

**PRE-SERVICE TEACHERS' STRATEGIES IN IMPLEMENTING
DIGITAL LITERACY SKILL**

Thesis

Submitted in Partial Fulfillment of the Requirement for Degree of Bachelor
of Education in English Education

By :

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**ENGLISH EDUCATION DEPARTMENT
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STATEMENT OF CERTIFICATION

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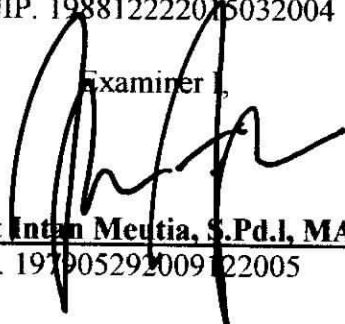
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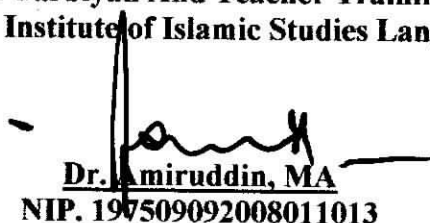
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Menyatakan dengan sebenarnya bahwa skripsi yang ditulis dengan judul “*Pre-Service Teachers’ Strategies In Implementing Digital Literacy Skill*” untuk memperoleh gelar Sarjana Pendidikan merupakan hasil karya saya sendiri.

Apabila dikemudian hari terbukti atau dapat dibuktikan bahwa skripsi ini adalah hasil jiplakan, maka saya bersedia menerima segala sanksi yang diberikan atas perbuatan saya tersebut.

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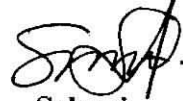
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ABSTRACT

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Pre-Service Teachers' Strategies In Implementing Digital Literacy Skill.

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The research investigated about pre-service teachers' strategies of IAIN Langsa in implementing digital literacy skill at school and the challenges that faced by the pre-service teacher of IAIN Langsa in implementing digital literacy skill at school. The subject of this research was 10 Pre-Service teacher of English Department in IAIN Langsa. In this research, a qualitative design with a case study approach was used to explore pre-service teacher strategies of IAIN Langsa in implementing digital literacy skill and the challenges that faced by the pre-service teacher of IAIN Langsa in implementing digital literacy skill at school. In order to collect the data, the researcher uses interview in this research. The researcher found that strategy that used by the pre-service teacher in implementing digital literacy at school was learning by doing, incidental learning, case-based learning, learning by reflection, and learning by exploration. In implementing digital literacy at school, pre-service teachers face obstacles when implementing digital literacy in the learning process, particularly when schools lack adequate facilities and infrastructure, and when students have limited understanding of technology. Insufficient resources, such as the absence of projectors, poor internet connectivity, and a lack of personal devices, hinder the effective integration of technology in education. To overcome these challenges, it is crucial for pre-service teachers to coordinate with schools and advocate for the importance of technology in contemporary learning. By emphasizing the significance of digital literacy and its role in students' academic and future success, schools can consider providing the necessary facilities and infrastructure to support digital learning initiatives.

Keywords: Pre-Service, Strategy, Digital Literacy

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CHAPTER I

INTRODUCTION

A. Background of the Study

The most important role in teaching the English process is strategies. Nowadays, research on language learning strategies is a big issue in field education especially in learning a second language. Actually, Since the mid-1960, studies on language learning strategies was started. Subsequently, the past twenty years have seen increasingly rapid advances in the field of second language learning strategies.¹

Besides, researchers believed that in order to learn English effectively, teachers and learners needed to ensure that the way they teach and learn was appropriated and suitable for acquiring the target language. In addition, language learning strategies was directly or indirectly affected to learning outcomes that students get. Learning strategies was choosed by the teachers in teaching the target language. A good strategy used by the teachers could make students easier to understand material learning. Therefore, researcher believed the teaching strategies could affect students' motivation and interest in the learning process.

