

Exploring Teachers' and Students' Experiences at SMA Muhammadiyah (Plus) Salatiga in Implementing TPACK and Choice Boards

 <https://doi.org/10.31004/jele.v11i5.2540>

*Eryska Listiyaningtyas, Alfiana Rizqi Auliya, Vony Maulidiyah, Farrah Zakiyah Anwar, Setia Rini 

¹²³⁴⁵Universitas Islam Negeri Salatiga, Indonesia

Corresponding Author: zumronahayu@gmail.com

ABSTRACT

This case study, which takes a qualitative descriptive approach, examines how teachers and students view the use of the Technological Pedagogical and Content Knowledge (TPACK) framework along with the Choice Board method in English instruction at SMA Muhammadiyah (Plus) Salatiga. Information was gathered through semi-structured interviews with a group of ten teachers and twenty-five students, which were then analyzed using thematic analysis. The results reveal that combining TPACK with Choice Boards improved students' motivation, engagement, and learning independence by offering interactive and tailored learning opportunities. Teachers also found this method to be beneficial for promoting student-centered teaching and accommodating varied learning preferences. However, several obstacles were noted, including inadequate digital preparedness among teachers, deficiencies in technological skills, and issues related to infrastructure, like inconsistent internet connectivity. The research concludes that merging TPACK and Choice Boards can lead to more impactful and individualized English learning experiences. Nonetheless, ongoing professional development and institutional support are essential for effective implementation in English as a Foreign Language (EFL) classroom.

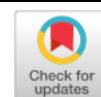
Keywords: TPACK, Choice Board, Differentiated Instruction, EFL, Student Engagement

Article History:

Received 10th May 2026

Accepted 17th October 2026

Published 21st October 2026



INTRODUCTION

The swift progress of digital technology has changed educational methods across the globe, opening up new avenues for teaching and learning in different fields. In today's digital age, technology has become a crucial element of education, making it easier to access information, improving communication, and creating more adaptable and interactive learning settings. By incorporating digital technologies, students can connect with a variety of learning materials, collaborate outside of traditional classroom spaces, and cultivate vital skills for the 21st century, including critical thinking, creativity, communication, teamwork, and digital literacy. As educational structures keep changing, educators are more frequently required to effectively incorporate technology into their teaching methods to equip students for the challenges of a technology-focused world. Moreover, the shift towards digital transformation has prompted a move away from conventional teacher-focused strategies to more student-centered learning environments that encourage active involvement and self-directed learning. Effectively leveraging technology can also enhance the learning experiences of students by offering tailored learning opportunities and boosting participation in classroom activities. Nevertheless, the successful adoption of digital education hinges not just on having access to technological resources but also on educators' ability to create relevant learning experiences that meet educational goals and respond to students' needs. Consequently, educational institutions around the world continue to highlight the significance of integrating technology

Exploring Teachers' and Students' Experiences at SMA Muhammadiyah (Plus) Salatiga in Implementing TPACK and Choice Boards as a fundamental aspect of high-quality education in the modern era (Haleem et al., 2022; Msambwa et al., 2024).

Even with the advantages provided by digital tools, learning English as a Foreign Language (EFL) still encounters numerous practical difficulties. A significant number of EFL classrooms continue to use teaching methods that focus heavily on the teacher, which frequently restricts students' chances to participate actively and limits their independence and involvement in the learning experience. Additionally, students in EFL settings usually have a wide variety of learning preferences, interests, preparedness levels, and language skills, making it challenging for educators to meet the diverse needs of all learners through a uniform teaching method. Merely incorporating technology does not guarantee better learning results unless it is paired with effective teaching strategies that promote a student-focused approach. Moreover, educators often find it hard to create learning activities that effectively combine technology while also addressing the varied learning styles of students and keeping them motivated and engaged. These issues underscore the necessity for creative teaching methods that successfully merge technology use with instructional practices that can meet the varied learning requirements of students in EFL environments (Saputra et al., 2025).

