THE CHALLENGES FACED BY EFL PROSPECTIVE TEACHERS DURING TPACK DEVELOPMENT

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Abstract: The high level of Technological Content Knowledge (TCK) among prospective student teachers in their TPACK profile has significant implications. This indicates that these students possessed a strong understanding of how to effectively integrate technology into their teaching practices, specifically in relation to the content they were teaching. This proficiency in TCK enables them to utilize technological tools and resources in a purposeful and pedagogically sound manner, enhancing the overall quality of instruction in the classroom. As a result, these prospective teachers are better equipped to meet the demands of the digital age and provide meaningful and engaging learning experiences for their future students. However, it is important for them to continue developing their pedagogical and content knowledge along with their technological skills to ensure a comprehensive and well-rounded TPACK profile.

Key Words: Online learning, Media, TPACK, Challenge in Teaching

INTRODUCTION

Teachers play an important role in education in the twenty-first century, often known as the digital era. Teachers' challenges in the digital era are becoming more difficult and complex as time passes. Every instructor must be able to respond to changing times by constantly updating material. To be more specific, in this all-digital world, every

instructor must be able to adapt by adjusting learning techniques to meet the times and needs of students. The digital era has altered the world's perceptions of politics, economy, and social issues, including education. The digital era is heavily influencing the growth of the world of education, particularly in the field of education. As a result, teachers, as one of the education stakeholders, play a critical role in the learning process in the digital era.

To effectively integrate ICT, teachers must understand about technology, content, pedagogy, and the interrelationship of these areas (Nordin et al., 2013). As a result, the TPACK (Technological Pedagogical and Content Knowledge) model provides an important theoretical foundation for this research. TPACK refers to the incorporation of ICT into instruction. According to (Koehler et al., 2013), TPACK is a type of emergent knowledge that includes all three "core" components (content, pedagogy, and technology). These three components categoried into several and summarized such as Technological Knowledge (TK), Content Knowledge (CK), Pedagogical Knowledge (PK), Pedagogical Content Knowledge (PCK), Technological Pedagogical Knowledge (TPK), and Technological Pedagogical Content Knowledge (TPACK).

LITERATURE REVIEW

TPACK Framework

The TPACK framework expands on Shulman (1986,1987) PCK descriptions to describe how teachers' understanding of educational technologies and PCK interact with one another to produce effective

technology-assisted teaching. Afterward, Mishra and Koehler created a framework that includes technology integration. The model created by Mishra and Koehler is a development of the model or framework introduced by Shulman in 1986 called PCK (pedagogical content knowledge). The reason behind the development of this new framework is the fact that "new technologies have changed the classroom situation or have the potential to change it". From Mishra and Koehler's point of view, technology provides space for explanations, representations, analogies, and demonstrations that make the subject matter easier to understand for students but at the same time, they argue that technology is different from content and content description. They identify and define each component and then analyze content, pedagogy, and technology in pairs to understand the intersections between them. Thompson (2007) changed TPCK into TPACK. The new name, TPACK, doesn't just mean adding a vowel "A" to make it easier to pronounce. Its deeper implication is to emphasize the necessity of three kinds of knowledge, content knowledge, pedagogical knowledge and technology knowledge, to form a whole through interaction.

TPACK, Technological Pedagogical and Content Knowledge, is a framework to provide educators' views and knowledge in designing lesson plans so that a meaningful and meaningful change process occurs by teachers for students. Technology is the knowledge that educators need to have as a provision to teach students so that students can interpret the learning process more easily and better and of course in accordance with the times. TPACK or TPCK is a framework that describes teachers' understanding of the interrelated interactions between technology, content, and pedagogy (Koehler et al., 2004).
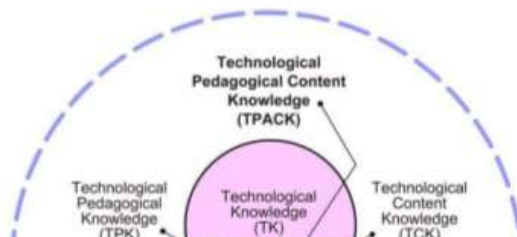
TPACK or TPCK is a framework that describes teachers' understanding of the interrelated interactions between technology, content, and pedagogy (Koehler et al., 2004).

According to the TPACK model that can be seen obviously in figure 2.1, there are three main components of teachers' knowledge: 1) Content, 2) Pedagogy, and 3) Technology. Equally important to the model are the interactions among these bodies of knowledge, represented as PCK (Pedagogical Content Knowledge, TCK (Technological Content Knowledge), TPK (Technological Pedagogical Knowledge), and TPACK (Technological Pedagogical Content Knowledge).

