Exploring TPACK Barriers of EFL Junior High School Pre-service Teachers: Narrative Inquiry

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Abstract. Technology, content, and pedagogy must have a meaningful relationship with each other so that Pre-service English Teachers' literacy can be connected to a variety of semiotic modes beyond written language. Interaction with a greater variety of texts in a variety of modes, media, and environments highlights the need for tools to assess English language instructors' TPACK when it comes to educating students in multimodal literacy. Several pre-service English teachers in EFL classes utilize the use of word wall media for learning. This research aims to identify the obstacles faced by pre-service teachers in utilizing TPACK to teach EFL English at a private university in East Java, Indonesia. By adapting the interview framework (Creswell, 2018), which consists of four discussion targets, including pre-service teachers' beliefs regarding the practice of using TPACK, which is applied in learning activities in junior high schools. This narrative qualitative method (Clandinin & Connelly, 2000) uses semi-structured interviews as its instrument. Systematically using Widodo's (2014) thematic analysis to analyze qualitative data. The findings show that there are many obstacles faced by pre-service teachers and students in implementing learning using TPACK in EFL classes, to be effective for their future teachers, pre-service skills.

INTRODUCTION

In today's digital era, technology has become an integral part of our daily lives, and its impact on education cannot be ignored. EFL education faces unique challenges, such as fostering language acquisition, improving communication skills, and creating authentic language experiences for students (Phipps & Borg, 2009). The integration of technology in

EFL classrooms has the potential to enhance language learning outcomes. Technology tools, such as interactive language learning apps, online resources, and multimedia materials, can provide authentic language input, foster learner autonomy, and create opportunities for collaborative learning (Poitras, 2020). In addition, technology has a strong magnet that attracts students to focus on learning in class and also plays an important role in motivating students to improve their language of communication for EFL learning. In using media applications, EFL pre-service teachers should use methods of applying the principles of media activities, assignments, and applications to distinguish (1) the capabilities and limitations of the media device and (2) the capabilities and limitations of the environment in which the device will be used given the learning target (Reinders & Hubbard, 2013).

Technology-Pedagogical Content Knowledge (TPACK) is a framework that integrates technology, pedagogy, and content knowledge in educational settings. It specifically focuses on the effective use of technology to enhance teaching and learning experiences. According to Tai (2021), the more teachers are involved in the design and delivery of fewer lessons and more technology in the classroom, the more teacher knowledge that supports this thought process can be attributed to Technology Pedagogical Known Content Knowledge (TPACK). According to Mishra & KoehKoehler (2013), evolution is the integration of technical knowledge (TK), pedagogical knowledge (PK), and content knowledge (CK) by teachers to provide technical and integrated instruction (Taopan, 2021). In the context of English Foreign Language (EFL) education. TPACK plays a crucial role in equipping pre-service teachers with the necessary skills and knowledge to integrate technology into their instruction effectively.

TPACK provides a framework for EFL pre-service teachers to navigate these challenges by incorporating technology effectively. By combining their pedagogical knowledge, content knowledge, and technological expertise, pre-service teachers can create meaningful learning experiences that engage and motivate students in the language learning process. TPACK empowers EFL pre-service teachers to select, adapt, and integrate appropriate technology tools into their lessons, aligning them with specific learning objectives and student needs (Mishra, 2009). By doing so, pre-service teachers can create a learner-centered environment that promotes active engagement, critical thinking, and creativity, leading to improved language proficiency and communicative competence.