Strategy is a general program for achieving organizational goals in carrying out the mission. The word "program" in this definition involves an active, conscious and rational role played by managers in the formulation of organizational strategy. This understanding indicates that a strategy can provide

¹Nur Hanisah Safian, et all, "Exploring Vocabulary Learning Strategies Used by UPM TESL Undergraduates", *Advances in Language and Literary Studies*, Vol. 5, No. 5; October 2014.

prior knowledge about the utilization of the potential possessed by the school organization so that it can achieve its goals. Strategy can also be defined as an organization's pattern or response to its environment over time. This definition implies that every organization always has a strategy even though it has never been explicitly formulated. From the various definitions above, the word strategy is used to explain the steps taken by a leader or organization in achieving its goals and objectives.²

Furthermore, science and technology every period is always developing, also in learning with the development of informatics techniques, people really need information that is very fast, accurate and efficient because information is a very important part.³ The use of information technology is now increasingly easy to access by anyone, anytime and anywhere, because it is supported by the availability of sophisticated communication media. The need for information in an educational institution is very important for students in related institutions, especially students who want to see the activities of the teaching and learning community in the school, the information that students really need includes: grades info, personal data for both students and teachers and the latest information in the school. So it is hoped that the academic community can be used online through the website or by mobile which is already owned by many groups.

For education professionals, the implication of increasing students' engagement with digital media is to help students develop the knowledge, skills,

² Ni Made Ratminingsih, *Metode dan strategi pembelajaran bahasa inggris*, (Jakarta: PT. Raja Grafindo Persada, 2021), p. 21.

³ Putu Adi Krisna Juniarta, *Litersi ICT Bagi Kelompok Guru Bahasa Inggris di Nusa Peniba-Bali*, (Jakarta: Gramedia, 2017), p. 23

and dispositions to live, contribute and thrive in the 21st century digital world.³ Student success has been linked to 'digital literacy' as citizens who are involved in building the nation in the future. There are many digital literacy components proposed by experts.⁴ Alkali & Amichai- Hamburger (2004) state five primary skills of digital Literacy: (1) photo-visual skills (reading graphic displays), (2) reproductive skills (utilizing digital devices to make new and meaningful findings from pre-existing material), (3) branching skills (building knowledge from non-linear, hypertextual, and navigation), (4) information skills (evaluating the quality and validity of information), and (5) social-emotional skills (understanding "rules" that apply in the world virtually and apply this understanding in online cyber communication).⁵

In the field of education, technology is also no stranger to use. The world of education is required to be able to adjust to technological developments and their use in the learning process as an effort to improve the quality of education. Utilization of sophistication of technology in the teaching and learning process can help teachers and students to study material in more depth, so that learning will feel more interesting and not monotonous. Why did the researcher choose this research, because the researcher saw that the students lacked understanding and skills in learning English. The problem is that students do not understand learning English in class, especially in speaking. The students are confused to answer all questions from the teacher. Then students also do not master the vocabulary well.

³ I Putu Yoga Purandina, *Perspektif Sosial Guru Terhadap Literasi Digital Pada Pembelajaran Bahasa Inggris*. 2022 <https://e-journal.iahn-gdepudja.ac.id/index.php/PS>

⁵ Alkali and Amichai-Hamburger, Experiments in Digital Literacy, *Cyber Psychology and Behavior*, Vol. 7, No. 4, 2004

The digital literacy-based learning process must be re-integrated with the existing curriculum. In addition, digital literacy learning is held differently at each level of education. This is because students' digital literacy skills vary based on their level of education. These different levels of digital literacy skills require different subject matter at each level of the curriculum.

With the rapid advancements in technology, digital literacy has become an essential skill for individuals to navigate the digital world. In the field of education, digital literacy is increasingly recognized as an essential skill that teachers and students must possess. Digital literacy involves the ability to find, evaluate, use, and communicate information in a digital context. It also encompasses skills such as critical thinking, problem-solving, and creativity.

Pre-service teacher education programs play a crucial role in preparing future teachers with the knowledge and skills necessary to integrate digital literacy into their teaching practices. However, there is a need to explore the strategies used by pre-service teachers to implement digital literacy skills in the classroom effectively.

