A SURVEY OF EFL PRE-SERVICE TEACHERS' PERCEPTIONS OF THE TECHNOLOGY USE FOR TEACHING DURING TEACHER TRAINING

A Thesis

Presented to the Department of English Education as Partial Fulfilment of the Requirements to Obtain the *Sarjana Pendidikan* Degree in English Education

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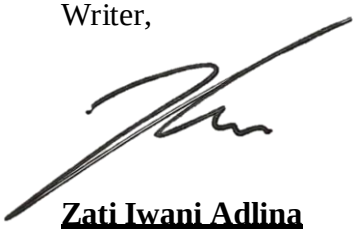

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A SURVEY OF EFL PRE-SERVICE TEACHERS' PERCEPTIONS OF THE TECHNOLOGY USE FOR TEACHING DURING TEACHER TRAINING

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ABSTRACT

This study aims to investigate the EFL pre-service teacher's perception of the use of technology during teacher training. This is a survey study which is quantitative in nature. The primary data were collected and analysed consisting of a sample of 130 pre-service teachers majoring in English Education Department in private university at Yogyakarta, Indonesia. The instrument used in this research is a questionnaire constructed by Tondeur et al., (2016). Twenty-four questions were divided into 6 variables related to strategies in the inner circle of the SQD-models (Synthesis of Qualitative Evidence), such as role model, reflection, instructional design, collaboration, authentic experience, and feedback. The result of this study showed the highest statement results from several questions including sharing experiences and sharing challenges to the use of ICT in the classroom, received help to use ICT when developing educational materials, students helped each other to use ICT in an educational context, learn to use ICT in the classroom through the teaching practice, and received sufficient feedback about the use of ICT in my lessons. These findings have implications for teacher education programs and for researchers interested in pre-service teachers' perspectives on the use of technology during the teacher training process and what attitudes they should take going forward. The overall result of this study revealed the essential variables valued by students' perceptions were role model.

CHAPTER I
INTRODUCTION

1.1 Background of the Study

In the modern age driven by technology, pre-service teachers need to develop technology skills to be successful in teaching and learning activities. The integration of technology in teaching helps students understand and feel comfortable using digital tools, programming, data analysis, and more. The growing prevalence of wearable technologies not only familiarized and acclimated users to them but also rendered these wearables more affordable and within reach for a wide spectrum of users (Motti, 2019). As mediator in delivering materials to students, a teacher needs to be able to improve their professionalism and creativity, which means how a teacher utilizes the surrounding facilities and resources to support the learning process. Teachers need to be caught up and familiar with the use of technology and always follow the developments of this increasingly advanced era. More precisely, they have integrated technology throughout the educational curriculum, providing teacher candidates with the opportunity to understand the pedagogical reasons behind the use of technology through direct exposure to its role in enhancing teaching and learning across a variety of courses (Tondeur et al., 2016). In light of this transformation, education must adapt by seamlessly integrating computer-based electronic technologies into the learning process, embedding these technologies within the framework of academic subjects. It's important to recognize that the manner in which teachers acquired their subject knowledge may not align with the methods required for teaching 21st-century students (Niess, 2005). Therefore, the ability for future pre-service teachers to master the use of technology is one important skill that future teachers must possess, and therefore pre-service teachers are also educated in such a way that they can prepare well for the need for technology in the teaching learning process later.

In terms of preparing the pre-service teachers, Tondeur et al., (2012) explains 12 key themes to the pre-service teacher's preparation, and have also focused on synthesizing qualitative evidence about the preparation of pre-service teachers in using technology. The instrument consists of 12 themes using the meta-ethnographic method, seven of these themes relate to the preparation of pre-service teachers and

five are related to the conditions needed to implement the program at the institutional level, including: 1) aligning theory and practice, 2) using teacher educators as role models, 3) reflecting on attitudes about the role of technology in education, 4) learning technology by design, 5) collaboration with peers, 6) scaffolding authentic technology experiences, 7) moving from traditional assessment to continuous feedback, 8) technology planning and leadership, 9) co-operation within and between institutions, 10) staff development, 11) access to resources, 12) systematic and systemic efforts. As previously mentioned, preparing teachers to use technology for teaching seems to be the priority since Tondeur et al., (2012) mentions four keys to preparing pre-service teachers in dealing with technology use.

Several studies have been undertaken with a specific focus on pre-service teacher's perception about technology use for teaching. An example is from Tondeur et al. (2016) who found that the SQD (Synthesis of Qualitative Evidence) scale they developed capable of assessing efficient strategies that can be used to prepare future teachers for the use of educational technology and to improve teacher performance. So that the research instrument leads as a valid benchmark and support for future teachers for the use of technology in education. The instrument consists of 22 items with six dimensions (i.e., 1) role models, 2) reflection, 3) instructional design, 4) collaboration, 5) authentic experiences, and 6) feedback.

A number of studies have been conducted in relation to technology and pre-service teachers, for example, a study about the in search of pre-service EFL certificate teachers' attitudes towards technology (Yuksel & Kavanoz, 2011). However, there is still limited discussion of the EFL pre-service teachers' perceptions about the use of technology during their teacher training program in Indonesian context. Why is this study classified as limited, because on average in previous studies the researchers discussed a lot about how pre-service teachers use technology, not about pre-service teachers' perceptions of using technology.

This study argues that when pre-service teachers are faced with technological advances that can contribute to their courses and include new teaching methods, their preparedness plays a large role in determining the success of such technology integration. Thus, inadequate preparedness and poor implementation of technology can hinder the successful integration of technology in education. Therefore, this study

is important because it empirically investigates pre-service teachers' perspectives regarding their readiness for technology integration during teacher training. As a result, this present study investigating EFL pre-service teachers' perceptions about technology use in the duration of their teacher training is urgent to be conducted.