Despite the potential benefits, several barriers exist to the implementation of TPACK in EFL education, particularly among junior high school pre-service teachers. However, technological-apedagogical content (ACK) among pre-service teachers often lacks a comprehensive exploration of the specific challenges faced by lower secondary English as a Foreign Language (EFL) pre-service teachers in utilizing TPACK for English language teaching. Although there is a large body of literature regarding TPACK barriers in general education, there is a large gap in research aimed at understanding the unique barriers faced by specific groups of educators. Pre-service EFL teachers may face different linguistic, cultural, and pedagogical challenges when integrating technology into their English language teaching practices. Several students have found that they still feel unprepared for technology integration and find it difficult to use technological media in the classroom. This article focuses on the perspectives of experienced teachers, with limited attention to in-service teachers who are still in the process of developing their teaching skills. (Poitras,

2020). Addressing these barriers is essential to ensuring the successful integration of TPACK in EFL classrooms. By identifying and understanding these challenges, appropriate strategies and support systems can be put in place to empower pre-service teachers to utilize ACK effectively and transform teaching practices for the digital era. Teaching English in schools is essential academically and practically in several aspects of learning, such as using English for various purposes, communication, or literature reading. One of the expectations in English learning is understanding the meaning of the words, sentences, and text and Good vocabulary development can reach it (Jannah, 2022).

In this case, the technology strategy carried out by the preservice teachers in learning uses the technology medium of the Wordwall web site. The preservice teacher combines technology media with the learning method applied by the preservice teacher in class, which is game-based learning, interaction with their classmates and teachers, and how they deal with their life's aspects. Related to Wordwall.net, which is categorized as an online game, Çil (2021), it is stated that Wordwall.net is an entertainment site in which there are multiple game choices (Jannah, 2022). E-based learning methods are integrated into technology, and the collaboration of learning methods and technology can improve reading and vocabulary skills using preposition and place material listed in books that have been approved by the curriculum.

Despite the increasing integration of technology in education, there remains a significant research gap in Indonesia regarding the exploration of technological, pedagogical, content, and knowledge (TPACK) barriers faced by pre-service teachers in integrating technology effectively in their EFL classrooms, specifically within the context of English as a Foreign Language (EFL) education at the junior high school level. While studies on TPACK have been conducted in other educational contexts and subject areas, as pre-service teachers, they develop and express new technologies (TPACK) in EFL classrooms (Mardiana, 2020). Consequently, this study focuses on exploring the TPACK barriers experienced by EFL junior high school pre-service teachers in Indonesia, which warrants providing valuable insights and influencing the development of effective training programs and pedagogical strategies to enhance their technological and pedagogical competencies. The research objective of this study is to identify barriers faced by pre-service teachers in utilizing TPACK for teaching English.

METHODS

This research uses a qualitative approach (Creswell, WJ.W., 2018). A qualitative study uses the qualitative narrative-Inquiry design (Clandinin & Connelly, 2002). The subject of this research is EFL pre-service teachers from one of the universities in Jember who have been practicing real teaching for 2 months in one of the private junior high schools in Jember in the 7th grade. This research data was collected in a semi-structured interview with each participant. The interview procedure carried out via audio recording with the consent of the participant. Here, the participant share their experiences in depth to explore their feelings, perspectives, and points of view. In this study, interview data is considered the most recommended data collection method (Creswell, 2012). Data analysis which includes the process of "identifying, analyzing, and reporting patterns (themes) within data" (Braun &

Clarke, 2006), was employed to analyze the data gathered from semi-structured interviews. Previously, the three researchers documented all the participants' voices in audio recordings and transformed them into verbatim data transcription. Then, all the data was analyzed using Widodo's (2014) analytical framework to present the final result correctly.

FINDINGS

This study delves into the multifaceted challenges surrounding the integration of innovative teaching practices and technology in the contemporary educational landscape (TPACK). The exploration revolves around three prominent themes that emerged from the data collected through three EFL pre service teacher semi-structured interviews and students' focus group discussions in one of the junior high schools in Indonesia.

This study explores the issue of "Obstacle TPACK in School and investigates how EFL classrooms are equipped with the necessary skills to integrate technology effectively into their teaching practices.