Technological Pedagogical Content Knowledge (TPACK)

TPACK is a form of emergent knowledge that encompasses all three "core" components (content, pedagogy, and technology). Knowledge of technological pedagogical content develops from interactions between content, pedagogy, and technology knowledge. TPACK, which underpins really meaningful and deeply skilled teaching using technology, is distinct from the understanding of any of the three ideas separately. TPACK, on the other hand, is the foundation of effective teaching with technology, requiring an understanding of the representation of concepts using technologies; pedagogical techniques that use technologies in constructive ways to teach content; knowledge of what makes concepts difficult or easy to learn, and how technology can help redress some of the problems that students face; knowledge of students' prior knowledge and theories of epistemology; and knowledge of how technologies can be used to help redress some of the problems that students face (Koehler et al., 2013). The figure and explanation above are a representation of the elements of T (technology), (Pedagogy) and C (content) which together produce a knowledge construct of technology content. It is useful to provide a reference for how the three elements are related and mutually support each other. In other words, the above is a description and explanation of how a subject matter is transformed by the application of technology. T and P together describe the pedagogical knowledge of technology, or knowledge of how technology can support pedagogical goals. the existence of knowledge and introduction of technology in a learning process creates new concepts and requires the development of dynamic transactional relationships between the three components suggested by the TPACK or TPCK framework.

Within this framework, many studies argue that teachers should be educated to integrate knowledge of technology, pedagogy,

and content in teacher preparation programs (Association for Computers in Mathematics and Science Teaching (U.S.) et al., 2010; Niess, 2005). However, we are not aware of any research that particularly focuses on how to educate prospective teacher teachers to construct integrative knowledge for technology integration. More importantly, they (and practising teachers) need to be able to use this professional knowledge to design learning activities, or put into place relevant instructional practices, for the specific children they teach (Oakley, 2011).

Research Method

The purpose of this research is to figure out the how are EFL prospective teachers' TPACK in the new normal era, how do EFL prospective teachers develop their TPACK, and the challenges do the EFL prospective teachers experience during their TPACK development so that the researcher decides to apply qualitative research. Thus, for this purpose, a qualitative research is chosen as the research method used in this research.

Result and Discussion

The Challenges faced by EFL Prospective teachers during TPACK development

The Challenges faced by High Level EFL Prospective Teacher

The challenges faced by EFL prospective teachers at the high level include: technical issue, mastery of the digital learning platform employed, and identification of pedagogical issues.

a.   Technical issue

Technical issues are a fundamental and frequently encountered factor in TPACK development (Farhadi & Öztürk, 2023; Gayyur, 2021; Juwandani et al., 2022; Lye, 2013; Sari et al., 2021; Syamdianita & Cahyono, 2021; Taopan, 2020). Several variations share commonalities, particularly technical issues, which are frequently mentioned in research. These issues primarily revolve around network-related challenges, followed by hardware problems, such as microphone malfunctions, sound quality issues, and unsupported digital learning platforms on the device. Each interviewee described the impact of these issues.

> … and if have a bad signal, I will not be able to access those question (interviewee 1)

> I can say that the issue of internet is the biggest one (interviewee 1)

> If the issue is related to a network or Internet connection, we are unable to ask questions in real time. However, we can only anticipate and address this problem. Usually, students provide feedback or report on an issue (interviewee 2)

The challenges mentioned above regarding difficulties in operating the digital learning platform and connection issues are related to problems with using the platform, both internally and externally. Prospective English language teachers often face several technical issues that can hinder the effective development of TPACK. One primary problem is the limitation of echnological skills. Many students may not have a deep understanding of the software, applications, or technological tools that can be used in English language instruction.

According to research by Koehler and Mishra (2008), it is important for prospective teachers to develop adequate technological skills, including the use of relevant technological tools and their integration with appropriate English language teaching methods and content. Additionally, prospective teacher students often encounter difficulties in selecting and identifying the appropriate technologies to use in instruction. There is a wide range of software, applications, and technological resources available, and students must be able to choose those that align with their needs of their students. Selecting an appropriate technology is a critical step in the effective development of TPACK. Prospective teachers need to conduct thorough research, read technology reviews, and test various resources to ensure their suitability and effectiveness in the context of English language instruction.

Furthermore, the limitations of technological accessibility are a common issue. Not all students have equal access to the necessary hardware, software, or internet connectivity to integrate technology into English language instruction. According to Ertmer et al. (2012), technological accessibility is an important factor to consider in the development of the TPACK. Prospective teachers need to identify available technological resources and seek alternative solutions, such as using offline software or leveraging technology facilities available on campus or in libraries.

b. Mastery of the digital learning platform employed

Next is the mastery of learning platforms is one of the main challenges frequently encountered by English language teacher

candidates in developing TPACK. Students often face difficulties in operating various digital learning platforms used in the teaching process, such as Learning Management Systems (LMS) or virtual learning applications. They need to acquire proficiency in various features and functions of these platforms, including material uploading, online interactions with students, and assessment implementation. As stated by Syamdianita & Cahyono (2021), one of the respondents in his research faced difficulties in optimizing the digital learning platform to support the success of their teaching and learning processes. Meanwhile, in a research conducted by Taopan (2020), one of his respondents only used simple technology to capture students' attention or provide motivation, without fully optimizing technology for instructional material delivery.