1.2 Identification of the Problem

Today's EFL pre-service teachers have been equipped with a wealth of theory, coursework, and experience regarding the use of technology in education. With technological developments becoming more advanced every year, pre-service EFL teachers are expected to be able to keep up with these advances. Therefore, pre-service teachers must be educated on how to use technology well in learning. There are also many institutions or universities that educate pre-service teacher students on how to use technology properly in learning, but not infrequently, these EFL pre-service teachers do not apply technology in the classroom well, therefore this research investigates a pre-service teacher's perspective on the use of technology in the classroom to find out find out what do pre-service teachers need to achieve good integration of technology in education? Due to practical limitations, this study will only describe pre-service EFL teachers' perceptions of technology use during their teacher training.

1.3 Formulation of the Problem

This present study attempts to answer the following question: what are EFL pre-service teachers' perceptions about technology use during their teacher training?

1.4 Objectives of the Study

This study aims to determine the EFL pre-service teacher's perception of the use of technology during teacher training.

1.5 Significances of the Study

This research is intended for EFL pre-service teachers. During the teacher training process, they can add insight into the use of technology in learning activities. This study also aids in the study program, they get input or advice on the use of technology for pre-service teachers during teacher training. In addition, this research can be used by other researchers as a reference for further research.

CHAPTER II
LITERATURE REVIEW

2.1 Technology Use for teaching English

The upcoming generation of educators encounters significant challenges when it comes to incorporating modern technologies into the field of education (OECD, 2010). To respond this, numerous educational institutions have introduced introductory technology courses, primarily cantered the cultivation of technological competencies and expertise (Polly et al., 2010). One example of the use of English teaching technology is the use of wearable technology in teaching and learning listening activities, Motti (2020) state that headsets can also be useful for accessing audio materials, allowing for the convenient delivery of podcasts and audiobooks when needed.

To prepare pre-service teachers to utilize technology efficiently, teacher education programs need to support them in developing an understanding of subject matter, effective teaching practices, and technical skills, and understanding the interactive relationships between these aspects (Koehler & Mishra, 2008). Using Multimedia-assisted English teaching can boost students' enthusiasm and enhance their comprehension of vocabulary and sentences, ensuring that they maintain a consistent and strong interest in learning (Guan et al., 2018). Multimedia technology provides a sense of realism and performs effectively, significantly enhancing students' interest and motivation to study, as well as their engagement in classroom activities (Prayudi et al. 2021). As an illustration, in Grade 7 Unit 7's textbook "What does he look like?" educators should utilize multimedia to display images of celebrities to the students. This approach assists students in acquiring a grasp of new vocabulary related to height, such as "short," "medium height," and "tall." Teachers can use pictures of individuals like Pan Changjiang, Li Yong, and Yao Ming to demonstrate how to describe height. This method enables students to effectively learn and comprehend new vocabulary, allowing teachers to subsequently introduce additional words (Guan et al., 2018).

Wang and Tahir, (2020) state that game-based learning is another innovation in learning technology. Playing games has the potential to positively impact academic

performance, enhance motivation, and improve the overall atmosphere in the classroom (Sharples, 2000). Kahoot! is one of the platforms for using game-based learning. Kahoot! is a game-based learning platform that can be used to review students' knowledge, conduct formative assessments, or provide a respite from regular classroom activities (Wang & Tahir, 2020). The literature review from Wang and Tahir, (2020) explores the impact of Kahoot! on students' learning outcomes in comparison to alternative teaching methods and tools, it also examines whether Kahoot! influences classroom dynamics, student motivation, engagement, concentration, and enjoyment, as well as delving into teachers' perceptions of its use in the educational setting.

2.2 Technology Use during Teacher Training Program or Preparation

Although this generation of prospective teachers is more familiar with technology and actively uses digital media, their own knowledge and skills are not sufficient to use technology in the curriculum to meet stringent requirements. Niess (2008) stated that future generations of teachers need specific instruction on how to use digital technology to teach core content and help students learn new methods, because this generation has never experienced learning their own content with digital technology. The essence of what is known as technology pedagogy content knowledge (TPACK) is the interaction between content, pedagogy, and technology. This type of flexible knowledge is essential to be able to use technology effectively in the classroom teaching process (Mouza et al., 2014). One frequently employed approach for enhancing the TPACK (Technology Pedagogy Content Knowledge) of pre-service teachers involves providing them with a technology-focused course (Niess, 2012). This course has often cantered on instructing students about various technologies (such as word processors, presentation software, the Internet) as well as their capabilities and limitations (Mouza et al., 2014). There are several courses regarding teacher education programs in this study and outlines course methods, field experiences and educational technology courses to support improving TPACK (Technology Pedagogy Content Knowledge). Effective teachers are able to use pedagogical tactics, including technology-rich strategies, that interest students and help them improve their achievement in addition to being knowledgeable about their achievement (Mouza et al 2014). Mouza et al., (2014) also state that clinical training or practical experience is an essential element of teacher preparation. Field

experiences in teaching methods are undertaken concurrently with courses specifically crafted to enhance the teaching abilities of pre-service teachers, affording them the chance to deliver lessons to an entire class, including lessons that incorporate technology. TPACK (Technology Pedagogy Content Knowledge) helps pr-service teachers understand how to integrate technology into their teaching.