The implementation of TPACK comes with many struggles, revolving around systemic issues such as digital divide 2.0 which includes unequal access to devices, connectivity, and digital literacy. English language learning in the digital age now requires teachers who are able to create innovative learning processes that are contextually appropriate and relevant to the needs of today's students. The use of technology is an important part of creating a more interactive and meaningful learning environment. One approach that has developed in recent years is TPACK, which is a combination of subject matter knowledge, teaching approaches, and the use of technology. This research shows that the application of TPACK can improve technology-based learning activities in the classroom, but there are still challenges in terms of teachers' digital readiness and capabilities (Darsih et al., 2025). This was also expressed by (Amer et al., 2023), who stated that teachers need support and appropriate strategies to effectively apply TPACK in teaching English.

However, innovation in the learning process does not only depend on the use of technology, but also on how learning is designed to give students the opportunity to take control of how they learn. In this context, the Choice Board is one of the learning differentiation strategies that offers a variety of learning activities according to each student's interests, learning styles, and abilities. By giving students the freedom to choose the tasks or forms of learning outcomes they want, the Choice Board can increase their enthusiasm for learning, self-confidence, and active involvement in the learning process. This strategy is considered capable of creating more personalized learning that suits the needs of each individual, as students are given the space to demonstrate their understanding in a way that suits their abilities. Amidst the challenges of learning that is usually still teacher-centered and lacks diversity, the Choice Board offers a more flexible, creative, and student-centered approach (Langelaan et al., 2024).

However, the integration of TPACK with Choice Boards still needs further research. The combination of these two approaches not only requires teachers to manage technology well, but also to design diverse learning activities that are tailored to students' needs. Therefore, research on the simultaneous application of these two strategies is very important to understand how teachers and students respond to and evaluate such learning, as well as its impact on student motivation and engagement. Technological developments in education have opened up enormous opportunities for teachers to innovate in the teaching and learning process. In addition to mastering subject matter, teachers must also be able to combine knowledge of teaching methods and technology. In this situation, the Technological Pedagogical and Content Knowledge (TPACK) framework is highly relevant in helping teachers design and implement more effective learning. TPACK emphasizes a balanced combination of understanding teaching materials, teaching methods, and the use of

technology. This makes the learning process more meaningful, flexible, and adaptable to the needs of each student. By applying TPACK, it is hoped that learning effectiveness will increase, student engagement will improve, and a more active and creative learning experience will be provided (Schmidt et al., 2009).

In Indonesia, the demand for innovation in learning has been reinforced through the Kurikulum Merdeka, which focuses on learning tailored to student needs, the use of technology, and the development of skills needed in the 21st century. Teachers are not only tasked with delivering material, but also with becoming facilitators who have ability to create a learning environment that encourages creativity, cooperation, and agility in students. Unfortunately, in practice, many teachers still find it difficult to implement this method optimally due to a lack of training, minimal experience in using digital media, and difficulties in designing flexible learning that suits the needs of each student. This situation highlights the urgent need to explore learning methods that not only utilize technology but also provide space for students to learn according to their own styles and preferences (Wijaya, 2024).

Based on previous research, it appears that studies combining TPACK and Choice Boards are still rarely conducted simultaneously, especially in the context of English language learning in Indonesian high schools. In addition, there is still a lack of research that explores the direct experiences of teachers and students in the implementation process, including the factors that support and hinder it, as well as the changes that occur during learning. Therefore, more in-depth research is needed to obtain the perspectives of the participants in order to understand how these learning innovations are actually implemented in the classroom (Sy et al., 2023).

Therefore, this study was conducted to determine the experiences of teachers and students in applying TPACK and Choice Board in English learning at Muhammadiyah (Plus) High School in Salatiga, as well as to understand how these innovations affect motivation, engagement, and the dynamics of the learning process in the classroom (Ahmada & Rizkiyah, 2025).