In Indonesia, especially in the city of Langsa, research on pre-service teachers' digital literacy abilities is still rarely carried out. In fact, as one of the cities in Indonesia, this province must have valid data related to digital literacy skills. As a student city, Langsa must be a role model for other cities in following the current development of education in the 21st century. Research in this area focus on identifying the pre-service teachers' strategies in implementing digital literacy skill, exploring the challenges they face in implementing these skills, and

evaluating the impact of digital literacy on student learning outcomes. The results of this research can inform teacher education programs and policy-makers in developing effective strategies to promote digital literacy in schools.

In this paper, researcher will explore what the pre-service teachers' strategies of IAIN Langsa in implementing digital literacy skill at school. The researcher will show the pre-service teachers' strategies in implementing digital literacy skill and exploring the challenges that they face in implementing these skills. Regarding the discussion above, it gives inspiration to the researcher to conducted research entitled **“Preservice Teacher Strategies in Implementing Digital Literacy Skill”**.

B. Research Questions

Based on the background of the study above, the research questions of this research are:

1. What are the pre-service teachers' strategies of English Department Students in implementing digital literacy skill at school?
2. What are the challenges that faced by the pre-service teacher of English Department Students in implementing digital literacy skill at school?

C. Purpose of the Study

The purpose of this study is to answer the research questions above. Base on the Research Question above, the purpose of the study are :

1. To investigate about the pre-service teachers' strategies of English Department Students in implementing digital literacy skill at school.

2. To overview about the challenges that faced by the pre-service teacher of English Department Students in implementing digital literacy skill at school.

D. The Significances of the Study

Based on the purpose of the study above, this research is supposed to be able to give significance on all sides. The significance of this research are :

1. Theoretical Significance
 - a. To inform the reader about the pre-service teacher strategies in implementing digital literacy skill.
 - b. To inform the the challenges that faced by the pre-service teacher in implementing digital literacy.
 - c. This result can be the references for other researcher who are interested to make the research with same topics.
2. Practical Significance
 - a. This research motivate another teacher and students to improve the digital literacy skill.
 - b. The result of this study can be the reference for the teacher who wants to develop their ability in teaching.
 - c. The result of this study can be the reference for the students in English department to improve their skills in teaching English.

E. Scope of the Study

The discussion of this research needs to be limited. The research must be focused on the pre-service teacher strategies of IAIN Langsa in implementing

digital literacy skill at school. The subjects of this research were 10 pre-service teacher in English Department of IAIN Langsa at academic year 2023/2024.

F. Terminology

It makes this research is easier to be understood by other researcher and readers by knowing the terminology. The terminology of this research are :

1. Teaching strategy

Teaching strategy are the general description of learning that includes the structure, outline of planned tactics, and the teaching objectives needed to implement the strategy.

2. Digital Literacy

Digital literacy is an individual's ability to find, evaluate, and communicate information by utilizing typing or digital media platforms.

CHAPTER IV
RESEARCH FINDING AND DISCUSSION

This chapter named research finding and discussion. In this chapter, the researcher will show the result and the discussion of this research. The research questions will be answered in this chapter.

A. The Analysis of Research Finding

In order to collected the data, the overall data was taken from interview. The researcher interviewed 10 pre-service English Teacher of IAIN Langsa in academic year 2022/2023 in order to know their implementation of digital literacy skill for the students. There were ten interview questions that were given by the researcher. The result of interview could be seen in the table below:

No	Questions	Answers
1	Did you apply digital literacy when you became a pre-service teacher at school?	Based on the result of interview, all the students applied digital literacy when they were a pre-service teacher at school.
2	Do you use digital technology when teaching at school?	All of the pre-service applied digital literacy in teaching English at school. In implementing digital literacy at school, the pre-service used the technology such as Laptop, Projector, Power Point, Computer, Sound System, Multimedia, Handphone and Online Classroom.