Tondeur et al. (2012) explains 12 key themes to the pre-service teacher's preparation, however, in this study, the researcher only focused on 4 points related to technology use, including:

1. Reflecting on attitudes about the role of technology in education,

   This key theme is to reflect on the role of technology in education. According to Tondeur et al., (2012), regarding this, a challenge identified in teacher education programs is the need to involve both teachers and teacher educators in meaningful discussions concerning their perspectives on the role that technology should assume in the teaching and learning process. Group discussions, observation and writing seem to help pre-service teachers to relate the role of technology in education (Tondeur et al., 2012). Reflecting on the nature of pre-service teachers is also very important in this case, without exchanging ideas or discussing with other peers, the theory obtained from observation is the usual teaching method. And of course, the theories that have been studied by pre-service teachers will be very effective if they are realized in practice, as is the case in the first key theme above. As a pre-service teacher, we must be active to become teachers in the future. In order to facilitate the growth of TPACK, many researchers highlight the significance of crafting, executing, and evaluating teaching encounters that integrate suitable technologies (Mouza et al., 2014).

2. Learning technology by design

   Pre-service teachers of the various interventions indicated that they felt that additional planning and preparation was needed to implement technology-based education because they had no prior knowledge of how to design learning activities Tondeur et al., (2012). Pre-service teachers require multiple chances to assess instructional design, engage in lesson planning, and create materials that involve the use of technology tools. The educational technology

course adopts a two-fold strategy for cultivating expertise in instructional design: analysing lessons and constructing lessons (Mouza et al., 2014).

Following an extensive period of analyzing published lessons, pre-service teachers are provided with frequent occasions to create their own lessons for the classrooms where they undergo practical training as part of their methods field experience. They make use of a range of technology tools and applications, including interactive whiteboards, concept mapping, Internet research, and collaborative tools (Mouza et al., 2014). As we know that the core of educational technology and creating products at the macro level such as learning programs and curricula, the micro level such as lessons and modules is usually called learning design.

3. Scaffolding authentic technology experiences,

According to Tondeur et al., (2012), Pre-service teachers are aware of the importance of applying educational technology knowledge to real technology experiences. As an illustration (Tondeur et al., 2012) emphasizes that technology “watch” technique used cannot replace "execution". Numerous teacher education programs underscore the significance of offering pre-service teachers genuine technology experiences, which involve more hands-on involvement. In our course, pre-service teachers are presented with recurring chances to interact with technology through practical activities such as using graphic organizers, conducting Internet research, and utilizing web 2.0 tools. Furthermore, they put their acquired knowledge into practice by incorporating technology-integrated lessons, which they designed during our course, into their field placement classrooms (Mouza et al., 2014). This allows them to directly observe the utilization of technology with their own students. This is another instance of how the integration of the educational technology course with field experience proves advantageous.

4. Technology planning and leadership

Tondeur et al., (2012) state the illustrates substantial differences between various training institutions' approaches to pre-service teacher preparation in terms of integrating technology into their teaching practices. This conclusion reflects significant differences between various training institutions regarding the readiness of current pre-service teachers to adopt technology in their teaching processes. As an illustration, Clift et al. (2001)

mentioned that "In certain schools, the absence of technology use was not a viable choice" (p. 47). Consequently, it becomes imperative for institutions to establish a unified vision regarding the integration of technology, as advocated by Thompson et al. (2003). The summary exposed notable variations among training institutions in how they currently equip pre-service teachers to incorporate technology into their teaching approaches. Some teacher education programs mandated the utilization of technology, whereas others lacked a unified perspective, as indicated by Clift et al. (2001).

2.3 Measuring Pre-Service Teachers' Perceptions of The Technology Use

Tondeur et al. (2016) constructed a questionnaire namely SQD-model for measuring pre-service teachers' perceptions of receiving the required assistance and instruction to incorporate technology into classroom engagements. This instrument uses a questionnaire with an SQD (Synthesis of Qualitative Evidence) scale. The questionnaire was developed based on the six key domains within the inner circle (micro level) of the SQD-model, which is a framework derived from a synthesis of qualitative research findings (Tondeur et al., 2012). Each question in the survey was formulated as a statement pertaining to these six strategies. Participants were requested to indicate their agreement level for each statement using a six-point Likert scale: (1) totally disagree, (2) disagree, (3) slightly disagree, (4) slightly agree, (5) agree, (6) totally agree. Cronbach's Alpha (a) and McDonald's Omega (u) were used as estimates for scale reliability. The entire scale consisted 24 items and exhibited and demonstrated a high level of overall reliability., 0.98 and 0.90.

2.4 Review of Relevant Studies

Realizing the rapid development of technology, many researchers have conducted research on the use of technology in education, not a few have also conducted research that focuses on teachers' perspectives on the use of technology. Previous research shows various findings from pre-service teachers' perspectives on the use of technology during teacher training, such as Tondeur et al., (2016) Developed a self-report questionnaire to measure pre-service teachers' perceptions of the extent to which they experience the necessary support and training in order to integrate technology into classroom activities. This research was conducted in a large-scale study in Flanders (Belgium). The final item set was questioned online in 2014 with a sample of 688 pre-service teachers in their final year. To participate in this

study, the heads of departments from 21 teacher training institutions in Flanders (the Dutch-speaking region of Belgium) were contacted. Twenty department heads agreed to take part in this study, indicating a high response rate at the institutional level. The questionnaire was filled out anonymously by pre-service instructors. Four participants produced extreme responses at the lowest and highest SQD (Synthesis of Qualitative Evidence) -scale categories, and thus were eliminated from the sample. The total sample included 684 pre-service teachers (74.1% of whom were female). The gender representativeness of the sample was supplied because male under-representation is a prevalent occurrence in teacher education in Flanders. The typical age was 25.0 years. Of these pre-service teachers, 57.7% had earned a Bachelor's degree from an institution of higher learning, while 42.3% had graduated from a university, college, or center for adult learning with a degree in teaching specifically. There is no gold standard for determining the minimal sample size in IRT (Item Response Theory) analysis. IRT models can be estimated with 250 respondents, according to Thorpe and Favia (2012), although 500 is recommended for good parameter estimations. The result showed that the items from the SQD (Synthesis of Qualitative Evidence) scale were considered as a good fit scale. The scale also showed that helping pre-service teachers to design ICT-rich lessons and providing sufficient feedback can be considered more challenging for teacher training institutions.