In modern education, classrooms often include students with diverse backgrounds, learning styles, readiness levels, and interests. However traditional one-size-fits-all teaching methods are not always effective in meeting each student's unique needs. Differentiated Instruction (DI) was developed as a response to this diversity. It offers different ways to present content, teach processes, and assess learning as a result can participate meaningfully and inclusively in educational activities. Differentiated Instructions involves using different or multiple approaches to deal with three curricular elements including content, process, and product. These elements stand for what students learn; how students understand, process, and make sense of the materials such as ideas and information; and how students demonstrate or practice knowledge, understandings, and skills that they've learned (Tomlinson, 2005).

Research shows that Differentiated Instruction can help increase student motivation, participation, and engagement, especially for those who were not very active in traditional learning settings. Teachers using Differentiated Instruction can tailor their teaching methods based on students' academic readiness, personal interests, and learning profiles. This makes students feel more valued and gives them more control over their learning process. As a result, DI focuses not only on final outcomes but also on a more human-centered and responsive learning process that meets each student's individual needs. This approach creates a more adaptable learning environment, boosts students' confidence, and encourages them to reach their full potential through relevant and personalized learning experiences (Safawi & Akay, 2022).

The implementation of the Choice Board (CB) within the framework of Differentiated Instruction (DI) has become an increasingly recognized strategy for facilitating the diverse learning needs of students, especially in the context of secondary schools (Smale-Jacobse et al., 2019). In line with Self-Determination Theory (SDT), where choice increases competence and autonomy (Ryan & Deci, 2020), Choice Board is fundamentally designed to give students

control (a sense of autonomy) over their learning processes and products. Recent research shows that when students are given the freedom to choose a task pathway that aligns with their interests or learning styles, this significantly increases their intrinsic motivation, leading to deeper engagement compared to uniformly assigned tasks. Students generally favored the choice board activities as a form of differentiated instruction which showed a positive reception to this approach (Tundreng et al., 2025). Therefore, Choice Board not only serves as a differentiation management tool but also as a mechanism for student empowerment that directly impacts the quality of their affective learning experience, an aspect that still requires further exploration, particularly in the context of specific secondary schools.

Based on this urgency, this study aims to explore students' experiences in using Choice Boards within a differentiated instruction framework. Specifically, it seeks to understand how students perceive the freedom of choice, how it impacts their motivation to learn, and the challenges they face in self-directing their learning activities. By understanding the student perspective, this research hopes to provide pedagogical implications for teachers in designing meaningful and effective differentiation strategies.

METHOD

Research Design

This research employs a qualitative design, which is appropriate given the study's aim to explore the depth, nuance, and context-dependent nature of students' learning experiences with TPACK and Choice Boards. This design is particularly suited to uncovering the how and why behind phenomena such as learner engagement, affective filter, autonomy, and perceived barriers or supports when using digital tools. Furthermore, a qualitative approach aligns with the complex, contextual nature of TPACK implementation, where the interplay of content, pedagogy, and technology differs across learner backgrounds. Findings are not intended to be statistically generalised but rather to provide thick description and transferable insights that can inform similar EFL contexts.

Research Site

This research was conducted at SMA Muhammadiyah Plus Salatiga, a public school in Salatiga, Central Java, Indonesia. The school was selected because it has implemented TPACK-based instruction and Choice Board strategies in its English classes. The research site includes three types of classrooms within the same school: regular classes, athlete classes (for students involved in competitive sports programs), and inclusive classes (with students who have special educational needs).

Participant selection criteria

The participants were chosen from different classes selected from mixed classes including regular, athlete and inclusive classes using purposive sampling because they are considered to have relevant experience with TPACK and Choice Board implementation in the learning process and expected to provide varied perspectives on innovative learning approaches.

Respondents

Participants in this study include teachers and students from SMA Muhammadiyah (Plus) Salatiga. There are ten teachers participating, coming from different subjects. Teachers from various subjects were involved to get a broader understanding of how innovative learning practices are used in the school.

In addition, there are twenty-five students participating, selected from mixed classes including regular, athlete and inclusive classes. The variety in students' backgrounds is expected to provide diverse perspectives on their learning experiences with innovative approaches. The participants were chosen using purposive sampling because they are considered to have relevant experience with implementing TPACK and Choice Board in the

Exploring Teachers' and Students' Experiences at SMA Muhammadiyah (Plus) Salatiga in Implementing TPACK and Choice Boards
learning process.