Resistance to Change and Traditional Teaching Practices*.*

"In the initial week of classes, teacher observation focused on building positive student relationships by attentively listening to and understanding their needs. Positive relationships enhance student engagement and participation. Despite a desire to utilize website wordwalls for interactive learning, these tools are scarcely employed in these schools." (Quote of Interview HF#1, July 16, 2023)

In the interview, the participant highlights their initial week of classes, where the emphasis was placed on cultivating positive student relationships through active and empathetic engagement with their needs. The participant recognizes the pivotal role of positive relationships in fostering heightened student engagement and active participation within the learning process. Notably, the participant expresses a keen interest in integrating software with the Wordwall to facilitate interactive learning experiences, as also stated in a previous study (Kozikoğlu and Babacan, 2019). However, the participant laments that the utilization of these advanced tools remains limited within the context of EFL junior high schools. This shows that there is a big problem with how well pre-service teachers in these schools use Technological Pedagogical Content Knowledge (TPACK). This could stop students from learning as much as they could and make it harder to combine technology, pedagogy, and content in English language teaching.

"When I am faced with a challenging TPACK class, pre-service teachers can navigate it by innovatively incorporating wordwalls into their teaching approaches. Prioritizing a strong grasp of the subject, employing effective teaching methods, and leveraging technology to enrich student learning are key. Patience, adaptability, and openness to tailor strategies to student needs and class dynamics are vital traits for teachers in such situations." (Quote of Interview SL#2, July 20, 2023)

The interviewee's perspective underscores the significance of addressing TPACK challenges among EFL junior high school pre-service teachers. The participant recognizes the importance of creatively integrating wordwall based teaching strategies when encountering difficult TPACK classes. This approach is complemented by a commitment to mastering the subject matter and implementing effective pedagogical techniques. The

participant emphasizes the pivotal role of the wordwall in enhancing student learning experiences. Furthermore, they emphasize the essential qualities of patience, adaptability, and openness to customizing instructional strategies to suit the diverse needs and dynamics of the students and the class environment. This insight contributes to the understanding of barriers faced by pre-service teachers in effectively harnessing TPACK for teaching English, highlighting the need for a balanced blend of content, pedagogy, and technology skills to overcome such obstacles. As also it had stated in previous study (Taopan, 2021)

Limited Technology Pedagogical Content Knowledge (TPACK) in School

"Implementing TPACK in our schools posed challenges TPACK involves effectively using a word wall for teaching. Obstacles included limited technology access, a lack of teacher training, time constraints, resistance to change, and the need for gradual integration. Efforts are underway to address these by providing resources, training, and gradually introducing TPACK into the curriculum to enhance student learning." (Quote of Interview SL#2, July 20, 2023)

The interviewee's perspective sheds light on the barriers confronted by EFL junior high school pre-service teachers when trying to incorporate TPACK into English teaching. The challenges encompass a broad spectrum of limited technology access, inadequate teacher training, time limitations, resistance to change, and the need for a measured integration process. The previous study (Sari, 2021) supports this interviewee's acknowledgment of these impediments and highlights the complexity of effectively merging technology, pedagogy, and content knowledge. Moreover, the proactive measures outlined, which include the provision of resources, training initiatives, and agradual curriculum integration, underscore the ongoing efforts to mitigate these barriers and enhance the learning experiences of students through the strategic utilization of TPACK.

"We didn't understand enough to learn to use wordwalls because the teachers here weren't used to using books every day to teach; that made it difficult for us at first to use wordwalls." (Quote of Interview Students #3, 21 July 2023)

The interview participant mentions that they faced challenges in implementing TPACK in their schools. They explain that the teachers were used to using books every day to teach, which made it difficult for them to learn to use technology such as wordwalls. This highlights the lack of teacher training and support as a potential barrier to utilizing wordwalls for teaching English. The participant's experience suggests that EFL junior high school pre-service teachers may face similar challenges in utilizing TPACK for teaching English. The previous study (Kusuma, 2022) supports this, as they mention that a lack of training and support can be a barrier to implementing wordwalls effectively in the classroom. Therefore, addressing the lack of teacher training and support could be an important step in overcoming the TPACK barriers faced by EFL junior high school pre-service teachers in utilizing technology for teaching English.