Yuksel and Kavanoz, (2011) investigated the attitudes of EFL Pre-service teachers towards the use of technology. The primary focus of this study was to examine the technological attitudes held by pre-service teachers and explore how these attitudes correlate with specific independent variables. This research involved 200 pre-service teachers who were enrolled in the TEFL Certificate program offered by the Lifelong Learning Center at Yıldız Technical University, located in Turkey. Among these participants, 121 had graduated from a private university, while the remaining 79 had graduated from a state university. The research instrument encompassed various sections, including demographic information about the participants such as gender, subject domain, and university type. Additionally, it incorporated the Attitudes to Technology (AT) questionnaire, consisting of a twelve-item 5-point Likert scale. This questionnaire measured two components of computer attitudes: the first component, 'Affect,' comprising seven items to assess feelings toward technology, and the second component, 'Confidence,' consisting of five items

to gauge individuals' confidence in using technology. Participants provided their responses on a scale ranging from "totally disagree" (1) to "strongly agree" (5). To enable meaningful sub-scale analyses, the scores from the negative items were reverse-coded. The instrument displayed high reliability, with a Cronbach alpha coefficient of .89. In general, the participants displayed favorable attitudes toward technology, as indicated by mean scores exceeding 3.5 on the 5-point scale for both subscales. The overall positive orientation towards technology could be attributed to the widespread availability and accessibility of technological resources, including computers, provided to pre-service teachers at different stages of their educational journey.

Wang and Tahir (2020) conducted a literature review to examine the impact of using Kahoot! in the context of education. Specifically, they sought to understand how Kahoot! influences various aspects of the learning experience, including learning performance, classroom dynamics, student and teacher attitudes, and student anxiety. The research aimed to address five research questions, which are as follows: RQ1 What is the effect of Kahoot! on learning performance, RQ2 How does Kahoot! influence classroom dynamics, RQ3: In what way does Kahoot! affect student anxiety, RQ4: What are students' perceptions of Kahoot! particularly in relation tomotivation, concentration, enjoyment, perceived learning, and similar aspects, RQ5: How do teachers perceive the use of Kahoot! in their teaching practices? The literature review conducted in this article followed the review approach outlined by Dybå and Dingsøyr in 2008. This method was employed to achieve comprehensive coverage of the literature, encompass all pertinent studies, and systematically gather and integrate data from these studies in a coherent manner. There may be some papers that we were unable to locate during our literature search, but we feel that the coverage provided by our searches of Google Scholar, Science Direct, Wiley InterScience, Web of Science, and Scopus should be adequate.

2.5 Theoretical Framework

The purpose of this study is to investigate EFL pre-service teachers' perceptions about technology use during their teacher training. This research draws the definition of the use of technology for teaching from Motti, (2020), Guan et al., (2018) and Wang and Tahir., (2020) that the use of technology in English teaching has increased in popularity and the need for qualified teachers to teach and students in

the language is increasing rapidly, addressing the challenges of integrating technology in education requires comprehensive teacher education programs that equip pre-service teachers with the necessary competencies and understanding of how to effectively use technology to enhance the learning experience. Various technological tools and approaches, such as multimedia-assisted teaching and game-based learning, offer opportunities to improve student engagement and outcomes in the classroom. Actually, there are no bad traditional events or maybe detrimental to students because of the fact that until now these traditional teachings are still useful. On the other hand, technology is still needed for English teachers to teach. Tondeur et al., (2012) argues that there are 12 key themes about content and delivery methods that will prepare future teachers to integrate technology into the classroom of the future. This study adapted an instrument from Tondeur et al., (2016) who uses the Synthesize Qualitative Evidence (SQD) consisting of 6 factors: 1) Role Model; 2) Reflection; 3) Instructional Design; 4) Collaboration; 5) Authentic Experience; 6) Feedback. Then, this research using survey study for investigating EFL Pre-service teachers' perceptions about technology use in the duration of their teacher training is urgent to be conducted.