Instruments

The research instruments used in this study were semi-structured interview guides, each separately designed for teachers and students. The interview guides contained open-ended questions aimed at exploring teachers' and students' experiences at SMA Muhammadiyah (Plus) Salatiga in implementing TPACK and Choice Boards. Interviews were conducted face-to-face in Indonesian to allow participants to express their opinions and experiences more clearly and in depth. The questions for teachers focused on lesson planning, strategies for applying TPACK and Choice Board, and the challenges faced during the learning process. Meanwhile, the questions for students focused on their learning experiences, level of engagement, benefits they felt, and any difficulties they encountered while participating in the learning activities.

The entire interview process was recorded as documentation to make it easier for transcribing and analyzing the research data.

Procedures

Initially, the researcher sought authorization from SMA Muhammadiyah (Plus) Salatiga to carry out the investigation. Once permission was granted, the researcher identified participants using purposive sampling, focusing on their engagement and experience with TPACK and Choice Board within the instructional framework.

Data was gathered through semi-structured interviews involving both educators and learners. These discussions took place in person and were conducted in Indonesian, allowing participants to share their thoughts, experiences, and views in a comfortable and clear manner. Prior to the interviews, the researcher created specific interview guides tailored for teachers and students, aligned with the study's objectives.

During the interviews, the researcher posed open-ended questions and recorded the discussions for documentation purposes. The audio recordings were later transcribed into text to aid in the data analysis. After completing the transcription, the researcher examined and arranged the data according to the research focus on the application of TPACK and Choice Board, the learning experiences of students, and the difficulties faced throughout the learning journey.

Data analysis

The data gathered from the interviews were analyzed using thematic analysis techniques. This involved reading the transcripts to familiarize with the data, generating initial codes based on the responses (e.g., "increased motivation," "internet signal issues," "TPACK understanding") then categorizing the response to these categories "TPACK Implementation", "Choice Board Dynamics", "Student Outcomes", and "Challenges", searching for themes, and reviewing those themes. The analysis provides perspectives from both students and teachers to draw conclusions regarding the effectiveness and challenges of the instructional methods.

FINDINGS AND DISCUSSION

To innovate English language instruction at SMA Muhammadiyah (Plus) Salatiga, the researcher investigated the integration of the TPACK framework and Choice Boards. Comprehensive data were acquired through semi-structured interviews involving a diverse group of ten multi-disciplinary teachers and twenty-five students from regular, athletic, and inclusive programs. Rather than evaluating each framework in isolation, the thematic analysis of the data revealed four interconnected dimensions that define the contemporary digital classroom environment. These themes encapsulate the pedagogical triumphs and operational realities experienced by both educators and learners.

Increased Student Motivation

The primary impact of combining the TPACK framework with Choice Boards at SMA Muhammadiyah (Plus) Salatiga was a substantial surge in student motivation. From the students' perspective, the integration of technology was identified as a vital instrument for transforming traditional, text-heavy English lessons into visually stimulating and interactive experiences. Teachers strategically operationalized their technological pedagogical content knowledge (TPACK) by introducing dynamic media that targeted abstract linguistic concepts. For instance, interactive video platforms (such as YouTube and Edpuzzle) provided immediate auditory and visual scaffolding for listening comprehension, while Canva was systematically employed to transform dense grammatical structures and vocabulary into intuitive, color-coded graphic organizers. This multi-sensory input effectively eliminated classroom boredom, stimulated cognitive interest, and fostered an inclusive learning atmosphere where students from various programs including regular, athletic, and inclusive tracks felt equally driven to participate.

