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The Effect Of Students Self-Efficacy Level In Using Technology On Pre-Service Teacher Teaching Performance

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Abstract

The widespread use of technology across all parts of life is finally forcing educators to integrate current technology into the classroom environment in response to the growing needs of millennial learners. One of the efforts to integrate technology into the classroom is through pre-service teachers' self-efficacy when using technology. Self-efficacy is the ability of a teacher to have the confidence to influence students in learning to achieve learning targets; in this study, especially using technological knowledge.

This study gathered data on preservice teachers' self-efficacy in using technology through questionnaire survey and observation. The partial least squares (PLS) of the structure equation modelling (SEM) technique used to analyze the data. This study involved students from PBI Universitas Mercu Buana Yogyakarta batch 2019 and 2020. The research was conducted by non-random sampling. This study uses quantitative methods of research. According to Creswell (1994), quantitative research explains phenomena by collecting numerical data analyzed using mathematically based methods (in particular, statistics). This study aimed to find out how preservice teachers' self-efficacy level regarding the use of technology in microteaching classes and the effect of students' self-efficacy level in using technology on pre-service teachers' teaching performance.

This study's results show an effect between preservice teachers' self-efficacy (X) on preservice teachers' teaching performance. It can be seen from the parameter coefficient value is 0.334, meaning that for every one-unit increase in Self Efficacy, Teaching Performance will increase by 0.334 units. This study concluded that the research data was analyzed using the Partial-Least Squares Structural Equation Modeling. It concluded that there was a significant effect between the preservice teachers' self-efficacy in using technology on pre-service teachers' teaching performance.

Keywords: *self-efficacy, preservice teacher, Technological Pedagogical Content Knowledge (TPACK), technology, microteaching*

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INTRODUCTION

This chapter deals with some underlying issues proposed on the topic. They cover the research background, research questions, research objectives, scope of the research,and definition of terms.

Research Background

Teachers nowadays need to master technology to make meaningful learning experiences. In the 21st century, using technology will make learning easier and more interesting for students. However, you must also pay attention to the tools used in using technology. Make sure the tools used in learning are in accordance

with the learning objectives. You must also pay attention to the TPACK component when using technology in the classroom (Mishra *et al*., 2009).

Based on TPACK, Technological Knowledge is deemed important since in using technology in learning, Technical Pedagogy and Content Knowledge (TPACK) is a framework developed by Koehler and Mishra (2006) to facilitate challenging activities in the evaluation class technology integration. It provides a framework for explaining and improving the use of technology through three major components: Technical Knowledge (TK), Teaching Knowledge (PK), and Content Knowledge (CK). The TPACK framework goes a step further by emphasizing the type of knowledge found at the intersection of these three points, such as pedagogical content knowledge (PCK), technical content knowledge (TCK), technical teaching knowledge (TPK), and technical pedagogy and content knowledge (TPACK).

The role of self-efficacy in using technology would support teachers in developing teaching and learning activities. This is because when prospective teachers have mastered technology, learning will be easier to develop into a learning activity. The ability of teachers to influence students' beliefs and values means that teachers can significantly affect students' attitudes toward using computers and technology for educational purposes (Christensen, 1998; Rebecca & Andrea, 2016). Because it is nearly impossible to change the effectiveness of experienced teachers (Hoy, 2000), technology self-efficacy is a commendable predictor of the likelihood that graduates will continue to use educational technology throughout their careers. Rebecca and Andrea (2016) note that self-efficacy is essential in understanding how people commonly and successfully use technology. It is imperative that new teachers graduate with a high level of self-efficacy to use technology as an effective teaching tool. A high level of self-efficacy leads to accomplishing tasks beyond one's capabilities. In contrast, low self-efficacy can lead to underestimating one's skills and poor performance (Bandura, 1982; Rebecca and Andrea, 2016).

According to Moore and Hayes (2008), a good teaching and learning practice should include planning and preparing classes, the classroom environment, the instruction that the preservice teachers give, and the professional responsibilities. These four aspects are important units to pay attention to in order to create good and appropriate teaching and learning activities. By mastering these four aspects, pre-service teachers can be said to have mastered teaching and learning activities well.