3	As a teacher, do you always train yourself to keep abreast of technological developments so that you are able to implement digital literacy in the learning process?	Based on the interview, all pre-service teacher had tried to train themselves to follow technological developments so they could implement digital literacy in learning at school. This is done by pre-service teacher so that they can continue to update their knowledge about the newest and most effective ways of teaching English to students.
4	Do you often train students to use technology at school? How?	Pre-service teachers have tried to train students in implementing digital literacy in schools, although not too often. This is because students are not allowed to read cellphones at school. The teachers familiarize students with implementing digital literacy at school is by making presentations or presenting material using power point.
5	How is the student's ability to implement digitalization in the learning process that you do at school?	Based on the result of interview, the students have ability to implement digital literacy in learning process. They are understand to use digital technology in class, such as through power points, videos, google translate, and so on.
6	What strategies do you usually use in implementing digital literacy in schools? How do you use this strategy?	In implementing digital literacy in learning, pre-service teachers certainly apply strategies that they feel are suitable for implementing digital literacy in learning. Some of the strategies are using power point for teaching, videos, projectors, and allowing students to get used to using technology while studying.

7	Do infrastructure and facilities affect the effectiveness of using digital literacy in learning? Why?	Infrastructure and facilities are very important to the effectiveness of using digital literacy in learning. This is because, if the infrastructure and facilities in schools are incomplete and do not support digital learning, then teachers will have difficulty in implementing digital literacy for students.
8	What obstacles did you face when implementing digital literacy in the learning process?	The school did not give enough facilities and good infrastructure for implementing digital literacy at school. The schools do not provide infocus, a good internet network, and students do not have cell phones, this will certainly hamper the use of technology in learning. Sometimes, there are students who do not understand the use of technology in learning, for example, do not know how to find references for learning.
9	How do you deal with these obstacles?	The way to overcome these problems are to coordinate with schools about the importance of using technology in current learning. So that schools can consider providing these facilities for students. And to deal with students who don't understand the use of technology, the pre-service teacher try to train students to be frequent and accustomed to using technology.
10	What advice can you give to schools to be able to support teachers in implementing digital literacy in the learning process?	Based on the result if interview, the schools should provide facilities that support technology-based learning activities. In addition, schools must also frequently train and provide training to teachers so that teachers have maturity in using technology in

		learning. So that teachers can implement digital literacy in schools.
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The conclusion of the pre-service teacher answers will be described in the following below:

1) Learning By Doing

Based on the result of the study, the researcher found that all pre-service teacher implemented digital literacy for the students' with the strategy learning by doing. Students could be invited to conduct research on learning topics online using digital resources in English. They would learn about search techniques, source evaluation, and retrieval of relevant information. By conducting research on learning materials online, they would improve their reading skills, understand information, and develop critical skills in English.

Students asked to create multimedia presentations in English using digital presentation tools such as PowerPoint. In their presentation, they might use text, images, video, or audio to present their information or argument. Apart from improving their speaking and presentation skills in English, students would also hone skills in using technology and digital media. Students could create videos or podcasts in English as learning projects. They could take topics that relevant to their curriculum or interests, developed scripts in English, recorded and edited video or audio, and published them online. In this process, it made their speaking, editing, creative thinking, and digital media skills in English improved.

In implementing digital literacy at school with learning by doing, the pre-service used the technology. The kind of technology that used by pre-service

in teaching English were Laptop, Projector, Power Point, Computer, Sound System, Multimedia, Handphone and Online Classroom. One of pre-service teacher, RM, said *“I applied the technology like computer, phone, and roombook in the classroom”*.

2) Incidental Learning

The researcher found that all pre-service teacher at IAIN Langsa used incidental learning as the strategy to implement the digital literacy at school. Based on the result, the research saw that Teachers gave assignments to students to make videos as well as scripts in English on topics related to digital literacy. In the process of making videos, students would inadvertently improve their ability to write, read, and convey information in English while also developing skills in using digital technology and social media.

The teacher also started a class discussion about the role of digital media in everyday life and in the context of the English language. Students could share their experiences using social media, accessing online news, or consuming other digital content. This discussion would enable students to consider language and cultural aspects in digital media as well as increase their understanding of the use of English in digital contexts.

At certain times, the teacher also plays videos or podcasts related to the topic of digital literacy in English. After that, students can hold discussions about the content they watch or hear, share their thoughts, and convey their views in English. This activity will improve English listening, understanding, and speaking skills while also enhancing students' understanding of digital content in English.

