TEACHER'S PERCEPTION AND IMPLEMENTATION OF TPACK AT SMP FREE METHODIST 2 MEDAN

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ABSTRACT
The rapid advancement of educational technology in the 21st century has required teachers to integrate technology meaningfully with pedagogy and content in classroom instruction. The purpose of this study is to explore the teacher's perceptions of the Technological Pedagogical and Content Knowledge (TPACK) framework and examine how its components are implemented in English language teaching. This study employed a qualitative descriptive research design, data were collected through classroom observations and semi-structured interviews involving a ninth grade English teacher (F) at SMP Free Methodist 2 Medan, selected through purposive sampling. The analysis was conducted by reviewing, categorizing, and interpreting the observation notes and interview transcripts based on TPACK components. The results show that the teacher holds a positive perception of TPACK, viewing technology as a supportive tool for enhancing learning materials, engaging students, and facilitating lesson preparation. The observations further reveal that all seven components of TPACK: TK, PK, CK, PCK, TCK, TPK, and TPACK appeared in classroom practice, although the mechanical nature of grammar limited deeper integration of digital tools, and external factors such as power outages and limited facilities posed additional challenges. In conclusion, the study indicates that while positive teacher perception and adequate competence support effective TPACK implementation, stronger institutional support and technological infrastructure are still needed to optimize technology-enhanced English language teaching.
Keywords*: TPACK, Teacher's Perception, Implementation, English Language Teaching.*

INTRODUCTION

In the 21st century, teaching and learning can no longer be separated from the use of technology, which has become deeply embedded in various aspects of life, including education, making strong knowledge of educational technology essential for teachers to adapt to current developments (Ismail et al., 2023). Globalization has also introduced significant changes to educational systems, encouraging individuals to become adaptive learners in an increasingly interconnected world (Meisuri et al., 2025). In line with these transformations, technology has emerged as an essential component of effective instructional practices. Digital tools such as learning applications, video platforms, and virtual classrooms provide broad access to interactive and authentic language resources (Dia, 2024, in Aswirawan, 2024).

Importantly, technology integration in education is not merely about using gadgets or applications; it involves the thoughtful blending of technological tools with pedagogical approaches and content knowledge to enrich the learning experience.TPACK is an important concept in teaching in the 21st century (Wijaya, Ratminingsih, and Dewi, 2022). The TPACK framework, introduced by Mishra and Koehler (2009), provides a comprehensive model by emphasizing three core knowledge domains: technological knowledge, pedagogical knowledge, and content knowledge and three combining areas: technological pedagogical knowledge (TPK), technological content knowledge (TCK), pedagogical content knowledge (PCK) and Technological Pedagogical and Content Knowledge (TPACK). It posits that meaningful learning occurs when technology is

integrated seamlessly with curriculum and pedagogy rather than treated as an additive element. This holistic approach aims to enhance student engagement and deepen understanding in the digital age.

In the Indonesian context, recent studies indicate that teachers have begun to develop stronger understandings of TPACK and recognize its significance for modern teaching. Research on English teachers in senior high schools shows that many teachers hold positive perceptions of their technological and pedagogical abilities and feel capable of integrating digital tools into their lessons (Prasetya et al., 2019). Similar findings were reported by Ismail et al. (2023), who highlight that teachers generally consider themselves ready to apply TPACK in their daily instructional practices. In the elementary school context, Annida et al. (2023) also find that TPACK supports teachers in implementing technology-based activities that enhance student engagement. Moreover, Situmorang and Gultom (2023) emphasize that implementing the TPACK approach in English teaching contributes to more interactive and effective instructional activities, reinforcing the idea that technology integration can significantly improve learning quality.

Although research on TPACK continues to expand, many studies tend to focus on only one aspect of the framework. Some examine teachers' perceptions of TPACK (Suganda et al., 2021; Ismail et al., 2023), while others focus on the challenges of its implementation. However, studies that investigate both teachers' perceptions and the ways they implement TPACK simultaneously remain limited, particularly in English as a Foreign Language (EFL) contexts. This is important because English teaching often requires creative uses of technology and specialized pedagogical approaches.