Therefore, this study seeks to the effect of students' self-efficacy level in using technology on pre-service teachers' teaching performance. The goal of this research is to find out how preservice teachers' self-efficacy level regarding the use of technology in microteaching classes and the effect of students' self-efficacy level in using technology on pre-service teachers' teaching performance.

Research Questions

Based on the background that has already been elaborated, there is a problem related to the topic: How is preservice teachers' self-efficacy level in using technology in microteaching classes? Is there any effect of students' self-efficacy level in using technology on pre-service teachers' teaching performance?

Research Objective

Based on the questions, the goal of this research is to find out how preservice teachers' self-efficacy level regarding the use of technology in microteaching classes and the effect of students' self-efficacy level in using technology on pre-service teachers' teaching performance.

Scope of Research

This research was conducted to find out the self-efficacy of preservice teachers regarding the use of technology in microteaching classes. Aspects considered in this study are preservice teachers, self-efficacy, and technological knowledge, which will be used to solve the problem.

Research Benefits

There are two kinds of benefits of this study, such as the theoretical benefits of knowing the self-efficacy of the preservice teacher on the used technology. And practicality benefits. The research results are expected to give some benefits: First, students can find out if their self-efficacy in technology while teaching is enough or just the opposite. Second, Lecturers can easily find the measure of their students' self-efficacy in technology and evaluate the result. And the last is for institutions to provide data on students' self-efficacy in using technology while teaching. Then it becomes a tool that is used for evaluation learning.

Definition of Terms

To reduce a misunderstanding of the terms used in this research, several definitions are explained :

Teacher Self-efficacy is a measure of a person's self-efficacy in the specific context of teaching, and the term 'self-efficacy' was first used by psychology scholars (Albert Bandura, 1977 in Corry and Stella, 2018). Teacher self-efficacy measures the teacher's belief that they can affect student success. In the traditional face-to-face classroom, learning and growth in students have been found to closely correlate with teacher self-efficacy (Goddard, Hoy, and Hoy 2000; Tschannen-Moran, Hoy, and Hoy 1998) and, since successful student outcomes are at the heart of every educational system, teacher self-efficacy continues to be of interest to both educators and researchers.

Technology Knowledge (TK) is knowledge of various technologies, including low-tech technologies from digital technologies such as pencil and paper, to digital technologies such as the Internet, digital, Videos, interactive whiteboards, and software programs (Mishra and Koehler, 2009).

Micro Teaching is an effort to prepare prospective teachers to improve their ability to carry out increasingly complex learning tasks, which can be done through training or learning activities using simplified methods or learning (Khasanah, 2020).

REVIEW OF RELATED LITERATURE

This chapter elaborates on the theories, previous research, and conceptual framework.

Theoretical Description

Teachers' self-efficacy

Teacher self-efficacy measures the teacher's belief that he can influence student success. In traditional face-to-face classrooms, we found that learning and student growth were closely linked related to teacher self-efficacy (Goddard et al.,

2000; Tschannen-Moran, Hoy, and Hoy, 1998, in Corry and Stella, 2018), and because successful student achievement is at the heart of every school. In the education system, teacher self-efficacy remains a concern for educators and researchers.

There are six aspects that influence the self-efficacy of prospective teachers based on Kent and Giles (2017). The first is about the readiness of prospective teachers in choosing and using various types of learning media in teaching. The second is about the readiness of prospective teachers to evaluate the software that will be used in the learning process. The third is how prospective teachers integrate technology into all curricula. The fourth is how prospective teachers determine when it is right to use technology in education, then why and how to use technology in education. The fifth is the readiness aspect of prospective teachers in selecting and utilizing technology. And the sixth is the aspect of readiness to combine technology with learning in the lessons to be taught.

