Pre-Service English Teacher's Perception and Understanding Toward TPACK Framework During Microteaching Course

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Abstract

TPACK become a euphoria in Indonesia. The aim of this study was to investigate the pre-service teachers' perceptions and understanding of technological pedagogical content and knowledge during their microteaching class in EFL context. This study was framed within the descriptive qualitative design. The study employed a TPACK questionnaire and an interview guide. The study was distributed to 100 pre-service English teachers at English Language Education. The data were collected through online survey and were analysed using descriptive analysis. The result shows pre-service teachers have very positive perceptions towards TPACK. It was found that the pre-service teachers also already have a good knowledge in implementing TPACK. However, there are some aspects, like class room management that need to be improved.

Keywords: Pre-service Teachers, Perception, TPACK

Introduction

Now the world was entering a revolutionary Industry 4.0 and continues with 5.0. In this era, where all current learning concepts have been replaced by previous concepts. The use of technology in the teaching and learning process has become popular in this 21st-century learning .Rapid technological development becomes an issue for a teacher or English Foreign Language teacher. Corkett and Benevides (2015) said teachers use technology for various purposes, such as increasing students' interest and learning effectiveness. Moreover, EFL contexts such as Indonesian, where English is taught as a foreign language, must implement technology to enhance students' language ability. Therefore, to include technology in EFL learning is very necessary (Tercanlioglu,2016).To become a proficient teacher, the pre-service teacher needs to improve the ability to choose content as teaching materials, know how to deliver materials, and have good teaching and managerial strategies (Sheridan and Corporation, 2011). Accordingly, there are some points needed by EFL pre-service teachers besides pedagogy that they are must be well qualified in language skills, culture and literature, language and linguistics, and psychology. Despite those conditions, EFL pre-service teachers found some challenges and weaknesses when associated with teaching practicum in the real situation. Karataş and Karaman (2013) classifies several challenges that are often faced by EFL pre-service teachers are lesson planning, lesson delivery, classroom management, and identity

development. It happens based on the different situations and class conditions they find in real life.

The introduction of technology in the educational process is very important. The interaction of technology, pedagogy and teacher content can be described using the TPACK conceptual framework. TPACK (Technological Pedagogical and Content Knowledge) is a conceptual framework that combines technological knowledge, pedagogy, content, and the interaction initiated by Misrha and Koehler (2006).TPACK extends the PCK (Pedagogical and Content Knowledge) conceptual framework created by Shulman (1986). Pedagogical knowledge is in-depth knowledge of the process and methods of teaching and learning activities, and content knowledge is knowledge of the actual subjects studied or taught (Koehler & Mishra,2013). Ayinde (2021) said that the use of TPACK to help teachers enhance classroom management is highly proven. The integration of technological, pedagogical and content knowledge in the classroom gives the students an opportunity to learn and understand the material more accessible. According to Manik and Shareef (2014) by using TPACK Makes teaching learning process more efficient, effective, and engaging its mean TPACK make learning run effective Kafyulilo (2010) also stated TPACK can help teachers in plan professional development opportunities and create technology and also lesson plans

Because the importance of the role of TPACK, there is a need for an analysis of the how the pre-service English teachers view's and understanding TPACK. As a first step, researchers conducted preliminary studies to gain preliminary knowledge and information by asking some questions to prospective English teachers who already took microteaching courses. As a result of the interview, they said already have knowledge in pedagogy, content and technology seeing by their good scores. All students already know about 21st century learning, only a small percentage knows TPACK. However, it has not fully understood and most have never even heard and known TPACK. There have been many studies by experts proving the use of the TPACK framework. There have been many studies by experts in proving the use of TPACK framework. However, most studies did not mainly focus on EFL pre-service teachers' view on TPACK. There still rare research about TPACK in language teaching context most were in the field of science and mathematics. According to the researcher's review in terms of Indonesian context, most of the studies focused on teachers' view on TPACK. Considering the previous issues, TPACK is necessary skill to be mastered by English teachers in order to be able to integrate technology in classroom. As prospective English teacher, during study process, micro teaching is the first step to be taken in order to learn the teaching and learning process. Therefore, this study aimed at investigating EFL teachers' perception and understanding towards TPACK in microteaching course.

Research Method

This study was conducted at English Language Education Department Buleleng, Bali.The subjects of this study were 100 English Language Education students in 6th semester. The research design of this research was descriptive quantitative , where the researcher conducted It is because the researcher collected the data at one point in time (Creswell, 2014).The aim of this study was to find the data about the pre-service English teacher perception and understanding of TPACK at their teaching microteaching course. The data was obtained by using questionnaire and also interview. The questionnaire was adapted from Mishra and

Koehler (2010). There are seven dimensions that use to measure Technological Pedagogical and Content Knowledge (TPACK) framework. Those factors created seven dimensions consisted of technological Knowledge (TK), pedagogical knowledge (PK), content knowledge (CK), pedagogical content knowledge (PCK), technological pedagogical knowledge (TPK), and technological content knowledge (TCK), technological pedagogical content knowledge (TPACK). This survey was conducted to find quantitative data: pre-service English teachers' perceptions toward Technological Pedagogical and Content Knowledge (TPACK) framework in EFL context. Those factors created seven dimensions: technological pedagogical content knowledge (TPACK). The questionnaire is closed-ended. It was designed using five scales. The second instrument was an interview consisting of seven questions adopted from the questionnaire.

