

**TECHNOLOGY DEVICES: CAN IT ENHANCE PRE-SERVICE TEACHERS' TEACHING
(DURING THE COVID-19 PERIOD)?****Frimadhona Syafri¹****Sri Wahyuni²**^{1,2} Universitas Negeri Semarang¹frimadhona@mail.unnes.ac.id²sriwahyunifbs@mail.unnes.ac.id**Abstract**

The COVID-19 pandemic has resulted in schools being closed around the world. Globally, most children are outside the classroom. As a result, education has changed dramatically, with the advent of typical e-learning, where teaching is done remotely and on digital platforms. These conditions are very demanding of information skills, media and technology as a solution to these problems. All school activities had been shifted to an online delivery mode, which causes the implementation of teaching practices to be carried out online. This transfer forces pre-service teachers to have different teaching practice experiences. Technological devices are the facilities they use to support online learning. This study aims to describe the implementation and perceptions of pre-service teachers on their teaching practice experiences during the pandemic. Class observations are made on the implementation of English pre-service teachers' teaching with implementing technological devices in three public junior high schools in Semarang. To evaluate how the teaching and learning process in applying technological devices, the Technological Integrated Matrix (TIM) by Florida Center for Instructional Technology is used as a framework for analyzing the data. The Technology Integration Matrix (TIM) provides a framework for describing and targeting the use of technology to enhance learning. Questionnaire and interview are also administered to obtain information about the pre-service teachers' perceptions towards online learning during pandemic era. Therefore, despite the limitations of its implementation, teaching practice programs tend to form a positive mindset and teaching attitude for pre-service teachers.

Keywords: technological devices, pre-service teacher, covid-19 pandemic.

1. Introduction

This sudden Covid-19 pandemic requires teachers to switch from face-to-face learning into learning domain with technological network. In this situation, despite its limitations of time, space, and infrastructure, the education practice is unabating. Technology adoption taken as a way out to facilitate instructional activities is a compulsion for education practitioners and students across countries.

Today's students are being prepared for a future, rich in technology and requiring 21st -century learning skills (Newbill & Baum, 2013). The student should be exposed to the new technology and gadgets which make learning more meaningful. Much of this depends on the stakeholders for providing the available resources in the classroom and the level of depth, the teacher wishes to engage with the students. Sheingold (1990) said, integrating technology in the classroom

is not about teaching students to operate computers, but integrating technology is about helping teachers to use technology as a tool for learning. For effective use of technology integration, the coordinator and the teacher should be able to assess the present level of the technology integration in their classrooms. The teacher generally set these goals on the technology integration in the classroom.

Studies have revealed that among several factors affecting teachers' professional performances in the classroom, beliefs and perceptions developed as pre-service teachers are considered influential factors (Moon et al., 2016). In relevant to it, education faculties have implemented a teaching practice program for the seventh-semester students to be ready for their teaching career. This policy is one beneficial program to prepare the students to be professional teachers who always uphold positive impacts.

There are various definitions of a teaching practice program (also known as a teaching practicum). However, there has been one similar concept of this program in which it refers to experiential learning for the pre-service teachers. Teacher practice program builds a foundation and an effective means to develop prospective teachers' understanding of the why, what, and how of teaching and learning (Abas, 2016). It is a preparatory process that enables pre-service teachers to acquire field experience in schools. It might be an opportunity for them to be certified later (Moon et al., 2012). Moreover, the teaching practice program offers chances to the pre-service teachers to build up a solid connection between current hypothetical information and school rehearses and assist them with acclimatizing theories and practices through detailed observation performed by experienced teachers (Genc & Buyukkarci, 2013).