TPACK

TPACK is a new form of knowledge that teachers must master in order when integrating technology into learning; TPACK assessments are an activity that assesses the mastery of using TPACK. The TPACK framework and TPACK development are measures made to improve TPACK mastery. TPACK has developed into a framework for developing educational programs (Rahmadi, 2019). The TPACK consists of seven different components. They are referred to as Technical Knowledge (TK). Technology knowledge includes various technologies, from low-tech pencil and paper to digital technologies such as the Internet, digital video, interactive whiteboards, and software applications. Mishra and Koehler (2006) define content knowledge as "knowledge about actual subject matter that is to be learned or taught" (p. 1026). Teachers must understand the topic they will teach in addition to knowing how the nature of knowledge varies between content areas. Pedagogical knowledge (PK) is related to teaching methods and processes such as classroom management, assessment, lesson plan development, and student learning. (Shulman, 1986) Pedagogical content knowledge (PCK) is subject knowledge that pairs with the teaching process.

Pedagogical content knowledge differentiates by content area since it merges content and pedagogy intending to develop the goal of developing better teaching methods in the relevant areas. TCK (technological content knowledge): TCK refers to how technology can build new representations for specific material. It indicates that teachers understand how employing a particular technology could impact how students practice while understanding concepts in a specific content area. TPK (technological pedagogical knowledge): TPK refers to how different technologies can be used in teaching and the understanding that employing technology may affect how teachers teach. Technological pedagogical content knowledge (TPACK) is the knowledge teachers need to integrate technology into their teaching in any subject area. By teaching content using appropriate pedagogical methods and technologies, teachers intuitively understand the complex relationships between the three basic components of knowledge (CK, PK, TK). However, because this study aims to assess pre-service teachers' self-efficacy in applying Technological Knowledge, we will primarily focus on Technological Knowledge in this study.

Previous Studies

In conducting research, the researcher evaluated and related to the studies with several studies in the field. There are some research concerns about preservice teachers' self-efficacy regarding the use of technology in microteaching classes. However, only several pieces of research concern preservice teachers' self-efficacy in using technology. The researcher reviews, evaluates, and concludes the point of those studies.

The first study, Self Efficacy Beliefs of Pre-Service Teachers on Technology Integration, by Caner, M. & Aydin, S. (2021), was relevant to current research due to the similar context. This study aimed to discover how pre-service teachers' levels of technology integration self-efficacy varied. The findings of this study indicate pre-service teachers' self-efficacy in technology integration. This study used pre-service teachers participating in four different teacher education programs at a state institution in Turkey. A non-experimental quantitative research approach was used in this study to demonstrate pre-service teachers' self-efficacy concepts about technology integration. The research data was gathered by a self-administered survey that included Likert-typed and various demographic questions. The findings examined that although the overall scores of pre-service teachers on their technology integration self-efficacy seemed considerably high, their self-efficacies in used computer technologies was founded to been slightly around average leveled, and their self-efficacy in made others used computer technologies is relatively low degrees.

According to research by Andrea M. Kent and Rebecca M. Giles (2017), the second studied entitled "Preservice Teachers' Technology Self-Efficacy". This researched, aimed to investigate elementary preservice teachers' self-efficacy beliefs regarding instructional technology. Considered positive teacher efficacy's immediate and long-term impact on technology integration, findings would interested current educators and administrators, certification and licensed boards, and those responsible for trained and mentoring new teachers. In the study's first phase, this research conducted on 28 preservice teachers at a Doctoral/Research Intensive university. In addition, quantitative, descriptive statistics data was collected for the sample class. This research showed that participants had a score of 4.6 on a six-pointed scale, indicating a moderately high level of technological efficacy overall. Overwhelmingly, 91% of participants indicated they felt at least somewhat capable of incorporating technology into their lessons. Similarly, 76 felt they could integrate technology across the curriculum.