One of pre-service teacher, MRA, said *“I usually ask the students to make learning videos along with the script and then upload them on social media. I also free them to look for materials on the internet. This will make them accustomed to implementing digital literacy in everyday life. This can also improve their speaking, reading, writing, and listening skills.”*

3) Learning by reflection

Based on the result of the study, the researcher found that the pre-service teacher also used learning by reflection as the strategy in implementing digital literacy in the class. The teacher gives assignments to students to make digital presentations using presentation tools such as PowerPoint or Google Slides. after that, the teacher asked them to present relevant English topics using a visual approach and share their reflections on the process of making presentations, the advantages they found in using these digital tools, and the communication skills they developed through the process. In addition, the teacher also teaches students about effective online research techniques, including the use of search engines, digital databases, and other online resources. After conducting research, the teacher will ask students to reflect on the reliability of the sources they have found, the tendency to bias, and the relevance of the information. with the topic they are researching.

One of the pre-service teacher, MN, said *“I taught the students how to use search engine well in the learning process in order to collect data and asked*

them to make the presentation with power point. And then, I will asked them to discuss each other about this learning process”.

4) Case-based learning

The researcher found that case-based learning was used by the pre-service teacher as the strategy in implementing digital literacy in the class. With this strategy, the teacher asked the students to discuss issues regarding digital literacy, such as online privacy, cyberbullying, and the use of technology in learning. Teachers would encourage students to conduct online research using digital tools, search engines, and trusted resources to gather information related to the case. After that, the teacher would divide the students into several groups. Students are asked to analyze and evaluate the information they have collected with different viewpoints, biases, and potential consequences in the context of digital literacy. After students finished discussing, each group will come to the front of the class and present the results of the discussion using power point. Other students are allowed to ask each group that is moving forward.

Of of pre-service teacher, RA, said *"To train them to get used to digital literacy, I will ask them to discuss current issues related to digital literacy. I free them to search for that information on the internet. After that, I will divide them into several groups and ask them to discuss the issue with their respective groups. When finished, they will present the results of their discussions using power points in front of the class."*

5) Learning by exploring

Based on the result, all pre-service teacher used learning by exploring as the strategy yo implemented digital literacy for the students. According to Koswara, this strategy was learnt something by doing exploration of the subject to be studied. Students are encouraged to understand a material by doing self-exploration on the material⁸⁰. In order to taught the students with this strategy, the teacher gives freedom to students to find answers to the questions given with the help of technology such as Google, and others. The teacher provides opportunities for students to be able to use various kinds of media to complete the assignments given. In implementing digital literacy in learning, pre-service teachers certainly apply strategies that they feel are suitable for implementing digital literacy in learning. Some of the strategies are using power point for teaching, videos, projectors, and allowing students to get used to using technology while studying.

PowerPoint presentations allow pre-service teachers to create visually appealing and organized instructional materials. They can include text, images, graphs, charts, and other multimedia elements to present information in an engaging manner. PowerPoint slides can be used to introduce new concepts, summarize key points, or stimulate class discussions. Projectors allow pre-service teachers to display content from various sources, such as computers or tablets, onto a larger screen or whiteboard. This technology enables teachers to present multimedia materials, interactive websites, educational software, or collaborative activities to the entire class.

⁸⁰ Koswara, *Konsep Pendidikan Tinggi Berbasis E-learning: Peluang dan Tantangan, Prosiding Konferensi Nasional Teknologi Informasi dan Komunikasi Indonesia ITB, 3-4 Mei 2005*

Projectors facilitate whole-class engagement and enable students to view content simultaneously, fostering a collaborative learning environment. Pre-service teachers can encourage students to actively use technology in their learning process. This may involve assigning online research projects, creating digital presentations or portfolios, using educational apps or software, or engaging in online discussions and collaborations. By incorporating technology regularly, pre-service teachers help students develop digital literacy skills, such as effective information retrieval, critical evaluation of online sources, and responsible digital citizenship.