2. The Challenges faced by Average Level EFL Prospective Teacher

Pedagogy is also a crucial issue and a significant challenge faced by prospective EFL teachers in developing the TPACK from respondents in average level but also mentioned by respondents at high level. The pedagogical problem frequently encountered by English language teacher candidates in developing TPACK is the difficulty of designing and implementing effective teaching strategies. Students often face challenges in integrating their knowledge of the English language content, technological understanding, and pedagogical principles into cohesive and effective teaching practices. As mentioned by Interviewee 4 in this research during the interview conducted with the researchers.

> From a pedagogical perspective, the process of teaching involves receiving and processing information. If there is a

disconnect between these two aspects, it can make the teaching process significantly challenging. (Interviewee 4)

A research conducted by Mishra & Koehler (2006) revealed that candidate teachers often struggle to identify the best ways to use technology in English language instruction. They must consider learning objectives, student characteristics, and instructional contexts when selecting and implementing appropriate technology. Additionally, they need to develop creative and innovative teaching strategies that integrate the use of technology with effective instructional practices. This is also supported by several studies, one of which is Farhadi & Öztürk (2023) who stated that prospective teacher considered to be digital natives, the participants were expected to have more pedagogy and content-based problems rather than technology-related concerns. As well as Sari et al. (2021) also said that, prospective teacher still had some difficulties applying TPACK in designing lessons in innovative ways. In research conducted by Shahid & Abiodullah, 2022; Stoilescu (2014), about challenges faced by B.Ed. (Hons.) elementary prospective teachers for TPACK implementation in practicing teaching during the COVID-19 pandemic stated in more detail that some common challenges were; 1) Preparation of technology integrated lesson plan, 2) Execution of technology integrated lesson plan, 3) Practice teaching and TPACK implementation, 4) Classroom instructions with technology integration, and 5) Teaching – learning process for both teachers and students.

To address this issue, English language teacher candidates must expand their understanding of effective pedagogy in technology-enhanced language teaching. They can participate in courses or training programs that focus on integrating technology in language instruction, reading relevant literature, and collaborating with instructors and peers to discuss ideas and experiences in technology-based teaching. Through reflection and experimentation in teaching, students can

develop a solid pedagogical foundation that integrates their technological understanding to achieve strong TPACK.

3. The Challenges faced by Low Level EFL Prospective Teacher

a. The lack of technological facilities

Finally, EFL prospective teachers who are at a low level face several challenges. The lack or scarcity of technological support tools and limited knowledge of technology are among the challenges that they encounter. Several researchers also share the opinion that the lack of technological facilities significantly impacts the development of TPACK, as students, prospective teachers, and teachers all have a similar understanding of this matter (Farhadi & Öztürk, 2023; Gayyur, 2021; Lye, 2013; Sari et al., 2021; Taopan, 2020). Especially for prospective teachers, in this current era where they are alreadylabeled as tech-savvy or tech natives, however, there are still many or very often encountered problems like this. Lack of technological facilities can hinder students' ability to develop their TPACK skills. Students may have insufficient access to computers, the Internet, or necessary instructional software. This can limit their opportunities to explore and utilize various technological tools and resources for English language instruction.

b. The lack of technological knowledge

In today's era, where technology is ubiquitous and readily available, almost every aspect of worldly life can utilize it. People's daily lives are intertwined with technology, and they are considered indispensable. However, it is still common for individuals to lack proficiency in technology, particularly in their respective fields. In relation to this research, such individuals undoubtedly refer to prospective teachers. Insufficient knowledge of technology in developing TPACK poses a significant challenge that needs to be underscored. The interviewee also mentioned that one of the obstacles or

limitations in technology adoption is the lack of knowledge among the instructors or lecturers themselves.

> Several applications are used by my lecturer, but it can be said that they are few, and he rarely incorporates technology. Instead, he primarily focuses on explanations. (Interviewee 5)

Supported by Fahrurozi et al. (2019) in their research on the issues and challenges in integrating Technological Pedagogical and Content Knowledge (TPACK) for Professional Teacher Development in the 21st century, it is stated that the respondents in the research require profound knowledge of IT due to the importance of technology knowledge. Taopan (2020) also asserts that IT literacy itself impacts the implementation of the TPACK framework in Teaching English, as the focus of the TPACK framework is on integrating technology with pedagogy and content knowledge. These statements underscore the significance of technology knowledge, particularly for prospective teachers, in developing TPACK.

Conclusion

EFL prospective teachers face significant challenges in developing TPACK. These challenges include technical issue and mastery of the digital learning platform employed from the high level, pedagogical issue from the average level, lack of facilities and knowledge of technology from the low level. However, it is reasonable to assume that the challenges faced by respondents at one level may also be encountered at other levels. Each respondent level may encounter similar challenges in developing TPACK, although the specific manifestations and intensities of these challenges may vary. The nature of these challenges remains consistent across levels, reflecting the

underlying complexities of integrating technology, pedagogy, and content knowledge.

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