Therefore, this study aims to explore teachers' perceptions of the integration of Technological Pedagogical and Content Knowledge (TPACK) in English language teaching and to examine how teachers implement TPACK in actual classroom practices.

METHOD

This study employed a qualitative descriptive design.According to Sugiyono (2017), qualitative research examines natural settings and emphasizes meaning, interpretation, and understanding. This design was chosen to obtain a concrete picture of teacher's perception and implementation of TPACK in classroom learning.

This study conducted in an english classroom at Free Methodist 2 Medan with one 9th grade english teacher (F). Free Methodist 2 Junior High School in Medan was chosen as the research location because this school has begun to integrate technology into the learning process. This condition makes the school relevant as a research context that focuses on the application of the TPACK framework, as it demonstrates a real effort to combine technology, pedagogy, and learning content. In addition, the school's accessibility and openness to research activities supported the smooth collection of data and enabled researchers to obtain accurate and comprehensive data. Teacher was chosen as research subject because the teacher actively used technology in learning, enabling them to provide in-depth information about the practical application of TPACK. Teacher experiences in managing technology-based learning and the challenges they face are important sources of data for understanding the level of understanding and implementation of TPACK in the school context.

Data collection was conducted through two main techniques: observation and interviews. Observations were conducted to directly observe how teacher integrated technology into classroom learning practices. During the observation process, researchers recorded various learning activities, and the use of technological media in field notes. Furthermore, interviews were conducted to delve deeper into teacher perceptions,

experiences, and challenges in implementing TPACK in learning. The data obtained were then analyzed by reviewing and categorizing observation notes and interview transcripts. This analysis process was carried out by categorizing the data based on TPACK components and teacher perceptions of technology implementation in learning.

RESULT AND DISCUSSION

The following section provides a detailed explanation of the study's findings and discussion, which have been categorized based on the TPACK components and the teacher's responses regarding the integration of technology in instruction. This organization allows the analysis to present a clear connection between the teacher's perceptions and their actual classroom practices, offering a comprehensive view of how technological, pedagogical, and content knowledge interacted during the lesson.

Teacher's Perception Of Tpack

The interview results indicate that the teacher holds a positive view toward the use of technology in teaching and understands the relevance of mastering TPACK for educators in the digital era. In selecting instructional media, the teacher does not use technology arbitrarily but instead considers the characteristics of the material being taught. The teacher explained that for materials such as the past continuous tense, visual media in the form of videos are considered more effective than PowerPoint slides because videos can present real examples that align with students' personal experiences. According to the teacher, presenting material through concrete examples helps students better understand the communicative purpose of the text and its narrative structure.

The teacher also emphasized that mastering TPACK is essential for educators today because technology offers many advantages in the teaching process. Technology is perceived as a tool that can speed up lesson preparation, broaden access to learning resources, and make instructional materials more engaging for students. The teacher acknowledged that traditional methods remain useful and have their own effectiveness, but in terms of student interest and participation, digital media are significantly more appealing. This demonstrates that the teacher recognizes the pedagogical value of technology not merely as an innovation, but as a means to enhance student engagement and motivation.

Regarding challenges, the teacher reported no significant difficulties in understanding or operating technological tools. However, external issues such as power outages or the need to share technological equipment with other teachers can pose challenges in implementing TPACK-based instruction. The teacher noted that these limitations arise from technical and infrastructural factors rather than from the teacher's own ability. Even so, the teacher displayed adaptability and was able to adjust classroom activities when such challenges occurred.

The teacher also stated that school support plays a vital role in developing TPACK competence. One form of support considered particularly helpful is the provision of workshops and mentoring by the computer science teacher or other staff with advanced digital expertise. The teacher acknowledged that the school is proactive in offering information and training related to technological developments in education. This supportive environment allows teachers to continuously update their skills and keep pace with advancements in digital instructional media.