Pre Service Teacher Barriers in learning process

"Faced with TPACK implementation challenges, I proactively sought online resources like blogs, forums, and social media groups for best practices. I integrated diverse technology tools, including WordWall, which l can improve reading and vocabulary skills using prepositional placement material listed in books that have been approved by the curriculum, namely the book When English Rings a Bell for 7th grade junior high school. And interactive PowerPoint games to engage students in English subjects". (Quote of Interview HF #1, July 16, 2023)

In this interview excerpt, the participant demonstrates a proactive and resourceful approach to tackling the challenges associated with integrating technology, pedagogy, and content knowledge (TPACK) into English language teaching (ELT) for junior high school students. The respondent's utilization of online resources, such as blogs, forums, and social media groups, highlights a commitment to seeking best practices and innovative ideas (Dharjati n.d., 2018). By incorporating technological tools like Wordwall to enhance reading and vocabulary skills and interactive PowerPoint games for engagement, the participant showcases a strategic alignment between technology and pedagogy. The collaboration with fellow teachers underscores the significance of shared experiences and knowledge exchange in overcoming TPACK barriers. This narrative provides valuable insights into the potential strategies that EFL junior high school pre service teachers can employ to effectively harness TPACK concepts, address the identified research problem, and contribute to the enhancement of English language education.

"Certainly, word walls aid teachers in guiding student analysis of their learning journeys. Digital tools gather progress data, offer feedback, and foster self-reflection. Sharing resources, interactive exercises, and assessments through online platforms enables students to assess their comprehension and pinpoint areas for growth. Communication tools further facilitate discussions and Q&A sessions, empowering students to seek guidance." (Quote of Interview SL #2, 20 July 2023).

The participant's experience with the findings from Dharjati n.d. (2018). which emphasize the significance of teacher training, support, and collaboration in integrating Wordwall effectively into the classroom. Therefore, promoting a culture of continuous learning, sharing, and collaboration among EFL junior high school pre-service teachers could be instrumental in overcoming TPACK barriers and enhancing the utilization of the wall for teaching English. TPACK can create fun and motivated English Language Teaching (ELT) classes.

TPACK can create fun and motivated English Language Teaching (ELT) classes

"Yes, teachers can create fun, clear, and conducive English Language Teaching (ELT) classes without using word walls. They can do this using engaging activities, interactive discussions, visual aids, and hands-on learning materials. Teachers can also encourage active participation, provide individual attention, and create a positive learning environment to make classes fun and effective for students." (Quote of Interview SL #2, July 20, 2023).

In this interview excerpt, the participant underscores a significant perspective regarding the potential for EFL junior high school pre-service teachers to navigate barriers when integrating technology, pedagogy, and content knowledge (TPACK) into their English Language Teaching (ELT) methodologies. The respondent suggests that while the utilization of software like word walls can enhance ELT classes, they are not the sole determinant of success. Instead, educators can harness a range of dynamic approaches, including engaging activities, interactive discussions, visual aids, and hands-on learning materials, to establish stimulating, clear, and effective ELT environments. The emphasis on fostering active student participation, providing individualized support, and cultivating a positive learning atmosphere aligns with fundamental pedagogical principles. This viewpoint provides a basis for exploring the specific obstacles that pre-service teachers might face while incorporating TPACK components, offering potential insights into strategies that could augment their

integration of TPACK and their pedagogical prowess within the context of teaching English. As also stated in the previous study (Taopan, 2021)

"Word walls are indispensable for effective English teaching. Multimedia elements like images, videos, and audio aid active learning. Additionally, technology enables interactive experiences through games, simulations, and online platforms, enhancing student engagement and comprehension in English as a Foreign Language (ELT) classes." (Quote of Interview HF #1, July 16, 2023)

The participant also acknowledges the indispensability of word walls in effective English teaching. They mention that tools like learning software, websites, and wordwalls make lessons engaging and clear, while multimedia elements like images, videos, and audio aid active learning. Additionally, technology enables interactive experiences through games, simulations, and online platforms, enhancing student engagement and comprehension in ELT classes. These contrasting perspectives highlight the complexity of utilizing technology in teaching English and the need for a balanced approach that considers both the benefits of technology and the effectiveness of traditional teaching methods. The previous studies from (Dharjati n.d. (2018; Farhadi (2023) support the importance of considering teacher beliefs, training, and support in integrating technology effectively into the classroom.