Although pre-service teachers have tried to train students in implementing digital literacy in schools and gave the freedom to access the technology, but it could not do often. This is because students are not allowed to use cellphones at school. One of the pre-service teacher, NY, said "*Sometimes at school, students are not allowed to read their cellphones. The use of projectors and also power point is not used too often*".

6) Pre-service teacher obstacles in implementing digital literacy in the learning process and the solution to face the obstacles

The researcher wants to know about the pre-service teacher obstacles in implementing in implementing digital literacy in the learning process and their solution in order to face the obstacles. Based on the answer of pre-service teacher, the researcher found that sometimes the school did not give enough facilities and good infrastructure for implementing digital literacy at school. If the technology owned by schools and also students does not support or does not

exist, this will certainly hinder the use of implementing digital literacy in schools.

For example, if a school does not provide infocus, a good internet network, and students do not have cell phones, this will certainly hamper the use of technology in learning. In addition, sometimes there are students who do not understand the use of technology in learning, for example, do not know how to find references for learning. The way to overcome this problem is to coordinate with schools about the importance of using technology in current learning. So that schools can consider providing these facilities for students. And to deal with students who don't understand the use of technology, the pre-service teacher try to train students to be frequent and accustomed to using technology.

One of the pre-service teacher, MN, said *“The obstacle is that if the technology owned by schools and also students does not support or does not exist, this will certainly hinder the use of implementing digital literacy in schools. For example, if a school does not provide infocus, a good internet network, and students do not have cell phones, this will certainly hamper the use of technology in learning. In addition, sometimes there are students who do not understand the use of technology in learning, for example, do not know how to find references for learning.”*

7) The suggestion for the school

Researchers asked teachers about suggestions that schools should give to be able to support teachers in implementing digital literacy in the learning process. The teachers answered that schools should provide facilities that support technology-based learning activities. In addition, schools must also

frequently train and provide training to teachers so that teachers have maturity in using technology in learning. So that teachers can implement digital literacy in schools. One of pre-service teacher, Riska Mutia, stated *"My suggestion is that the school can facilitate the application of digital literacy in schools, such as providing a fast and ample wifi network."*

B. Discussion

Based on the research finding and the analysis, the researcher concluded some important points to answer the research questions. Based on the research, the researcher found the pre-service teachers' strategies of IAIN Langsa in implementing digital literacy skill at school and the challenges that faced by the pre-service teacher of IAIN Langsa in implementing digital literacy skill at school. According to the result of the study, the researcher found that there were 5 strategies that used by pre-service teachers' of IAIN Langsa in implementing digital literacy skill at school. The strategies were learning by doing, incidental learning, learning by reflection, case-based learning, and learning by exploration.

In learning by doing, through the use of technology, such as laptops, projectors, PowerPoint, computers, sound systems, multimedia, smartphones, and online classrooms, students were actively engaged in various digital literacy activities. The students were encouraged to conduct online research on learning topics in English, improving their search techniques, source evaluation, and information retrieval skills. This process enhanced their reading comprehension, understanding of information, and critical thinking abilities in English.

Furthermore, students were tasked with creating multimedia presentations using digital presentation tools like PowerPoint, allowing them to develop their speaking and presentation skills in English. Additionally, they honed their abilities in using technology and digital media to effectively convey information through text, images, videos, or audio. Moreover, students had the opportunity to create videos or podcasts as learning projects, selecting topics relevant to their curriculum or personal interests. This endeavor further improved their speaking skills, editing capabilities, creative thinking, and proficiency in utilizing digital media in an English context.

Overall, the implementation of digital literacy through the learning-by-doing approach provided students with practical experiences and opportunities to develop essential skills in English and technology. By actively engaging with digital resources and tools, students became more proficient in conducting research, creating multimedia presentations, and utilizing technology effectively, thereby enhancing their overall digital literacy skills.

In incidental learning, students were assigned to create videos and scripts in English on topics related to digital literacy. During the video-making process, students inadvertently enhanced their English writing, reading, and communication skills, while also developing their proficiency in using digital technology and social media. The teacher initiated class discussions about the role of digital media in everyday life and its relevance to the English language. Students were encouraged to share their personal experiences with social media, accessing online news, and consuming other digital content. These discussions aimed to foster students' awareness of language and cultural aspects in digital media, as well as deepen their understanding of using English in digital contexts.