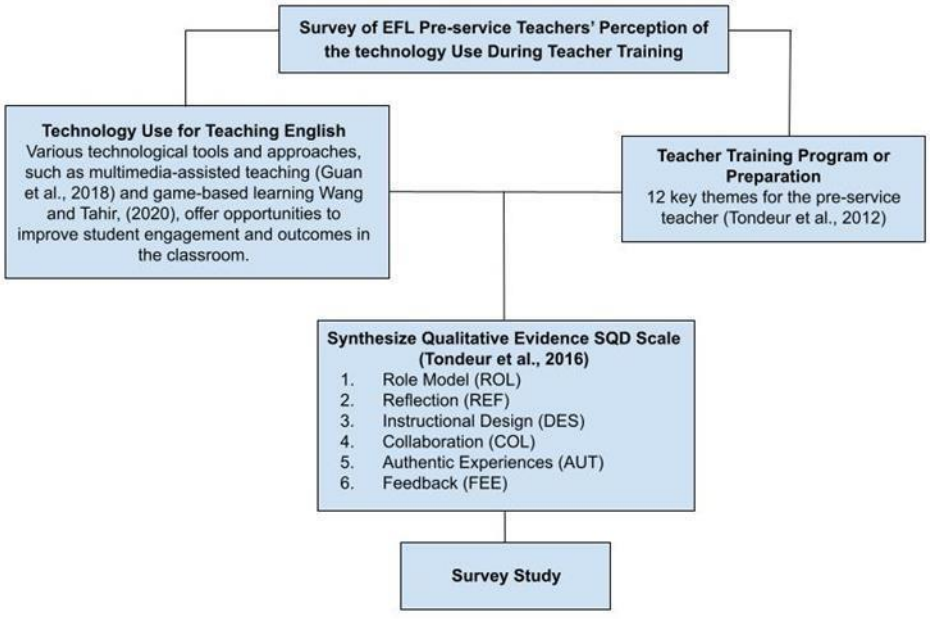


Figure 2.1 Theoretical Framework

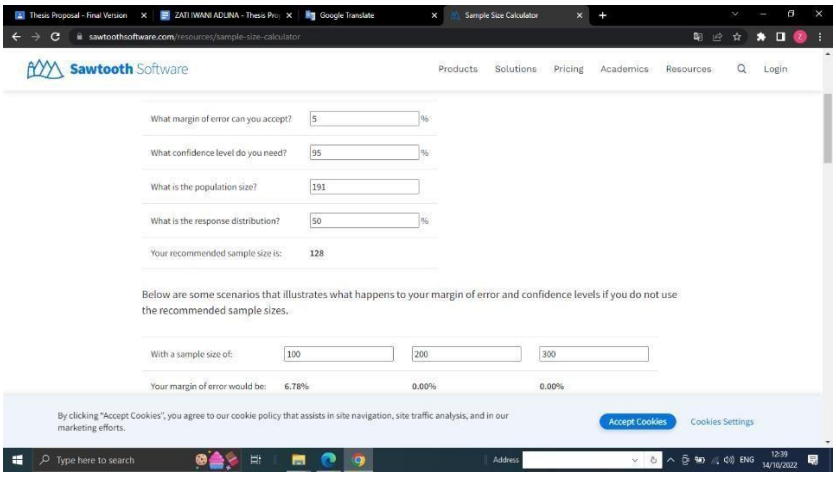
CHAPTER III
RESEARCH METHOD

3.1 Research Design

This research is designed to identify perception of the technology used for teaching during teacher training. This study uses a quantitative method, specifically a survey method. A survey is a quantitative research practice in which researchers conduct surveys of a sample or whole population to describe the attitudes, opinions, behaviors, or characteristics of the population. In this technique, research researchers collect quantified and quantitative data using questionnaires (such as mailed surveys) or interviews (such as one-on-one interviews) and then statically analyze the data to answer questions. Explain trends in responses and formulate research questions and hypotheses. test. We also interpret the meaning of the data by correlating the results of statistical tests with previous research studies (Cresswell, 2012).

3.2 Population and Sample

This study focuses on EFL pre-service teachers, especially students of the one of the private universities in Indonesia, majoring in English Education, batch 2020 and 2019 amount of 191, who have passed ICT in Education, Technology Enhanced Language Learning, Teaching Reading and Writing, Teaching Professional Development, and Language Classroom Management courses. This study uses a non-probability sampling method. To achieve 95% confidence level, this research needed at least around 128 respondents using a sample size calculator.



https://sawtoothsoftware.com/resources/sample-size-calculator

Figure 3.1 Calculation of Sample

3.3 Data Collection Technique

3.3.1 Instrument

Data collection will be done by distributing online questionnaires. This data collection has been using a questionnaire created by Tondeur et al., (2016). This questionnaire explained the technology used for teaching during teacher training by pre-service teachers. This questionnaire was distributed by the researcher through the online platform, i.e., google form. This research used SQD (Synthesis of Qualitative Evidence) - Scale Questionnaire, developed by Tondeur et al., (2016). There are 5 Likert scales for responding to questions, ranging from "strongly disagree" to "strongly agree". (1= strongly disagree, 2= disagree, 3= neutral (Motti, 2019), 4= agree, 5= strongly agree). In research, it is common to utilize a questionnaire with a Likert scale and five scales. According to Hertanto (2017) the use of a Likert scale with five scales in the questionnaire has the benefit of allowing respondents to provide answers that are reluctant or indifferent. This option is not present in the Likert scale with four or six scales, when neutral or ambiguous responses are disregarded in the survey.

Table 3. 1 The Blueprint of SQD-Scale Questionnaire adapted from Tondeur et al., (2016)

No	Aspect	Number of item(s)	Item(s) number

1.	Role Model (ROL)	4	ROL1, ROL2, ROL3, ROL4
2.	Reflection (REF)	4	REF1, REF2, REF3, REF4
3.	Instructional Design (DES)	4	DES1, DES2, DES3, DES4
4.	Collaboration (COL)	4	COL1, COL2, COL3, COL4
5.	Authentic Experiences (AUT)	4	AUT1, AUT2, AUT3, AUT4
6.	Feedback (FEE)	4	FEE1, FEE2, FEE3, FE4

3.3.2 Validity and Reliability

From the previous research from Tondeur et al. (2016), the validity was measured by using EFA (Exploratory Factor Analysis). The result showed that the instrument was valid. Meanwhile, the reliability from this study, the questionnaire adopted from Tondeur et al., (2016) and Cronbach's Alpha reliability was found to be 0.98, this indicates that the grouping of items is reliable. The more reliable the research score, the more valid the score. Then, the researcher analyzed the reliability coefficient test using Cronbach Alpha, and the Cronbach Alpha result was 0.955 for the reliability of all questionnaire items, showing satisfactory consistency. All scales consist of 24 items and demonstrate excellent overall reliability.