Findings and Discussions

The replies of the 155 pre-service English teachers at the English Language Education Department in Buleleng, Bali, were varied. The questionnaire had seven dimensions: technological knowledge, content knowledge, pedagogical knowledge, pedagogical content knowledge, technological content knowledge, technological pedagogical knowledge, and technological pedagogical content knowledge. According to the results, scale number 5 (high competency) was the most frequently picked scale by the respondents, despite the fact that the percentage number of each dimension varied. The result is presented in Table 1.

Table 1. Response from Questionnaire

Dimension	Mean Score
TK	4.60
CK	4.50
PK	4.11
PC	4.33
TCK	4.55
TPK	4.46
TPCK	4.60

The first dimension, Technological Knowledge, has six things. The mean score was 4.60, indicating a high categorization and a good assessment. Pre-service English instructors had a positive perception of technology competence, according to their responses. Pre-service teachers agreed that English teachers should have specialized knowledge such as trying several new technologies, knowing many different technologies, and having the technical skills to use technology. This knowledge could help them to teach the student with the technology. In other words, pre-service teachers were already aware of and capable of employing it. According to the interview, practically all pre-service English teachers use technology in their microteaching course.

 "I usually used Power Point and LCD in my teaching and learning practice (R1)"

"The technologies that I used are PPT and also video".(R2)

"The media that I used were the same, I used PPT, audio and also video on YouTube"(R3)

"In my opinion, in this era of globalization, technology is involved in every activity. It means that technology must be understood by teachers because like it or not, teachers have to use technology later" (R5)

By seeing that the pre-service teachers' responses are based on empirical research, these findings are consistent with Turgut (2017) study, which claimed that the use of technology in the teaching and learning process is critical. The teacher has a lot of information, and employing technology makes it easier for them to communicate the subject. And also teachers can use technology in productive ways and help to support student learning. It means technology has positive impact for teacher and student

Content knowledge was second dimension of this study consists of three items. The mean score was 4.50. They have a high categorization, show a high perception The pre-service teachers' answer was pre-service teachers agree English teachers should have content knowledge such as having sufficient knowledge about English. This knowledge could help them to master the basic structure of English. Based on the interview pre-service English teacher stated it's very important to future English teachers mastering the Basic English content such as knowledge about grammar, vocabulary and standard those are involved in language teaching.

"I think as future English teacher I should have these basics knowledge before he decides to teach."(R1)

"I think the as future teacher I should understand basic English. Moreover, vocabulary is the basic capital for teaching English, pronunciation is also very important in English, different pronunciations will have different meanings, moreover, grammar may not be emphasized when speaking, but when writing grammar it will be very important." (R3)

"Of course it must be, because the teacher is one of the sources of knowledge that is   trusted by students. It is very important for teachers to have knowledge in their fields so that there is no misunderstanding of the theory or the meaning of the lesson itself" (R4)

The findings of the interviews were validated by a research done by smith (2009) who discovered that instructors' content expertise had a favourable link with student learning. It suggests that the teacher's topic expertise influenced the pupils' comprehension. Olfos, Goldrine, & Estrella (2014) discovered that teacher topic expertise had a substantial impact on student learning and accomplishment. That is, the teacher's topic expertise will have an effect on the students' performance in class.

The third and fourth dimension was Pedagogical knowledge and Pedagogical Content knowledge which consists of seven items. The mean score was 4.11 and 4.33 which are in high categorization which mean it shows to positive perception. The response of the pre-service teachers was all of pre service English teachers totally agree that an English teacher should have and mastering pedagogical knowledge that related to organizing and maintaining classroom management, choosing suitable approaches, make lesson plan and also suitable activities Based on the interview pre-service English teachers said they often get some difficulty during the

microteaching class. Sometimes they have difficulty in making lesson plans, choosing strategies, classroom management and choosing suitable activities in classroom

"Honesty I usually get some difficulty in my microteaching class one of them was choosing strategies and also making the lesson plan (R1)"

"Managing a class is one of the skills that teachers should have. If teachers can manage class well, the learning will run well too but for sure I still get some obstacles in managing class especially in managing time (R2)"

"I the lesson plan it becomes easier for me to carry out any activities that will be carried out in class" (R5)"

The findings of the interviews were consistent with the empirical study by Valtonen and Sointu (2020), who said that pedagogical knowledge played the most critical function and held the most important position in teaching and learning. PCK also provided thorough opinions on pre-service teachers' preparedness to educate kids. According to Guerriero (2013) study, teachers should be able to cover effectively pedagogical subject knowledge since it incorporates the teaching and learning process as well as building an effective teaching and learning environment. In other words, it is the manner in which a teacher's knowledge is translated into action in the classroom.