Actually, studies on the effectiveness of teaching practice programs towards the pre-service teachers' competencies have been conducted. Researchers have discussed this matter thoroughly emphasized its benefits and effectiveness as an initial or prior stage to shape mindset about teaching, as well as to provide broad teaching experiences (Afalla & Fabelico, 2020), as a part of experiential

learning, teaching practice program for education faculties helps the pre-service teachers to demonstrate their teaching knowledge and ability to real-context of teaching; to choose a specialization; and to establish identities as teachers (Afalla & Fabelico, 2020; Fajriah et al., 2019; Moon et al. 2016).

Accordingly, Amankwah et al. (2017) also revealed the effectiveness of teaching practice programs to the undergraduate teachers, proven with an SD of .789 categorized as high, which means that the program was effective for the students to shape good mindsets towards teaching.

However, there might be differences between the facts mentioned above. The teaching practice program was conducted offline with the current situation requiring them to have an online one due to the school closure policy caused by the Covid-19 outbreak. At least since March 2020, governments of all countries, including Indonesia, have designated the Covid-19 virus as a worldwide pandemic forcing a rapid and significant shift in education at all levels (Varela & Desiderio, 2020). The educational activities from schools to campuses were closed, with most transferring instruction to online delivery through virtual platforms (Ismatun & Sadida, 2020), not to exclude the teaching practice program in education faculties. Having the program online must have brought enormous challenges for the prospective teachers because they could not experience the real teaching and school setting.

Lately, there are some studies on the perceptions of pre-service teachers towards the online teaching practice programs since mid-2020 (i.e., Graham et al., 2020; Ismatun & Sadida, 2020; }Varela & Desiderio, 2020). Those studies revealed that pre-service teachers' attitudes and perceptions towards the online teaching practice varied; some showed positive responses, and some were not. These different perspectives were due to perceptions

from one to another based on what they had perceived while having the experience (Lewis, 2001). Moreover, these increasing numbers of studies also indicated that examining perceptions of people or communities was considered important.

In this study, the researcher conducted this study to examine the perceptions of the pre-service English teachers of Teacher Training and Education Faculty after experiencing the online teaching practice program for one month completed in mid-September 2021. The researcher believed that their perceptions were important to provide insights for the officials to create better program policies. Through quantitative and qualitative analysis, the following research questions were addressed:

1. How do the pre-service teachers reflect upon the online teaching practice program?
2. What were the most challenging situations they have faced during the program, and how did they solve them?
3. What benefits did they get the most from the online teaching practice program?

In Indonesia, the regulation of the ministry of research, technology and higher education of the Republic of Indonesia No.55. 2017 regarding teacher education standards, Introduction to School Field Unit Pengenalan Lapangan Persekolahan (hereafter abbreviated as PLP) is the process of observation apprenticeship and apprenticeship carried out by undergraduate students of Education Program.

Methodology

This study employed a mixed-method methodology in which quantitative and qualitative approaches were adopted. The mixed-method design would help the researcher provide complete and rich data to be discussed and presented to readers (Creswell, 2014; 2012), especially regarding the pre-service teachers' perceptions towards the online teaching practice program.

The aim of the study is to describe the implementation and perceptions of pre-service teachers on their teaching practice

experiences during the pandemic. Class observations are made on the implementation of pre-service teachers' teaching with implementing technological devices in three public junior high schools in Semarang, that are SMPN 4 and SMPN 20. To evaluate how the teaching and learning process in applying technological devices, the Technological Integrated Matrix (TIM) by Florida Center for Instructional Technology is used as a framework for analyzing the data.

The data were collected using a questionnaire and a semi-structured interview. Both questionnaire and interview questions were related to the participants' experience during their teaching practice in the pandemic setting adapted from several research studies.

Finding and Discussion

Since the data were collected through questionnaires and interviews, the findings then displayed the results in different sections. There are two parts of the analysis data.

The first part of the questionnaire is about the pre-service teachers' perceptions of the online teaching experiences they had been.