The table below shows the acceptable reliability consistency for all aspect:

Table 3. 2 Reliability

Cronbach's Alpha	N of Items
.955	24

3.4 Data Analysis Technique

The data were analyzed using descriptive statistical means, frequencies, and standard deviations. All these analyzes are performed using SPSS software and Microsoft Excel.

CHAPTER IV
FINDINGS AND DISCUSSIONS

4.1 FINDING

The research data were taken through a questionnaire. Questionnaires were distributed to batch 2019 and 2020 English Language Education students from private universities in Yogyakarta, Indonesia.

4.1.1 EFL pre-service teachers' perceptions about technology use during their teacher training

The following table shows a representative representation of the participants in this study, based on a survey conducted at the English Education Department at a private university in Yogyakarta, Indonesia.

Table 4. 1 Overall Results of EFL pre-service teachers' perceptions about technology use during their teacher training

	Aspects	M	SD
1.	Role Model	3.94	.398
2.	Instructional Design	3.90	.480
3.	Reflection	3.87	.360
4.	Collaboration	3.86	.450
5.	Authentic Experience	3.85	.410
6.	Feedback	3.79	.370

Based on the table above, it can be seen that the Role Model aspect got the highest score (M=3.94; SD=.398). While the Feedback aspect is the lowest aspect (M=3.79). Then, it can be inferred that the pre-service teachers in this study have seen many examples of theory and practice the use of technology that have been taught by their educators or lecturers, and these pre-service teachers implement them into the future learning activity plans. Here the lecturer or teacher is required

to be able to become a role model, namely to act as a role model in the sense that what is taught has really been implemented in himself. Although these pre-service teachers often get many examples of the use of technology provided by the teacher, not all pre-service getting very enough as much feedback as they see examples of the use of technology provided by the teacher.

4.1.2 Role Model

There are four columns in the table below; the first column is the statement in the questionnaire. The second column, N, represents the total number of people who completed the questionnaire. Third, the M is the average value of the respondents' responses to the personal feature. The last is the standard deviation (SD) associated with the M value.

Table 4. 2 Descriptive Statistic of Role Model Aspect

Statements	N	Mean	Std Deviation
I saw many examples of ICT use in an educational setting	130	4.08	.807
I saw good examples of ICT practice that inspired me to use ICT applications in my classroom	130	3.97	.806
I observed sufficient ICT use in an educational setting in order to integrate applications by myself in the future	130	3.86	.833
The potential of ICT use in education was demonstrated concretely	130	3.84	.745
Valid N (listwise)	130		

Based on the table above, it can be seen that the highest statement with the highest mean (M=4.08) is “I saw many examples of ICT use in an educational setting”. The lowest score (M=3.84) is a statement that contains “The potential of ICT use in education was demonstrated concretely”. Based on the highest result, it

can be inferred that many of these pre-service teachers have an idea of the use of technology through role models such as teachers, lecturers, and so on.

4.1.3 Reflection

Table 4. 3 Descriptive Statistic of Reflection Aspect

Statements	N	Mean	Std Deviation
We were given the opportunity to discuss our experiences with ICT in the classroom (i.e., during teaching practice)	130	3.96	.767
We discussed the challenges of integrating ICT in education	130	3.93	.828
I was given the chance to reflect on the role of ICT in education	130	3.85	.772
There were specific occasions for us to discuss our general attitude towards ICT in education.	130	3.74	.812
Valid N (listwise)	130		

Based on the table above, it can be seen that the statement with the highest mean (M=3.96) is "We were given the opportunity to discuss our experiences with ICT in the classroom (i.e., during teaching practice)." The lowest score is a statement that contains "There were specific occasions for us to discuss our general attitude towards ICT in education" (M=3.74). Based on the highest result, it can be inferred that the pre-service teachers were given the opportunity to discuss with each other about the experience of using ICT in class both before teaching practice and in the microteaching class. Although there are often opportunities for discussions between pre-service teachers, there are still very few special opportunities for us to discuss our general attitude towards ICT in education.

4.1.4 Instructional Design

Table 4. 4 Descriptive Statistic of Instructional Design Aspect

Statements	N	Mean	Std Deviation
We received help to use ICT when developing educational materials	130	4.02	.830
We learnt how to thoroughly integrate ICT into lessons	130	3.97	.725
I received a great deal of help developing ICT-rich lessons and projects to use for teaching practice	130	3.85	.924
I received sufficient help in designing lessons that integrated ICT	130	3.74	.877
Valid N (listwise)	130		

Based on the table above, it can be seen that the highest statement with the highest mean (M=4.02) is "We received help to use ICT when developing educational materials". Then, the statement, "I received sufficient help in designing lessons that integrated ICT" got the opposite score (M=3.74). Based on the highest result, it can be inferred that the pre-service teachers included in this study received more assistance to use ICT when developing educational materials than received sufficient help in designing lessons that integrated ICT.