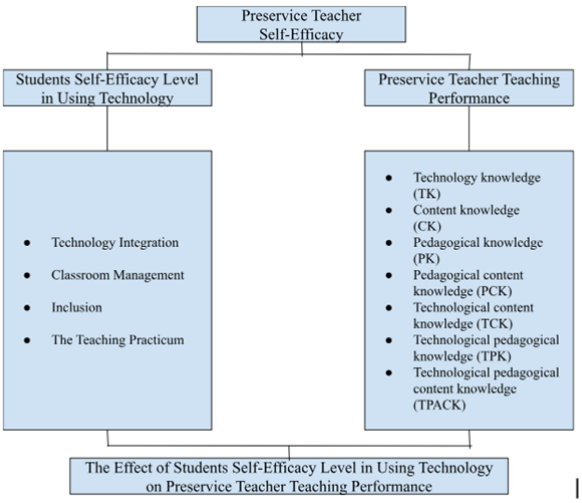
The third studied by Ebru Bakaçi (2018), entitled "The Impact of Technology Integration Self-Efficacy Beliefs of Prospective Teachers' Self-Directed Learned Trends with Technology." This studied aimed to determine the effect of self-directed learned tendencies of prospective teachers on the self-efficacy beliefs of technology integration. The researched designed used a mixed method. The research group consisted of preservice teachers who studied at the Faculty of Education located in the northwest Black Sea Region of Turkey. As a result of the research, self-directed learned of preservice teachers predicts technology integration self-efficacy beliefs in both pre-test and post-test scores. This result showed that it could benefit from the self-directed learned tendencies of prospective teachers in determining the ability to integrate technology into the

classroom environment. At the ended of the research, it founded that the preservice teachers saw themselves enough to prepared the course materials used technology.

Conceptual Framework

The figure below portrays the research's conceptual framework:

The Conceptual Framework



This study focused on preservice teachers' self-efficacy regarding the use of technology in microteaching classes and the effect of students' self-efficacy level in using technology on pre-service teachers' teaching performance. In order to framework the level of preservice teachers' self-efficacy and preservice teacher teaching performance, the researcher used the theory of teachers' self-efficacy from Moore Hayes (2011) and Mishra *et al*. (2009). Moore-Hayes (2008) investigated teachers' self-efficacy beliefs in four independent areas related to teaching (technology integration, classroom management, inclusion, and the teaching practicum).

Mishra *et al*. (2009) identify seven components addressed in the TPACK framework: Technology Knowledge, Content Knowledge, Pedagogical Knowledge, Pedagogical Content Knowledge, Technological Content Knowledge, Technological Pedagogical Knowledge, and Technological Pedagogical Content Knowledge. The researcher used the theory of Moore-Hayes (2011) and Mishra *et al*. (2009) theory to answer the research question. Moore-Hayes (2011) was used to identify how the pre-service teachers' self-efficacy.

Hypotheses

In this study, the hypothesis or effect test determines whether the Partial-Least Squares Structural Equation Modeling analysis is significant or insignificant. The hypothesis that I propose in this Partial-Least Squares Structural Equation Modeling analysis is:

Ha = There is an Influence of the preservice teacher's self-efficacy (X) on the preservice teacher's teaching performance (Y)

Meanwhile, to ascertain whether the parameter coefficient value is significant or not (in the sense that variable x affects variable Y), we can test this hypothesis by comparing the p-value with the level of significance (usually 0.05) indicates that the effect is statistically significant.

The basis for decision-making in the Partial-Least Squares Structural Equation Modeling analysis by looking at the coefficient value of the Partial-Least Squares Structural Equation Modeling analysis output results is

1. If the p-value of self-efficacy is less than the specified significance level (usually 0.05), it indicates that the effect is statistically significant. It means that the preservice teachers' self-efficacy (X) affects the preservice teachers' teaching performance (Y).
2. Conversely, if the p-value of self-efficacy is more than the specified significance level, it indicates that the effect is statistically insignificant. It means the preservice teachers' self-efficacy (X) does not affect their teaching performance (Y)

RESEARCH METHOD

This chapter describes the research design, research participants, research, variables, data collecting technique, data analysis technique, and research procedure.