When asked about the factors that most influence the successful implementation of TPACK, the teacher highlighted that teacher capability, school facilities, and environmental support work together. The teacher explained that technology enables educators to be more creative and inspired in developing teaching materials. For instance, teachers who previously relied on manual methods can explore various ways of presenting materials

through digital tools, resulting in richer and more relevant learning experiences. The teacher also emphasized that schools should continue to provide adequate facilities and opportunities for teachers to explore technology. Such support is essential for ensuring that teachers can continuously adapt and integrate TPACK consistently in their teaching practices.

The interview demonstrates that the teacher has a strong perception of the importance of technology in education, understands its role in supporting pedagogy, and recognizes the need for institutional support to strengthen TPACK implementation. This perspective reflects the teacher's readiness and willingness to use technology as an integral component of the teaching and learning process.

Implementation Of Tpack In Classroom Practice

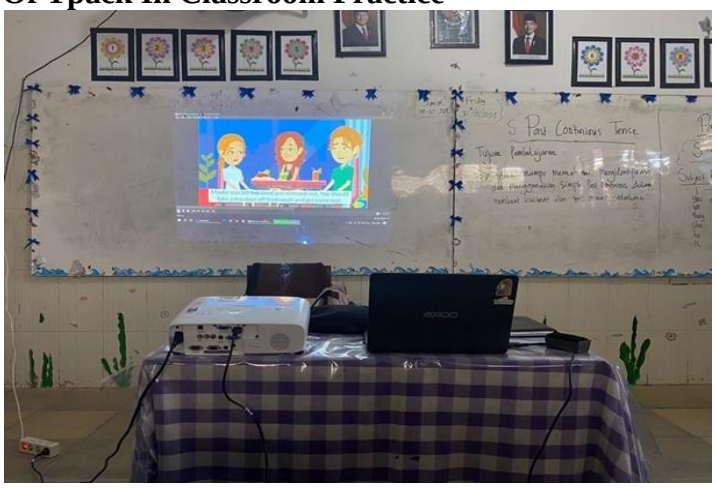

Figure 1. Technological tools used by the teacher during the lesson.

The observation results indicate that all seven components of TPACK appeared in the teacher's classroom practice, each reflected through different aspects of the lesson. In terms of Technological Knowledge (TK), the teacher made use of technological tools such as a laptop, projector, and instructional video (see figure 1). The teacher appeared comfortable operating these devices, which allowed technology to be used smoothly throughout the lesson. This demonstrates that technology was not merely an add-on, but a functional part of the instructional process.

For Pedagogical Knowledge (PK), the teacher implemented a combination of the lecture method and questioning technique. The teacher delivered explanations in a structured manner and reinforced students' understanding through guided questions. Classroom management was organized, and the lesson progressed in a coherent sequence. This shows that the teacher has a solid understanding of pedagogical strategies suitable for the learners and the objectives of the lesson.

Content Knowledge (CK) was evident when the teacher explained the simple past continuous tense, including its structure, function, and contextual examples. The teacher demonstrated clarity and accuracy in presenting the material. However, it is important to note that grammar topics such as the simple past continuous are inherently mechanical in nature. They typically fall under the language features component of text-based instruction, focusing on structural patterns and repetitive practice. Because of this mechanical characteristic, technology integration in grammar instruction tends to be more limited compared to conceptual or contextual topics. While technology can assist by providing visualization or exposure to contextual examples, it does not always offer substantial added value when the primary focus is on pattern drills or structural accuracy. In contrast, technology is more beneficial for broader or more contextual materials such as short

functional texts (e.g., recounts, procedures) or thematic issues where students can explore meaning, analyze context, compare sources, and engage in higher-level thinking.

Regarding Technological Content Knowledge (TCK), the teacher used a video that demonstrated examples of the simple past continuous tense in real contexts. The video helped students observe how the tense is used naturally, making the relationship between technology and content clearly visible. Technology served as a tool to enrich the presentation of content and provide more authentic language input.