Through incidental learning, students had the opportunity to strengthen their English language skills alongside developing their digital literacy competencies. By engaging in video creation, class discussions, and multimedia content exploration, students improved their language abilities while gaining a deeper understanding of digital literacy in an English context.

In learning by reflection, the teacher gives assignments to students to make digital presentations using presentation tools such as PowerPoint or Google Slides. After that, the teacher asked them to present relevant English topics using a visual approach and share their reflections on the process of making presentations, the advantages they found in using these digital tools, and the communication skills they developed through the process. In addition, the teacher also teaches students about effective online research techniques, including the use of search engines, digital databases, and other online resources. After conducting research, the teacher will ask students to reflect on the reliability of the sources they have found, the tendency to bias, and the relevance of the information. with the topic they are researching.

In the context of digital literacy, learning by exploration allows students to develop essential skills such as information retrieval, critical thinking, and problem solving. Through self-exploration, students can navigate online resources, conduct research, and analyze and evaluate information from different sources. They can also utilize digital tools such as search engines, educational websites, or online databases to access a wide range of information and deepen their understanding of the topic. Moreover, learning by exploration in the digital realm encourages students to become active participants in their learning journey. They can create digital projects, collaborate on online platforms, or utilize multimedia tools to express their ideas and demonstrate

their knowledge. This approach promotes autonomy, creativity, and digital fluency, which are vital components of digital literacy.

By implementing the strategy of learning by exploration, pre-service teachers can provide opportunities for students to develop their digital literacy skills while fostering a learner-centered and inquiry-based learning environment. This approach empowers students to take ownership of their learning, explore different perspectives, and discover connections between the subject matter and real-world contexts. In summary, the theory put forward by Koswara regarding learning by exploration aligns with the importance of implementing digital literacy. It highlights the significance of engaging students in self-exploration and independent learning, utilizing digital tools and resources to enhance their understanding and development of digital literacy skills.

During implementing digital literacy, there were some challenges that faced by the pre-service teacher of IAIN Langsa in implementing digital literacy skill at school. The school could not give enough facilities and infrastructure that can support the implementation of digital literacy. When schools lack the necessary facilities and infrastructure for implementing digital literacy, it creates significant obstacles for pre-service teachers. Without projectors, reliable internet connections, or access to devices like cell phones or computers, incorporating technology in the classroom becomes challenging. This limitation not only affects the teachers' ability to utilize digital tools effectively but also hampers students' access to digital resources.

To address this issue, pre-service teachers should initiate open communication with school administrators, emphasizing the importance of digital literacy and the need for adequate technology resources. By advocating for funding and seeking external

support, such as grants or partnerships, teachers can improve the technological infrastructure in schools. Additionally, providing technology training to students becomes crucial, as it helps overcome their lack of familiarity with digital tools.

Through workshops, tutorials, and classroom activities, pre-service teachers can empower students to develop essential digital literacy skills. Collaborating with experienced educators and sharing best practices further enhances the implementation of digital literacy, creating a more inclusive learning environment. Ultimately, fostering a supportive atmosphere that recognizes the significance of technology in education is essential for bridging the digital divide and ensuring all students have access to digital literacy opportunities.

The results align well with the theory proposed by Koswara, which emphasizes learning by exploring as a strategy for implementing digital literacy in the learning process. According to Koswara, this approach encourages students to actively engage with the material by conducting self-exploration and independent learning. By incorporating technology and digital tools, students have the opportunity to explore various resources, platforms and multimedia materials that facilitate their understanding of the subject matter.⁸¹

The implementation of digital literacy in the learning process can face obstacles for pre-service teachers, particularly regarding insufficient facilities and infrastructure in schools and students' limited understanding of technology. When schools lack necessary resources such as projectors, good internet connectivity, or students don't have access to devices like cell phones, it hinders the effective integration of technology in education.