Research Design

Creswell (2014) identifies research design as a kind of inquiry within a qualitative, quantitative, or mixed methods approach that gives particular direction for procedures in a research study. A researcher has to use the proper approaches and methods when conducting research. Its purpose is to gain an obvious picture and effective data collection. This study uses a survey research method and correlational research. According to (Gay et al., 2012:184), survey research is gathering data to test hypotheses or answer questions about their perspectives on a particular topic or issue. A survey is a data collection tool that identifies one or more characteristics of a given group. Survey data are obtained by asking members of a population a series of questions, which can be administered through postal or emailed questionnaires or via phone or in-person interviews. A variable, such as age, IQ, or height, is a placeholder that can take on different values. In correlational research, the degree of relation is measured by a correlation coefficient. If two variables are highly related, one is not necessarily the cause of the other (Gay *et al*., 2012:29)

This study uses quantitative methods of research. According to Creswell (1994), quantitative research explains phenomena by collecting numerical data analyzed using mathematically based methods (in particular, statistics). Data collection techniques are one of the strategic research steps which aim to gain data. This study aims to find out the self-efficacy level of preservice teachers regarding the use of technology in microteaching classes. This study will collect information from participants using an observation and questionnaire. The researcher chose this type of survey research because it is suitable for this study to analyze the preservice teachers' self-efficacy on technology in microteaching classes.

Research Participants

a. Population

The population is the number of individuals or objects with similar characteristics (Lind *et al.,* 2017). According to Suhkla (2020), population refers to the set or group of all the units to which the research findings are applied. Based on the opinion before, we can conclude that the population is the object used for

finding research. The targeted population for this research is the preservice teachers at Universitas Mercu Buana Yogyakarta batch 2019 and 2020.

b. Sample

According to Sugiyono (2019:127), the sample is part of the total characteristics possessed by the population. Non-probability sampling, also known as non-random sampling, is the process of selecting a sample using a technique that does not allow the researcher to specify the probability, or chance, that each member of a population will be selected for the sample. Non-random sampling approaches do not use random sampling at any point in the sample selection process, which can create sample bias. Non-probability sampling is a method for creating samples that give a different thethe same amount of time or effort to every member of the population at the time the sample is chosen. 143 (Sugiyono, 2019) In research, an appropriate sample size ranges from 30 to 500.

Research Setting

This research will occur at Universitas Mercu Buana Yogyakarta, located in Jalan Wates km 11, Sedayu, Bantul, Yogyakarta. The researcher chose a student of English Language Education in batch 2019 and 2020.

Data Collecting Technique

Data collection is the process of gathering and measuring information on variables of interest systematically that enables one to answer stated research questions, test hypotheses, and evaluate outcomes. The data collection component of research is common to all fields of study, including physical and social sciences, humanities, business, etc. The goal for all data collection is to capture quality evidence that then translates to rich data analysis and allows the building of a convincing and credible answer to questions that have been posted (Kabir, 2016). Researchers employed the following techniques to gather data:

a. Questionnaire

A questionnaire is a research instrument consisting of a series of questions and other prompts to gather information from respondents (Kabir, 2016). A questionnaire is an outline of survey questions that a predetermined group of research participants will answer by a selected population of research participants; an interview is an oral, in-person question-and-answer session between a researcher and an individual respondent. Survey research investigations are often known as questionnaires or interviews. A questionnaire administered in this way tends to be less expensive than an interview or a personally administered questionnaire. It allows data collection from a significantly larger sample than an interview or a personally administered questionnaire. Some disadvantages include those paper-and-pencil questionnaires mailed to participants do not allow the researcher to create rapport with respondents, and any items must items cannot be explained. However, the benefits usually outweigh the drawbacks, especially if the sample is big or geographically dispersed (Gay et al., 2012:184). Questionnaires are an effective data collection technique when the researcher knows precisely the variable to be measured and what can be expected from the respondent. Questionnaires can be closed or open questions or statements and can be given in person or via the Internet (Sugiono, 2016:142). In this questionnaire, the researcher makes written questions that the respondents will answer.

The questionnaire used in this study was an adaptation of the questionnaire belonging to Moore and Hayes (2011) and Kent and Giles (2017), the two questionnaires. Teacher-efficacy research to develop a 5-item scale for assessing teachers' perceived efficacy beliefs towards technology integration. The survey that resulted was utilized to collect data for this investigation. The six-point, forced-choice response Likert scale went from "not at all" to "a lot.