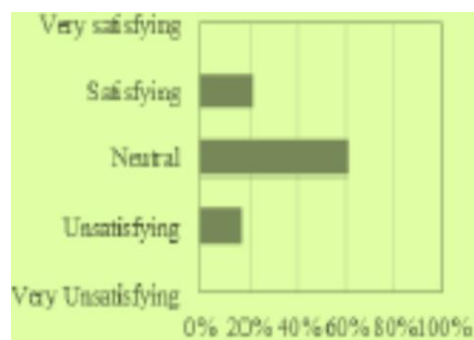


Figure 1. Overall Opinions towards Teaching Practice Program

Figure 1 indicates that only three out of five ratings are responded to by the respondents: satisfying, neutral, and unsatisfying. It can be seen that 60% or 12 pre-service teachers responded "neutral" option showing they did not feel satisfied nor unsatisfied with the

online teaching practice program. Then, 18% or 4 pre-service teachers were unsatisfied with the program; and 22% or 6 pre-service teachers were satisfied.

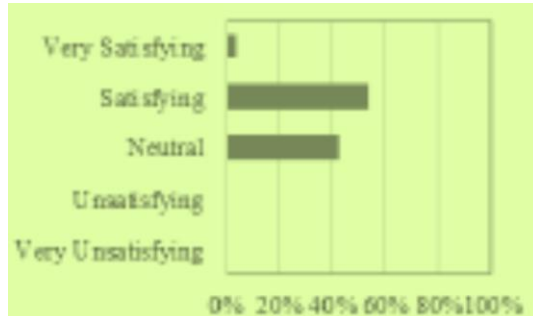


Figure 2. Opinions towards the Online Teaching Practice Placement

Figure 2 shows there are three rating responses: very satisfying, satisfying, and neutral. It can be seen that 54% pre-service teachers responded satisfying; 43% pre service teachers responded "neutral" option, and 3% felt very satisfied with the placement policy.

What can be inferred from the results of the questionnaire analyses above is that despite the pandemic situation of when it was implemented, teaching practice maintains its cores in a way it improves pre-service teachers' teaching knowledge and also interests.

Based on interview analysis, this section presents the results of the interview analysis of six questions. The analysis is presented using subheadings Q1 to Q6. The researcher displays the responses of all participants, then interprets the data qualitatively.

1. Does the setting you work in, use technology in the lessons?
2. Which type of technology does the setting use?
3. Do you think that the use of technology in the classroom improves how a child is learning, or not?
4. Would you change anything about the use of technology in educational settings?
5. Would you say that you enjoy using technology in the classroom?

6. Do you have any further comments about the use of technology in the classroom or in general?

Based on the answers of pre-service teachers can be concluded:

1. The use of technology for teaching is very helpful, but when it's related to human resources or students, sometimes the use of technology has not really helped the student's learning process because sometimes the use of smartphones or other devices actually becomes a distraction for students to learn. Thus making most students is not ready for technology-based learning.
2. I think, the use of technology in classroom should be encouraged because it gives students opportunity to do collaboration and also expand their creativity in doing tasks from teachers. In addition, from my experience, various learning media from technology, such as PPT, can increase students' enthusiasm to learn because of the design that is offered.
3. The condition when I taught during this PLP was quite good because the facilities and all learning media could be met to support students and teachers in carrying out the teaching and learning process, but there were a few problems that the teachers ignored, especially the teachers who were old enough because they were less proficient in using technology so that it slightly hinders the process of using technology in the classroom. Apart from that problem I think everything is fine, both for the students and the teachers
4. The use of technology during learning makes students more challenged and interested in

participating in learning. This is because the use of technology is something new, especially during a pandemic like today. However, by using the technology, the students become more attentive to the technology, so they can compete in the future. In addition, with technology students are able to work together with other students easily and fun.

5. The teaching conditions in using technology during PLP, many students were enthusiastic, active and also they seemed to enjoy during the learning process. So, technology is very useful to increase students' interest in learning.