4.1.5 Collaboration

Table 4. 5 Descriptive Statistic of Collaboration Aspect

Statements	N	Mean	Std Deviation
Students helped each other to use ICT in an educational context	130	3.91	.811

Experiences using ICT in education were shared	129	3.89	.763
I was convinced of the importance of co-operation with respect to ICT use in education	130	3.88	.797
There were enough occasions for me to work together with other students on ICT use in education (i.e., we developed ICT-based lessons together)	130	3.75	.916
Valid N (listwise)	129		

Based on the table above, it can be seen that the highest statement with the highest mean (M=3.91) is "Students helped each other to use ICT in an educational context". Then, the statement "There were enough occasions for me to work together with other students on ICT use in education (i.e., we developed ICT-based lessons together)" got the opposite score (M=3.75). Based on the highest result it can be inferred that the pre-service teachers in this study had enough opportunities to work with other pre-service teachers in using ICT in the classroom, but pre-service teachers did not have many opportunities to help each other use ICT in educational contexts.

4.1.6 Authentic Experience

Table 4. 6 Descriptive Statistic of Authentic Experience Aspect

Statements	N	Mean	Std Deviation
I was able to learn to use ICT in the classroom through the teaching practice	130	3.94	.833
I was encouraged to gain experience in using ICT in a classroom setting	130	3.88	.817
Students were encouraged when they attempted to use ICT in an educational setting	130	3.86	.765

There were enough occasions for me to test different ways of using ICT in the classroom	130	3.74	.803
Valid N (listwise)	130		

Based on the table above, it can be seen that the highest statement with the highest mean (M=3.94) is "I was able to learn to use ICT in the classroom through the teaching practice". The statement "There were enough occasions for me to test different ways of using ICT in the classroom" got the opposite score (M=3.74). Based on the highest result it can be inferred that the pre-service teachers in this study were able to learn to use ICT in the classroom through teaching practice but individual did not feel they had sufficient opportunities or situations to experiment with various methods of incorporating information and communication technology (ICT) into their classroom teaching. It implies that their teaching practice did not provide them with ample chances to explore and learn how to effectively utilize ICT as a teaching tool in different ways. This could indicate a potential gap in their teacher training or practice that limited their exposure to diverse ICT integration strategies.

4.1.7 Feedback

Table 4. 7 Descriptive Statistic of Feedback Aspect

Statements	N	Mean	Std Deviation
I received sufficient feedback about the use of ICT in my lessons	130	3.92	.836
My competences with ICT were thoroughly evaluated	130	3.81	.788
I received sufficient feedback on how I can further develop my ICT competences	130	3.79	.723

My competences in using ICT in the classroom were regularly evaluated	130	3.64	.788
Valid N (listwise)	130		

Based on the table above, it can be seen that the highest statement with the highest mean (M=4.08) is “I saw many examples of ICT use in an educational setting”. The lowest score (M=3.64) is a statement that contains “The potential of ICT use in education was demonstrated concretely”. Based on the highest result it can be inferred that, although many of the pre-service teachers in this study received sufficient feedback about the use of ICT in their lessons, not many pre-service teachers had their competence in using ICT in the classroom evaluated regularly.

4.2 DISCUSSIONS

From the overall results of this study, it can be seen that the Role Model has obtained the highest mean score. In this study, it can be concluded that pre-service teachers see and observe many examples of theory and practice in the use of technology delivered by educators and instructors and are reflected in improving the planning of learning activities with the use of technology in class in the future for these pre-service teachers. Here both the so-called lecturers and instructors are required to be role models for those they teach, in other words to act and behave as a model in the sense that what is being taught is actually manifested and displayed in them. Then, it is in line with the previous study from Haydn and Barton (2007) who stated that the pre-service teachers see their educators on how to use some of the supporting technologies or applications in the classroom and then when teaching practice these pre-service teachers use them in their classes. This finding also confirms the results of previous research from Brush et al. (2003) who stated that the pre-service took several strategies that had been taught in their pre-service training.

In addition, we can see that on the Reflection point, the statement that has the highest score is the statement of sharing experiences and sharing challenges to the use of ICT in the classroom. In the context of this study, for example, when EFL pre-service teachers attended ICT in Education and Reflective Peer Microteaching classes,

these pre-service teachers and lecturers not only exchange information about the use of several applications or other technologies to support learning inside and outside the classroom, but they also exchange experiences and what challenges must be faced in the future. Then, it is in line with previous study from O'Reilly (2003) stating that pre-service teachers' reflection on how technology is used in the classroom has appeared to be aided by discussion groups, observation, and writing.

In terms of Instructional Design, the statement that has the highest score was "We received help to use ICT when developing educational materials". This implies that pre-service teachers received some assistance when developing materials and lesson plans from various parties. The lecturers probably helped them by providing or explaining several designs for developing materials and by using and selecting several applications that would be used later. The pre-service teachers created material, presented the results of the material they made before the study group together, and then evaluated it with other pre-service teachers and educators. Then, it is line with previous study from Sahin (2003) who examined pre-service teachers' perceptions of the instructional technology, and highlighted the importance of material preparation. One of the participants of Sahin (2003) stated that she gained knowledge about how to prepare materials by using various technologies.

It can be seen that the Collaboration aspect that has the highest statement score is "Students helped each other to use ICT in an educational context". Pre-service teachers get some help from other fellow pre-service teachers to increase the use of technology in the classroom, at this point pre-service teachers usually also exchange experiences like in Reflection points. Then, it is in line with previous study from Brush et al. (2003) stating that students helping each other was the most successful aspect of the lesson.

In terms of Authentic Experience, the statement that has the highest score is "I was able to learn to use ICT in the classroom through the teaching practice". Pre-service teachers get and are encouraged to use ICT in class, because according to some teachers ICT is an obligation for pre-service teachers to use according to their times. Using ICT which is simple and easy to understand in class also makes the class more lively and students will be interested too later. Then, it is in line with previous

study from Barton and Haydn (2006) who shared their students' experiences in using technology such as laptop, video, projector when practicing teaching.