b. Observation

Observation is a data collection technique that has more specific characteristics when compared to other techniques. (Sutrisno Hadi, 1986 cite in Sugiono, 2016:145) suggests that observation is a complex data collection process composed of various biological and psychological processes. Two of the most important are the processes of observation and memory. Data collection techniques are used when research deals with humans, work processes, and natural phenomena and when the number of respondents observed is manageable. In this study, the researcher used a type of non-participant observation in which the researcher was not directly involved with the activities of the people being observed and only as an independent observer (Sugiono, 2016:145). Observations made in this study are observations related to the conditions and problems that exist in the micro-teaching class. Observation rubric in this research using Rubric for Effective Teacher Technology Use (Organized by the Four Domains of Danielson's Framework for Teaching 1) Danielson, C. (2007).

c. Validity

The most crucial factor in evaluating a test is its validity. The idea deals with the appropriateness, significance, and utility of the particular conclusions drawn from test results. The process of gathering evidence to back up such judgments is known as test validation. There are different ways to build evidence to support any given conclusion, and several inferences can be drawn from test scores. But the validity is a singular idea. Although there are numerous techniques to gather data, validity always relates to how well the evidence supports conclusions drawn from test results (Wainer & Braun, 2013). (Sugiono, 2016:267) In quantitative research, the main criteria for research data are valid, reliable, and objective. Validity is the degree of accuracy between the data that occurs on the research object and the power that the researcher can report. Then valid data is data that "does not differ" between the data reported by the researcher and the data that occurs in the research object.

Research Variables

The variable is an attribute or activity with a specific variation (Sugiyono, 2010: 38). It means that the variable is a kind of student activity they do in the classroom. The variable can be the point of the research. This research had two variables as follows:

1. Dependent Variable

The dependent variable is the research variable , which is measured to determine another variable's effectiveness. It means that the dependent variable is the variable as the tool to measure the independent variable. The dependent variable in this research was "Student final score in micro-teaching courses."

2. Independent Variable

An Independent variable is a variable whose variance influences another variable. It means independent variables are the variable that makes influence to dependent variable. The independent variable of this research was "The student self-efficacy means."

Data Analysis Technique

After getting the data analysis from the observation and questionnaire. This study used the quantitative method. The quantitative method used to test the test results and questionnaire data uses descriptive statistics. Descriptive statistics is the presentation of data through tables, graphs, pie charts, and pictograms, in addition to calculating mode, median, mean (measurement of central tendency), deciles, percentiles, data distribution through calculation of mode, median, mean (measurement of central tendency), deciles, percentiles, data distribution through the calculation of average and standard deviation, and percentages. Descriptive statistics can also be done to find the strength of the relationship between variables through correlation analysis, make predictions with regression analysis, and make comparisons by comparing the average sample or population data (Sugiono, 2016:148)

By explaining the relationship between variables in an example or population, descriptive statistics are used to organize and summarize data. Before performing inferential statistical comparisons, descriptive statistics should always be calculated as a crucial initial step in research. Measures of frequency, central tendency, dispersion/variation, and location are all included in descriptive statistics along with other types of variables (nominal, ordinal, interval, and ratio). Descriptive statistics reduce data into a more understandable summary, allowing decision-makers in the healthcare industry to evaluate particular populations (Yellapu, 2018).

Structural Equation Modeling (SEM) is a data analysis technique that can assist researchers in determining the relationship between variables. There are two methods for estimating the relationship between variables in SEM: CB-SEM and PLS-SEM (Hair *et al*., 2014). Covariance Based-Structural Equation Modeling (CB-SEM) is a variant of SEM used when the research goal is to test a theory, confirm a theory, and compare it to other theories, large sample sizes, and normally distributed data (Wong, 2013). In contrast, Partial-Least Squares Structural Equation Modeling (PLS-SEM) is a nonparametric method that does not require data distribution assumptions. PLS-SEM can be used on data with non-normal distributions since the PLS algorithm transforms non-normal data using limit theory (Hair *et al*., 2014). In other words, PLS-SEM can be used on data with small sample sizes. Partial Least Square (PLS) of structure equation modeling was used to analyze the data of this study. PLS is a variance-based method used to estimate structural equation models (Rabaa'i, (2018). PLS-SEM is performed by creating a route diagram that depicts the relationship between exogenous and endogenous variables (model structural/inner model) and the relationship between exogenous and endogenous variables in relation to each other (measurement model/outer model) (Hair *et al*., 2014). CB-SEM is a type of SEM that is used when the sample size is large, and the data distribution is normal, whereas PLS-SEM is used when the sample size is small and the data distribution is not normal (Hair et al., 2014).