"Yes, we are happy because we can try new innovations for learning; learning doesn't make us boring and sleepy; learning is quickly understood by us, so learning is fun" (Quote of Interview Students #3, July 21, 2023)

In excerpts from this interview, participants expressed positive sentiments towards the incorporation of innovative teaching approaches in the context of teaching English (ELT) to junior high school students. Respondents' enthusiasm demonstrated the perception that integrating new methods enhances the learning experience and also enhances their speaking and listening. The reference to the quick understanding and enjoyment gained from this approach implies potential alignment with Technology, Pedagogy, and Content Knowledge (TPACK) principles (Kusuma, 2022), suggesting that the innovative technique has the potential to overcome some of the barriers faced by pre-secondary EFL secondary schools,Preservice teacher. This perspective underscores the importance of investigating the specific challenges they face when integrating TPACK, potentially providing insight into effective strategies to overcome these barriers and improve the overall quality of English language education.

DISCUSSION

The results of this study were obtained using semi-structured interview techniques with informants in the form of direct online interviews with zoom . The results of this interview focused on exploring the obstacles to implementing TPACK in EFL class students faced by the Pre service Teacher. In this study, the informants were students majoring in English in the language education study program class of 2019 who had carried out a 3-month PPL using TPACK. In this study, researchers used a purposive sampling technique. Based on the research put forward from the results of interviews conducted with participants, it turns out that pre-service as well as students experienced several obstacles the first time TPACK was implemented. The interview participant highlights their initial

week of classes where the emphasis was placed on cultivating positive student relationships through active and empathetic engagement with their needs. The participant recognizes the pivotal role of positive relationships in fostering heightened student engagement and active participation within the learning process. Notably, the participant expresses a keen interest in integrating technological tools such as computers, software, lights, and online resources to facilitate interactive learning experiences. However, the participant laments that the utilization of these advanced tools remains limited within the context of EFL junior high schools. This observation underscores a significant barrier to the effective implementation of Technological Pedagogical Content Knowledge (TPACK) among pre-service teachers in these schools, potentially hindering the realization of optimal learning outcomes and the seamless fusion of technology, pedagogy, and content in English language teaching. The interviewee's perspective underscores the significance of addressing TPACK challenges among EFL junior high school pre-service teachers.

The participant recognizes the importance of creatively integrating technology within teaching strategies when encountering difficult TPACK classes. This approach is complemented by a commitment to mastering the subject matter and implementing effective pedagogical techniques. The participant emphasizes the pivotal role of technology in enhancing student learning experiences. Furthermore, they emphasize the essential qualities of patience, adaptability, and openness to customizing instructional strategies to suit the diverse needs and dynamics of the students and the class environment.

This insight contributes to the understanding of barriers faced by pre-service teachers in effectively harnessing TPACK for teaching English, highlighting the need for a balanced blend of content, pedagogy, and technology skills to overcome such obstacles. The previous study from (Dharjati n.d, 2018) supports the importance of considering teacher beliefs, training, and support in integrating technology effectively into the classroom. Therefore, promoting a culture of continuous learning, sharing, and collaboration among EFL junior high school pre-service teachers could be instrumental in overcoming TPACK barriers and enhancing the utilization of word wall website for teaching English.