⁸¹ Koswara, Konsep Pendidikan Tinggi Berbasis E-learning: Peluang dan Tantangan, *Prosiding Konferensi Nasional Teknologi Informasi dan Komunikasi Indonesia ITB, 3-4 Mei 2005*

To address these challenges, pre-service teachers should coordinate with schools, emphasizing the importance of technology in modern learning. By advocating for the provision of necessary facilities and infrastructure, schools can consider investing in the required resources to support digital literacy initiatives.

Additionally, pre-service teachers can offer training programs to help students become more comfortable and proficient in using technology. Through workshops, tutorials, and regular practice, students can develop the necessary skills and knowledge to effectively leverage technology for learning purposes. By actively addressing these obstacles, pre-service teachers can create a more conducive environment for implementing digital literacy. Access to technology and proper training will help bridge the digital divide and enable students to develop essential digital literacy skills, including information retrieval, critical thinking, and responsible digital citizenship.

Overall, collaboration between pre-service teachers, schools, and stakeholders is crucial to overcoming these obstacles and ensuring that digital literacy becomes an integral part of the learning process. By recognizing the significance of technology and working towards providing the necessary resources and support, educators can empower students to thrive in the digital age and become digitally literate individuals.

Digital literacy have positive impact for students by equipping them with the essential skills and competencies needed to navigate, understand, and thrive in the increasingly digital world. It empowers students to effectively utilize digital tools, discern credible information from online sources, communicate and collaborate across digital platforms, and creatively solve problems using technology. By fostering critical thinking, adaptability, and a deeper understanding of digital ethics, digital literacy not

only enhances academic performance but also prepares students for future careers while enabling them to responsibly engage in the digital society, thus bridging the digital divide and promoting lifelong learning.

Digital literacy gives positive impacts for the teacher to revolutionizing their approach to education. By mastering digital tools and resources, educators can create engaging and dynamic learning experiences, catering to diverse learning styles and individual needs. Digital literacy empowers teachers to access a vast repository of educational materials, fostering creativity in lesson planning and content delivery. Additionally, it facilitates efficient communication with students, parents, and colleagues, enabling collaborative teaching approaches and real-time feedback. Moreover, digital literacy equips teachers with the skills to stay current with pedagogical advancements, enhancing their professional development and ultimately enriching the quality of education they provide.

Based on the explanation of discussion above, it could be conclude that strategy that used by the pre-service teacher in implementing digital literacy at school was learning by doing, incidental learning, case-based learning, learning by reflection, and learning by exploration. In implementing digital literacy at school, pre-service teachers face obstacles when implementing digital literacy in the learning process, particularly when schools lack adequate facilities and infrastructure, and when students have limited understanding of technology. Insufficient resources, such as the absence of projectors, poor internet connectivity, and a lack of personal devices, hinder the effective integration of technology in education. To overcome these challenges, it is crucial for pre-service teachers to coordinate with schools and advocate for the importance of technology in contemporary learning. By emphasizing the significance of digital

literacy and its role in students' academic and future success, schools can consider providing the necessary facilities and infrastructure to support digital learning initiatives.

CHAPTER V

CONCLUSION AND SUGGESTION

A. Conclusion

Based on the calculation from the result, the researcher found that the strategies that applied by the teacher in implementing digital literacy at school was learning by doing, incidental learning, case-based learning, learning by reflection, and learning by exploration. In implementing digital literacy at school, pre-service teachers face obstacles when implementing digital literacy in the learning process, particularly when schools lack adequate facilities and infrastructure, and when students have limited understanding of technology. Insufficient resources, such as the absence of projectors, poor internet connectivity, and a lack of personal devices, hinder the effective integration of technology in education. To overcome these challenges, it is crucial for pre-service teachers to coordinate with schools and advocate for the importance of technology in contemporary learning. By emphasizing the significance of digital literacy and its role in students' academic and future success, schools can consider providing the necessary facilities and infrastructure to support digital learning initiatives.

B. Suggestion

According to the conclusion above, the researcher gives some solutions as follows:

1. The English Teachers are suggested to find the best strategies in implementing digital literacy for students at school.

2. The students should be more attractive in learning English by technology in order to improve their digital literacy skill.
3. Other researchers are suggest to do the deep research about the strategies in implementing digital literacy in order to know another perception about the result of this study.