Pedagogical Content Knowledge (PCK) was reflected in the teacher's combination of grammar explanation and strategic questioning. The teacher posed questions based on examples from the video and from the sentences written on the board. This approach shows the teacher's ability to select pedagogical strategies that align with the characteristics of grammar content, guiding students from understanding the concept to recognizing its application.

Technological Pedagogical Knowledge (TPK) appeared when the teacher used the video as a basis for group discussion. Students were asked to rewatch the video and then discuss its content with their peers. In this case, technology supported the pedagogical strategy by giving students a shared reference point before engaging in discussion.

Technological Pedagogical and Content Knowledge (TPACK) was evident when the teacher combined technology, pedagogy, and content within the same instructional sequence. The video aligned with the grammar topic being taught, the questioning and discussion strategies helped deepen students' understanding, and technology functioned as the medium for presenting the content. This reflects the teacher's ability to bring together the three knowledge domains in classroom practice.

The findings of this study show that the teacher holds a positive perception of TPACK and is able to integrate all seven components TK, PK, CK, PCK, TCK, TPK, and TPACK into classroom practice. When compared with previous research, several similarities and differences can be identified.

This study aligns with Situmorang and Gultom (2023), who found that teachers' implementation of TPACK is shaped by their individual capabilities, the availability of facilities, and students' characteristics. They also reported that limited technological resources were a major challenge. A similar pattern appears in the present study: the teacher cited external factors such as power outages and the shared use of technological devices as the primary obstacles in applying TPACK.

The teacher's positive perception of the importance of mastering TPACK is also consistent with Ismail et al. (2023), who reported that teachers generally rated their TPACK competence as high across most domains. However, while Ismail et al. noted that Technological Knowledge (TK) tended to be the weakest area due to limited familiarity with newer digital tools, the teacher in this study showed confidence in using essential technologies such as laptops, projectors, and instructional videos. This suggests that teacher readiness may vary depending on school culture and the level of institutional support.

Similar to Sy et al. (2023), this study found that English teachers view TPACK positively because it enhances teaching effectiveness. Nonetheless, Sy et al. also identified challenges related to limited facilities and uneven technological skills among teachers. The present findings echo this: despite the teacher's ability to integrate technology, infrastructural constraints remained a significant barrier. This reinforces the idea that positive perceptions alone are not enough for optimal TPACK implementation without sufficient technological support.

The results of this study are further supported by Sukri, Laliyo, and Salah (2025), who emphasized that successful TPACK implementation depends not only on teacher

competence but also on access to technology, training opportunities, and institutional support. The teacher in this study highlighted the importance of workshops and mentoring from ICT experts in strengthening technological skills. This underscores the crucial role of institutional support in improving teachers' readiness and confidence in integrating TPACK into their teaching practice..

CONCLUSION

The findings of this study indicate that the teacher holds a strong and positive perception of TPACK and recognizes its importance in supporting effective teaching in the digital era. Technology is viewed not merely as an additional tool but as an integral resource that enhances student engagement, enriches learning materials, and facilitates efficient lesson preparation. This perception is reinforced by institutional support in the form of training, workshops, and mentoring, which contribute to the teacher's confidence and readiness in integrating technology into instructional practice.

Classroom observations further reveal that the teacher successfully implemented all seven components of the TPACK framework TK, PK, CK, PCK, TCK, TPK, and TPACK throughout the lesson. Technology was used purposefully and aligned with the content, while pedagogical strategies such as lecturing, questioning, and discussion were effectively incorporated. Although grammar-focused lessons naturally limit the extent of technological enrichment due to their mechanical nature, the teacher was still able to integrate technology in a functional and meaningful manner.

This study concludes that the teacher's positive perception of TPACK aligns with their successful implementation of the framework in classroom practice. Nevertheless, external challenges such as limited facilities, power outages, and shared technological resources continue to hinder optimal integration. These findings highlight that while teacher readiness and positive perceptions are essential, sustained institutional support and improved infrastructure are equally crucial for ensuring consistent and effective TPACK implementation in EFL classrooms.

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