The participant in the interview highlights two contrasting perspectives on the use of technology in English Language Teaching (ELT) classes. One perspective suggests that teachers can create fun, clear, and conducive ELT classes with using word wall, interactive discussions, visual aids, and hands-on learning materials. This perspective emphasizes the importance of active participation, individual attention, and a positive learning environment in making classes effective and enjoyable for students. On the other hand, the participant also acknowledges the indispensability of word wall in effective English teaching. They mention that tools software website word wall learning make lessons engaging and clear, while multimedia elements like images, videos, and audio aid active learning. Additionally, technology enables interactive experiences through games, simulations, and online platforms, enhancing student engagement and comprehension in ELT classes.

These contrasting perspectives highlight the complexity of utilizing word wall in teaching English and the need for a balanced approach that considers both the benefits of technology and the effectiveness of traditional teaching methods. The previous study from (Dharjati n.d, 2018; Farhadi, 2023) support the importance of considering teacher beliefs, training, and support in integrating technology effectively into the classroom. Therefore,

addressing the barriers faced by EFL junior high school pre-service teachers in utilizing TPACK for teaching English requires a comprehensive understanding of the potential benefits and challenges associated with technology integration.

Relatedly, the narrative inquiry approach can help identify TPACK barriers for EFL junior high school pre-service teachers by providing a platform website word wall for participants to share their experiences and perspectives on the use of technology in teaching English and can improve they reading and vocabulary. The approach allows for an in-depth exploration of the challenges and opportunities associated with TPACK This insight contributes to the understanding of barriers faced by pre-service teachers in effectively harnessing TPACK for teaching English, highlighting the need for a balanced blend of content, pedagogy, and technology skills to overcome such obstacles. The previous study from (Dharjati n.d, 2018) supports the importance of considering teacher beliefs, training, and support in integrating technology effectively into the classroom. Therefore, promoting a culture of continuous learning, sharing, and collaboration among EFL junior high school pre-service teachers could be instrumental in overcoming TPACK barriers and enhancing the utilization of word wall website for teaching English. implementation, highlighting the diverse factors that influence the utilization of technology in the classroom. Additionally, the approach can facilitate the identification of effective strategies for overcoming TPACK barriers, promoting collaboration, and enhancing the learning experiences of students.

Regarding the resistance from EFL junior high school pre-service teachers towards the use of word wall in the classroom, the findings from (Dharjati n.d, 2018; Farhadi, 2023) suggest that lack of training, support, and cultural factors can contribute to such resistance. Therefore, addressing these factors through targeted training, support, and cultural sensitivity could be instrumental in promoting the effective utilization of technology in teaching English.

Finally, the cultural and linguistic diversity of EFL students can affect TPACK implementation in the classroom by influencing the selection of appropriate technology tools, pedagogical strategies, and content delivery methods. The findings from (Kusuma, 2022) suggest that cultural and linguistic diversity can pose challenges to TPACK implementation, highlighting the need for a culturally responsive and inclusive approach to technology integration in the classroom. Therefore, addressing the cultural and linguistic diversity of EFL students through targeted training, support, and pedagogical strategies could be instrumental in promoting the effective utilization of technology for teaching. implementation, highlighting the diverse factors that influence the utilization of technology in the classroom. Additionally, the approach can facilitate the identification of effective strategies for overcoming TPACK barriers, promoting collaboration, and enhancing the learning experiences of students.

CONCLUSIONS

This study used a qualitative narrative inquiry design method (Clandinin & Connelly, 2000), which was carried out by analyzing the pre service teacher's difficulties in implementing TPACK in the EFL class. In accordance with the research data obtained from 3 participants, it can be concluded that there are many factors that become obstacles or

obstacles faced by pre service teachers and also students. First, the causative factor is that some students are not used to technology, making it difficult for pre-service teachers to control classes that are not conducive. Second, factors caused by inadequate facilities at school mean that only one laptop for one class is used, this condition becomes an undisciplined class. Third, time constraints cause the pre-service teacher to provide training to students for the use of technology so that the time for learning lasts a little. Therefore, the pre-service teacher and also the school must prepare what is needed, including knowledge training for the use of TPACK and technology facilities, before learning takes place, so as to minimize problems that occur during the implementation of TPACK learning the pre service teachers.

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