Class observation is conducted to evaluate how the teaching and learning process in applying technological devices. the Technological Integrated Matrix (TIM) by Florida Center for Instructional Technology is used as a framework for analyzing the data. There are five levels of technology integration: entry, adoption, adaptation, infusion, transformation.

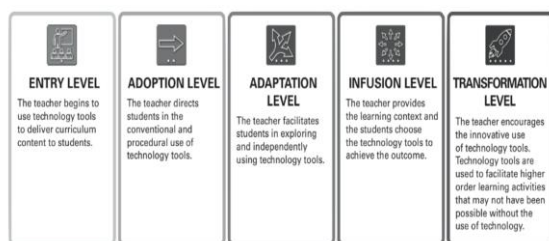


Figure 3. Five Levels of Technology Integration

The data is recorded based on the dominant characteristic of the level of technology integration appeared. It is showed by the chart below.

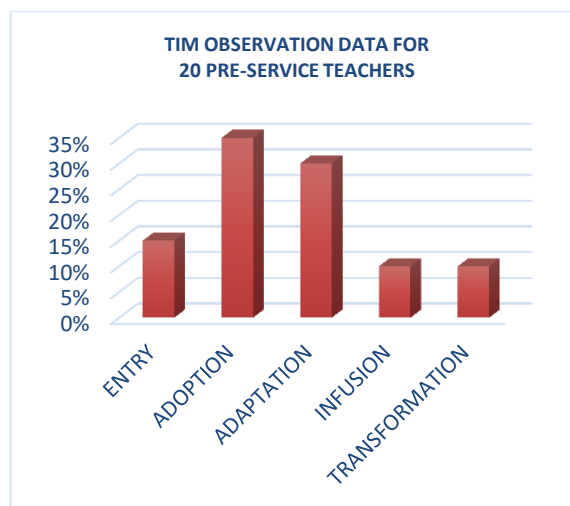


Figure 4. Tim Observation Data for 20 Pre-Service Teachers

The result of the chart identified that 35% pre-services teacher had done activities in technology integration as adoption level. While 30% pre-services teacher had done activities in technology integration as adaptation level. Then, 15% pre-service teachers are in Entry level, Last, 10% pre-service teachers are in Infusion and 10% in transformation level.

Despite the challenges mentioned above, the advantages of online teaching practice helped the pre-service teachers achieve the program's main objective. According to them, the program's overall activities have let them obtain much information about the concept of teaching and professional teachers. Besides, the practice also offered valuable teaching experience to shape a positive mindset and attitude towards teaching.

Furthermore, the pre-service teachers said that teaching practice program during pandemic has also provided opportunities to be familiar with technology in education. As can be inferred from the findings, they were compelled to use more than one teaching application. Even though they were quite familiar with technology, they did not have the know-how of educational technology or to utilize technology to educate or teach. Hence, the pre-service teachers also learned how to use and

select appropriate teaching applications through having online teaching practice.

Conclusions and Suggestion

The analyses have revealed that pre-service teachers' perceptions towards the teaching practice program conducted in Covid-19 pandemic derived from their six months teaching practice experience are various. The study found that the teaching practice during pandemic offered numerous challenging situations and benefits. However, the challenging situations such as technical problems, classroom management difficulty, or the inability to use English (for they were assigned to be English teachers) were mere obstacles that they could finally handle. Eventually, those problems became the best teachers, which provided them with more comprehensive experience. Through experiencing teaching practice online, they realized that teachers indeed have to keep learning and updated to tailor up with all situations so that the activities of teaching itself can still be conducted well.

Last but not least, this study allows other researchers to find out deeper information related to the online implementation of teaching practice programs due to the Covid-19 outbreak. The researchers could also use the results as a reference to conduct similar studies or elaborate the cases to discover brand-new phenomena relevant to online teaching practice. Finally, since this study was conducted to English Education Department students, the researcher believes that the results are useful to offer new insights to the officials of the Education

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