Because the population size in this study is small, and thus the sample size is small, the SEM method that can be used is PLS-SEM.

Research Procedures

The researcher conducts the research phase to get the best results. The steps the researchers took when conducting the study were as follows: First, the researchers observed the microteaching class to get the problem and the condition in the class. Second, the researcher distributed a validated questionnaire to PBI students in batches of 2019 and 2020 about the preservice teachers' self-efficacy in using technology. The questionnaire focused on the measured level of preservice teachers' self-efficacy. Third, the researcher conducted a questionnaire to check the self-efficacy level of preservice teachers in using technology. And last, consider collected and analyzing data using Partial Least Square (PLS) of structure equation modelling to find out how preservice teachers' self-efficacy level regarding the use of technology in microteaching classes and how the effect of students' self-efficacy level in using technology on pre-service teachers' teaching performance.

FINDING AND DISCUSSION

This chapter elaborates on the research findings and discussion.

Research Findings

a. Survey questions for mean self-efficacy for technology

The researcher presented the data of the self-efficacy preservice teachers mean. There are 6 questions in this questionnaire. The result of the preservice teachers' questionnaire mean can be seen below:

Table 4.1

	Preservice Teachers Mean
How competent do you perceive yourself to select and use various media to support teaching and learning?	4.8
How well prepared are you to evaluate software to support teaching and learning?	4.7
To what extent can you integrate technology across the curriculum?	4.4
How capable are you of determining why, when, and how to use technology in education?	4.7
To what extent do you feel prepared to select and utilize assistive technologies?	4.5
To what extent did you incorporate technology to enhance teaching and learning in the lessons you taught in your field experience this semester?	4.8

Note. 1 indicates low self-efficacy, and 6 indicates high self-efficacy.

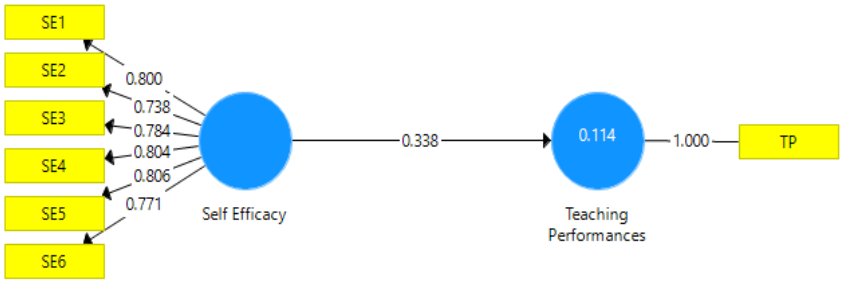
b. Observation Result

The researcher conducted the observation at Universitas Mercu Buana Yogyakarta in English Language Education Study Program. The researcher observed the preservice teachers' performance while doing micro-teaching

activities using technology. In the observation rubric, the researcher observes from planning and preparing class, the classroom environment, the instruction that the preservice teachers give, and the professional responsibilities. The use of technology in the PPL 1 class is on average, focused on PowerPoint (PPT) due to limited teaching time, but they also prepare several learning tools, namely quizziz, canva, barcode, and google slides. By using technology to make the material content that they create more interesting. When teaching, the preparation and plans of the preservice teachers are good. In addition, a good class atmosphere is created, and the preservice teacher when teaching is communicative.

c. Path Diagram

Figure 1



d. Outer Loadings

Table 4.2

Outer Loadings

	Self Efficacy
SE1	0,800
SE2	0,738
SE3	0,784
SE4	0,804
SE5	0,806
SE6	0,771

Based on the table above, the value of outer loading Self Efficacy > 0.7 means that the construct is declared valid.

e. Construct Reliability and Validity

Table 4.3

Construct Reliability and Validity

	Cronbach's Alpha	rho_A	Composite Reliability	Average Variance Extracted (AVE)
Self Efficacy	0,876	0,891	0,905	0,615