Then, last but not least, it can be seen that from the Feedback aspect, the highest score is "I received sufficient feedback about the use of ICT in my lessons". After carrying out teaching practices using several applications and technology in the classroom, pre-service teachers received several evaluation comments from teachers or lecturers, and it is hoped that these pre-service teachers will carry out even better teaching practices. Then, it is in line with previous study from Thompson, Schmidt, and Davis (2003) stating that the quality of the teaching experience is continuously improved when people get feedback from others.

CHAPTER V
CONCLUSION AND SUGGESTIONS

This chapter presents and describes conclusions based on the research findings and some suggestions regarding this study.

5.1 CONCLUSION

The objective of this study is to determine the EFL pre-service teacher's perception of the use of technology during teacher training. There were 128 students participating in this study. Based on the previous findings and the analysis researcher has reached the following conclusion:

- According to the result of this study, the researcher concludes that EFL pre-service teacher's perception of the use of technology during teacher training revealed that the important variables considered important by pre-service teachers were Role Models, Reflection, Instructional Design, Collaboration, Authentic Experience, and Feedback.
- Most of the pre-service teachers have perspectives on the use of technology through role models or are inspired by and take examples from their educators.
- On the other side, this study also discovered a number of other significant findings, such as sharing experience and challenges, receiving help from others when developing materials, helping each other in using ICT, and getting feedback from others

5.2 SUGGESTION

Then, the researcher would like to offer suggestions to EFL pre-service instructors, English Education lecturers, and future researchers in order to improve the next study.

- EFL pre-service teachers

  Pre-service teachers could apply the SQD scale to be able to understand and measure six teaching strategies (i.e., role models, reflection, collaboration, feedback, instructional design and authentic experiences) because they are important for preparing future teachers to use technology in their future teaching, so that they can manage their own learning process better.

- English Education Lecturers

  Lecturers should have a deep understanding of student abilities and how to deal with various attitudes and perspectives. Lecturers also need to understand more about the importance of applying technology in the classroom among their students according to the era, so that students can practice more technology and be inspired by how to better use technology in the future in class.

- Future researchers

  In this research, researchers used Synthesis of Qualitative Data (SQD) scale survey research to investigate EFL pre-service teachers' perceptions about technology use during their teacher training using digital technology using quantitative methods. Further researchers can build data collection methods such as interviews or observation qualitative approaches and expand the study to a larger scale to obtain more in-depth results.

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APPENDICES

Appendix 1.

Assalamualaikum Warahmatullahi Wabarakatuh

I am Zati Iwani Adlina, a student of the English Education program at the Islamic University of Indonesia. Recently, I am conducting research on EFL Pre-Service Teachers' Perception of the Technology Use for Teaching During Teacher Training. Therefore, I ask for the willingness of you to take the time to fill out the questionnaire in order to fulfil my research data.

The required participant criteria are:

- English Education students of UII batch 2020, 2019
- Have taken ICT in Education and Technology Enhanced Language Learning courses.

If you meet these criteria, please fill out the questionnaire according to your actual condition, this research's data will be kept private and will only be used for research purposes.

If there any problems or questions regarding this research, you can contact me via:
Email : 19322025@students.uii.ac.id
WhatsApp 0812 2353 6783

Thank you very much for your willingness and assistance in filling out this questionnaire.

Sincerely,
Zati Iwani Adlina

Dosen Pembimbing,
Banatul Murtafiah, S.Pd., M.Pd.

Section 1

Please fill in your personal data:

Name/ Initial :
Age :
Gender :
Batch :
Availability to fill this forum YES/ NO

Section 2

Choose one: Answer the following questions. There is no right or wrong answer for every question. Please give your honest feedback. Use the scale below to answer the questions.

1 Disagree
2 Strongly Disagree
3 Neutral
4 Agree
5 Strongly Agree

Category	Items	1	2	3	4	5
Role Model	I saw many examples of ICT use in an educational setting					
	I observed sufficient ICT use in an educational setting in order to integrate applications by myself in the future					
	I saw good examples of ICT practice that inspired me to use ICT applications in my classroom					
	The potential of ICT use in education was demonstrated concretely					
Reflection	I was given the chance to reflect on the role of ICT in education					
	We discussed the challenges of integrating ICT in education					
	We were given the opportunity to discuss our experiences with ICT in the classroom (i.e., during teaching practice)					
	There were specific occasions for us to discuss our general attitude towards ICT in education.					
Instructional Design	I received sufficient help in designing lessons that integrated ICT					
	We learnt how to thoroughly integrate ICT into lessons					
	We received help to use ICT when developing educational materials					
	I received a great deal of help developing ICT-rich lessons and projects to use for teaching practice					
Collaboration	There were enough occasions for me to work together with other students on ICT use in education (i.e., we developed ICT-based lessons together)					

	I was convinced of the importance of co-operation with respect to ICT use in education					
	Students helped each other to use ICT in an educational context					
	Experiences using ICT in education were shared					
Authentic Experiences	There were enough occasions for me to test different ways of using ICT in the classroom					
	I was able to learn to use ICT in the classroom through the teaching practice					
	I was encouraged to gain experience in using ICT in a classroom setting					
	Students were encouraged when they attempted to use ICT in an educational setting					
Feedback	I received sufficient feedback about the use of ICT in my lessons					
	My competences with ICT were thoroughly evaluated					
	I received sufficient feedback on how I can further develop my ICT competences					
	My competences in using ICT in the classroom were regularly evaluated					