Technological Content Knowledge was fifth dimension of this study consists of five items. The mean score was 4.55 which are in high categorization which mean it shows to positive perception. The response of the pre-service teachers was agreed as prospective teachers they should have technological content knowledge such as being able to use appropriate technology to represent the essential knowledge content of an English lesson and choose the appropriate technology to represent the structure of the English lesson. Based on the interview, the respondents stated that in their microteaching class they should able to choose the right technology to present the material that would be taught.

"Usually I use technology or media that I already familiar with that technology so I can make it easier to represent the content of learning. (R3)"

"Usually I choose the appropriate technology or media with the learning material (R4)"

"By chose the right media that accordance with the learning objectives.(R5)"

It was supported by the study conducted Wijaya et al.,(2022) who found that using the suitable technology in learning is very relevant to the students and teachers provides a connection that will greatly affect the student learning. Baytak (2011) also gave the opinion that the use of technology in English learning has greatly changed the technique of English teaching to be easier. Technology provides so many choices to make teaching become more interesting and makes learning be more productive in improving students' ability to use English. It means that technology has a positive effect on content knowledge.

Technological Pedagogical knowledge was the sixth dimension of this study consists of five items. The mean score was 4.46 which are in high categorization which mean it shows to positive perception. The response of the pre-service teachers was pre-service teachers agreed English teachers should have technological pedagogical knowledge such as being able to select technologies used in classroom in order to enhance the quality of teachers' material, learning outcome, and strategies used that combine content, technologies, and teaching approaches in the classroom. Based on the interview, pre-service English teachers already had good understanding of using technological pedagogical knowledge.

"Yes, of course, but I personally still can not to do that, it's very difficult to make student be active.(R1)"

"Of course the answer is yes , but I still unable to do that (R2)"

"Yes, of course, usually I use media technology that can make students interested and also I usually give reward to students who were already active in my lesson (R3)"

It was supported by the study conducted by Jayanthi and Kumar (2016) that stated the use of best strategy on technology could help the passive or the quiet students to be more active and brave. Moreover it also helped the teachers to increase the students' motivation and achievement. However, the technology used must be in accordance with the learning objectives. Ghavifekr et al (2016) It was also proposed that the traditional teaching style may be replaced with a technology teaching approach by selecting the best methodology for incorporating technology into the teaching process.

Technological Pedagogical Content knowledge was the seventh dimension of this study consists of five items. The mean score was 4.60 which are in very high categorization which mean it shows to very positive perception. The response of the pre-service teachers was pre-service teacher agreed English teachers should have technological pedagogical content knowledge such as should be able to teach English by combining English, technologies, and teaching approaches and integrating appropriate instructional methods and technologies into English studies. Based on the interview, all pre-service teachers said that they usually use technology that combine with pedagogical and also content knowledge

"I usually use technology during my microteaching course especially in this pandemic everything only can be connected via technology. (R1)"

"I usually use technology starting from making lesson plans, finding out the material and explaining materials especially in this pandemic situation (R2)"

It was validated by a research by Tiffany, who discovered that using the TPACK framework in the learning process made teachers feel significantly more helpful by merging material content with teaching style. This study was additionally bolstered by the findings of Siddiq and Baran (2017), who discovered a favourable relationship between TPACK and other individual ICT-related traits. Pre-service teachers with excellent TPACK, attitudes, and self-efficacy ratings also reported high levels of support from their teacher training institution.

The study's findings can be utilized to motivate pre-service English teachers to carry out the teaching and learning process. This study can also be used as a reference or a guideline to assist pre-service English teachers and English teachers in not only integrating technology into the teaching and learning process, but also understanding how and what they teach in the teaching and learning process, particularly in this pandemic situation. As future instructors, pre-service English teachers are also required to be capable of incorporating technology into the teaching and learning process in order to improve the quality of the teaching and learning instruction process since the curriculum requires it.

Conclusion and Suggestion

Based on the findings and discussion, in this study the researcher discusses about how the pre-service English teacher's perceptions and understanding TPACK framework during their Microteaching course. As the conclusion of the study, the researcher found that the participants have implemented the TPACK framework during their Microteaching course. The components of that knowledge are seven dimension of TPACK. It was indicated by the high qualification of the mean score, which practically all classed in high scale, indicating that the instructors' assessment was highly positive. Whereas the similarities between this study and previous studies are that pre-service teachers agree and have a positive perception of the use of the TPACK framework in the learning process, and pre-service teachers agree that the use of technology in the learning process is important and provides many benefits to them.

This result suggests this study can be supporting evidence to be considered in implementing TPACK in the course program, which can improve the knowledge and awareness of pre-service English teachers in latter they can conduct the lesson in more confident and with good understanding applying their expertise in the world of education. As future teachers pre-service teachers needs to have TPACK skills in the teaching and learning process later. The pre-service teacher should acquire TPACK skills to explain the use of technology in a learning process that is appropriate and in line with the learning content. Implementing technology in the teaching and learning process will create an interesting situation.

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