Based on the table above, the AVE Self Efficacy value > 0.50, the item is declared valid, then Cronbach alpha and composite reliability Self Efficacy > 0.7, the construct is declared reliable.

f. R Square

Table 4.4

R Square

	R Square	R Square Adjusted
Teaching Performances	0,114	0,090

Based on the table above, the R square value is 0.114, Teaching Performances is explained by 11.4 Self Efficacy, the rest is explained by other variables not examined in this study.

g. Total Effects

Table 4.5

Total Effects (Hipotesis)
Mean, STDEV, T-Values, P-Values

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values
Self Efficacy -> Teaching Performances	0,334	0,323	0,149	2,240	**0,026**

Based on the table above, the p-value of Self-Efficacy is 0.026, Self-Efficacy has a significant effect on Teaching Performances. The parameter coefficient value is 0.334, meaning that for every one-unit increase in Self Efficacy, Teaching Performance will increase by 0.334 units.

Research Discussion

All educators must be aware of the impact of preservice technology self-efficacy on preservice teacher teaching performance on student learning. It helps to prepare educators to lead students in the use of technology so that they can better navigate the global society in which we live (Johnson, 2009; US Department of Education, 2010, cited in Kent and Giles, 2017).

Based on the findings described above, the preservice teachers' self-efficacy in using technology significantly affects pre-service teachers' teaching performance. Based on the output findings above, it is known that the parameter coefficient value is 0.334, meaning that for every one-unit increase in Self Efficacy, Teaching Performance will increase by 0.334 units. Therefore, it can be concluded that Ha is accepted and H0 is rejected, which means that "There is an effect between preservice teacher self-efficacy (X) on preservice teachers' teaching performance."

According to the hypotheses above, the researcher found an effect between preservice teachers' self-efficacy (X) on preservice teachers' teaching performance. Previous research has found that teachers with a high sense of instructional efficacy devote more classroom time to academic learning, provide students who have difficulty learning with the assistance they need to succeed, and praise them for their achievements (Gibson and Dembo, 1984 cited in Bandura, 1993). On the other hand, teachers with a low sense of instructional efficacy spend more time on non-academic activities, give up on students easily if they do not see immediate improvements, and blame them for their shortcomings. Therefore, teachers who are confident in their teaching efficacy create mastery experiences for their students. Those plagued by self-doubt create educational conditions that hinder students' sense of efficacy and cognitive development.

CONCLUSION AND SUGGESTION

Conclusion

Answering the first research question, the pre-service teachers' self-efficacy level is excellent. It can be seen from the preservice teachers' means (table 4.1) that shows in the findings. Then, answering the second research question, there is a significant effect between preservice teacher self-efficacy (X) on preservice teachers' teaching performance.

This study's results show that the value of outer loading Self Efficacy > 0.7 means the construct is declared valid. the AVE Self Efficacy value > 0.50, the item is declared valid, then Cronbach alpha and composite reliability Self Efficacy > 0.7, the construct is declared reliable. the R square value is 0.114, Teaching Performances is explained by 11.4 Self Efficacy, and the rest is explained by other variables not examined in this study. It can be concluded from the explanation above that the construct, the AVE self-efficacy value, Cronbach alpha, and composite reliability are valid.

The parameter coefficient value is 0.334, meaning that for every one-unit increase in Self Efficacy, Teaching Performance will increase by 0.334 units. Therefore, it can be concluded that Ha is accepted and H0 is rejected, which means that "There is a significant effect between preservice teacher self-efficacy (X) on preservice teachers' teaching performance." Based on (Wang *et al*., 2004, cited in Kent and Giles, 2017), incorporating particular goals and using electronic vicarious learning experiences could help preservice teachers gain the confidence they need to become effective technology users in their classrooms.

Suggestion

In this study, the researcher would like to give suggestions for the preservice teachers: In this study, the researcher would like to provide suggestions for preservice teachers: First, preservice teachers should have mastered self-efficacy when teaching in the classroom because good self-efficacy will impact teacher teaching performance. Second, in increasing the self-efficacy of preservice teachers, several aspects must be considered in order to achieve the goals.

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