 29.2% were neutral. Most of them agreed. Students like interesting things like YouTube videos, cute sounds, unique pictures, etc. It will make a good impression on students. The most important thing in teaching is to be a happy student, not a happy teacher. Happy students will easily

receive knowledge (Hizriani et al., 2022). With technology, everything boring can be conjured up into something fun.

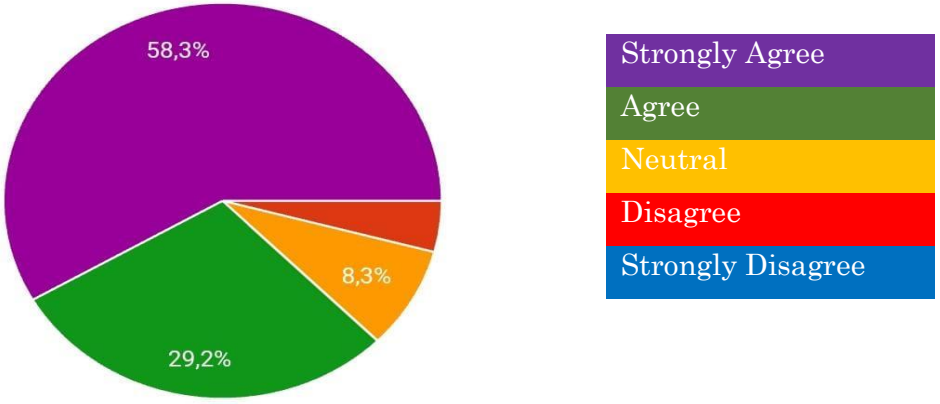

Figure 7: Result of the Seventh Question (You always sort out the credible source for your student)

The seventh question considers that they always sort out in advance what is best for their students, whether the source is credible or not. As many as 58.3% stated that they strongly agreed, and 29.2% agreed. One of the pre-service teachers stated that we must convey accurate things. Like we take from websites that must be trusted, not random ones, Google Scholar Academia could also be from a book whose author is clear (Handrianto et al., 2022). An example of a website that cannot be used as a source is Wikipedia because, on that website, everyone can edit the page.

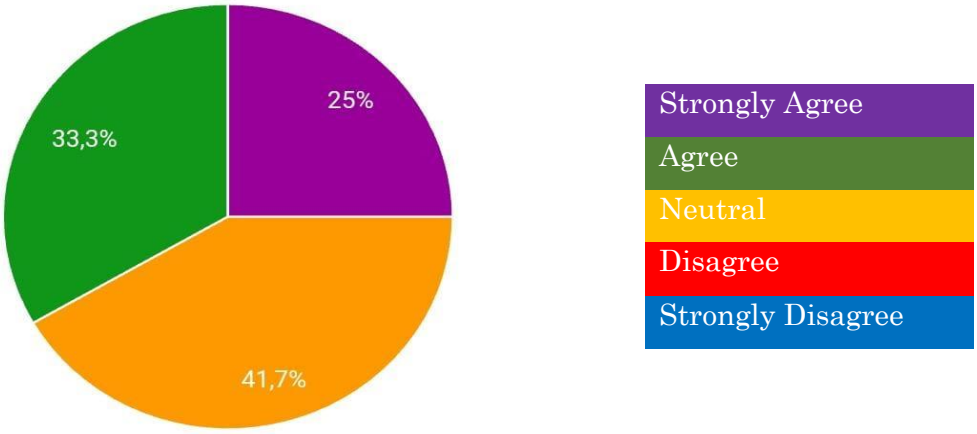

Figure 8: Result of the Eighth Question (Is ppt media good for your class?)

This question discusses whether PPT is good for the class. As many as 41.7% declared neutral. 33.3% agreed, and 25% strongly agreed. They prefer to use PPT media because what is displayed is only the point that makes it easier for students to stay focused if they immediately see there is too much reading from the book. It is not certain that with that much reading, the students will immediately understand; therefore, the teacher uses PPT as a medium to show points along with interesting pictures, then explained by the teacher (Khairunnisa et al., 2022). The interview analysis confirms the questionnaire results about the usage of PowerPoint (PPT) in the classroom. Many pre-service teachers preferred PPT as a teaching medium. They said that PPT simplifies complicated concepts by giving crucial information and complementing images. This method improves student concentration and understanding, especially when contrasted to long readings from textbooks. The interviews demonstrate the practical benefits of utilising PPT as an effective tool for educating and engaging students.

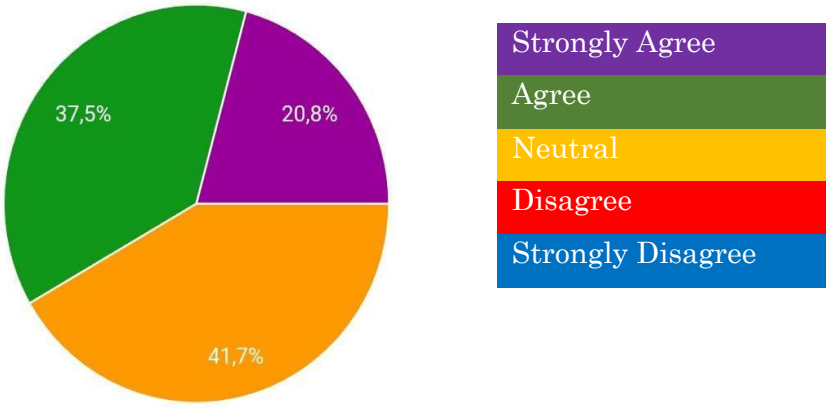

Figure 9: Result of the Ninth Question (Would you rather use technology than not?)

This question shows that pre-service teachers prefer to use technology rather than not. As many as 41.7% said they were neutral, 37.5% agreed, and 20.8% said they strongly agreed. Make it easier for students to find information more interesting. They must follow the times, not the times that follow us. Technology is growing; teachers cannot get stuck because students must also have the current knowledge (Ramadhani et al., 2022).

> "It's not just about following trends, but technology genuinely makes learning more engaging. Nowadays, students are used to finding information online, and integrating technology helps us keep their interest and prepare them for the digital age." Participant 23

> "I see the benefits of technology, but sometimes it's a matter of balance. We shouldn't rely on it for everything. Traditional methods still have their place, and we need to choose the right approach based on the subject and students' needs." Participant 19

This diversity of opinions underscores the complexity of the technology in education debate. While some educators are enthusiastic about its potential, others advocate for a more cautious and context-specific approach. The interview results demonstrate the need for educators to make informed decisions about when and how to leverage technology to maximize its benefits in the classroom.

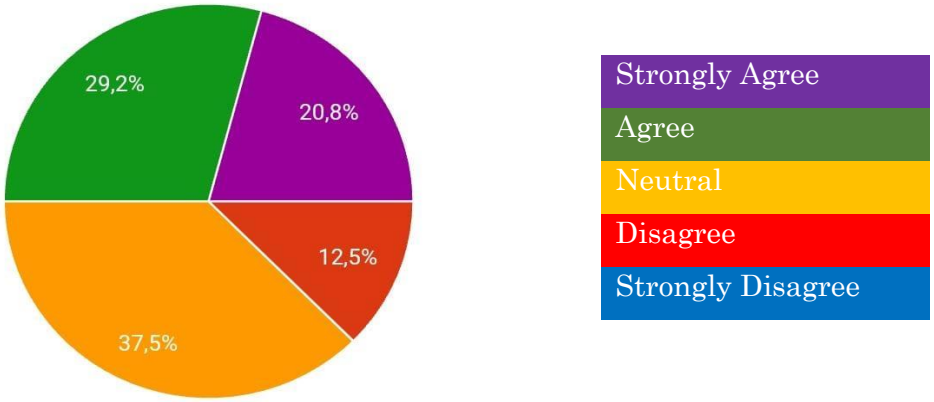

Figure 10: Result of the Tenth Question (Do you always use technology in your class?)

In this question, it was found that pre-service teachers always use technology in the classroom. 37.5% stated neutral, 29.2% agreed, 20.8% strongly agreed, and 12.5% disagreed. Students stated neutrally that some learning materials did not really need technology; they might only need other learning media such as paper, cardboard, etc. We can also use the media that is around. It forces us to only use the surrounding media due to a lack of facilities (Handrianto et al., 2021).

The interview analysis echoes the questionnaire responses about pre-service teachers' varying use of technology in the classroom. Some pre-service teachers expressed a neutral stance, stating that the choice to use technology depended on the specific learning materials. They believed that certain topics could be effectively taught using traditional materials like paper and cardboard, especially when technology resources were limited. This reflects the adaptability of pre-service teachers in using various media to deliver content. The analysis underscores the importance of considering the context and available resources when determining the use of technology in the classroom.

4. Conclusions

The result of the research showed that teachers had a high digital literacy scale and perceived readiness toward the application of digital technology into English teaching and learning. They also articulated digital technologies. Brought various advantages to developing teachers' creativity, learning materials, and motivation. It encouraged them to improve their knowledge and skills in digital technologies. The teaching practice program helped the pre-service teacher to develop their teaching performance by getting feedback from the supervisor. The student's ability to plan a lesson was improved week by week. They knew how to

structure the lesson and write a good lesson plan. In explaining the lesson, some common problems are in their pronunciation and grammar skills. Some also needed to know how to manage and engage the students and close the lesson. The Pre-service teachers were able to use various media, but they need to have better preparation to use them. The data collection and analysis results have shown that pre-service English teachers and other pre-service teachers have performed various strategies and activities to incorporate character education into their Lesson Plans and teaching enactment. In developing the lesson plan, the pre-service teachers put their effort into integrating the character values by carefully selecting the learning activities and materials. Future studies should explore the experiences of in-service teachers with technology integration in the classroom. Comparative studies between pre-service and in-service teachers could provide insights into the evolution of technology in education. The impact of specific teacher training programs on technical proficiency and confidence would benefit teacher education programs. Longitudinal studies tracking pre-service teachers' attitudes and practices regarding technology throughout their teaching careers provide insights into the long-term effects of teacher education and professional development in this area.

5. Declaration of Conflicting Interest

The authors declared no conflict of interest regarding writing, submitting and publishing this article.

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