Student Autonomy and Engagement

Beyond initial motivation, the implementation of Choice Boards fundamentally altered the classroom dynamic by promoting unprecedented student autonomy and deep engagement. When presented with a structured array of learning options, students reported feeling significantly more empowered, responsible, and autonomous over their academic trajectories. This strategy allowed for a highly personalized learning experience strictly tailored to individual readiness, interests, and diverse learning profiles. Instead of conforming to a rigid, one-size-fits-all assignment, learners actively selected tasks that aligned with their specific strengths. This sense of ownership directly translated into higher engagement rates, as students felt a deeper commitment to completing tasks they had chosen themselves. From a theoretical standpoint, this shift validates the core principles of Differentiated Instruction (DI), proving that granting learners a voice in their instructional pathways naturally cultivates self-regulated learning habits.

Teacher Readiness Challenges

Despite the clear benefits to student dynamics, the transition to a technology-mediated, differentiated environment exposed critical challenges regarding teacher readiness and workload management. The study found that designing effective Choice Boards requires comprehensive curriculum mapping, significant preparation time, and advanced instructional design skills. Several educators expressed that constructing multiple, high-quality tasks for a single objective placed a substantial burden on their daily workload. Furthermore, a visible gap in digital readiness was observed; some teachers struggled with unfamiliar applications or complex digital platforms, which occasionally hindered the fluid execution of TPACK. Additionally, managing a classroom where students are working on entirely different tasks simultaneously demanded exceptional pedagogical control. Teachers noted that maintaining instructional clarity and delivering clear, nuanced guidelines was uniquely challenging when trying to prevent confusion among multiple groups.

Infrastructure and Technical Constraints

The final theme emerging from the investigation involves severe infrastructure and technical barriers that compromised the sustainability of these innovative practices. Traditional technical limitations, such as frequent internet connection issues and unstable school Wi-Fi signals, regularly disrupted the flow of interactive lessons. However, beyond conventional connectivity issues, this study uncovers a deeper, more profound operational hurdle: acute resource inequality and hardware obsolescence among students.

While existing English as a Foreign Language (EFL) literature predominantly defines the "digital divide" through data quotas or network access, the empirical data from SMA

Muhammadiyah (Plus) Salatiga reveals that students' personal smartphones represent a major bottleneck. When teachers introduced multi-featured digital applications via the Choice Boards, students using low-specification or older mobile devices faced persistent application crashes, frozen user interfaces, and severe storage limitations. This digital disparity proves that innovative, technology-based pedagogy can unintentionally create new barriers to equity if the school's technical infrastructure and the students' personal hardware readiness are not systematically aligned.

CONCLUSIONS

This study explored the implementation of TPACK and Choice Boards in English learning at SMA Muhammadiyah (Plus) Salatiga from teachers' and students' perspectives. The findings indicated that integrating technology, pedagogy, and content knowledge through TPACK created more interactive, engaging, and meaningful learning experiences, improved students' understanding, and encouraged participation. Meanwhile, Choice Boards promoted differentiated instruction by providing flexibility and autonomy, allowing students to select activities aligned with their interests, abilities, and learning preferences. This approach increased students' motivation, confidence, and active involvement while helping teachers accommodate diverse learning needs and establish a student-centered classroom. However, implementation challenges included unstable internet connections, unequal access to digital devices, limited digital literacy, and additional teacher preparation time. These findings suggest that successful implementation requires not only pedagogical competence but also adequate technological infrastructure, institutional support, and continuous professional development. Overall, integrating TPACK and Choice Boards offers promising opportunities for innovative and differentiated English learning in secondary schools. Therefore, schools should strengthen technological facilities and provide ongoing teacher training to support effective implementation.

REFERENCES

- Ahmada, A., & Rizkiyah, F. (2025). Technology integration in English language learning based on the TPACK-samr framework at three Indonesian universities. *ijee (Indonesian journal of English education)*, 357–368. <https://doi.org/10.15408/ijee.v11i2.37996>
- Amer, A., Sidhu, G., & Srinivasan, S. (2023). A consideration of gradeless learning in higher education. *International Journal of Pedagogy and Teacher Education*, 7(1), 38. <https://doi.org/10.20961/ijpte.v0i0.73153>
- Darsih, E., Agustiana, V., Hanggara, A., & Palmer, R. (2025). Insights on TPACK implementation by preservice English teachers: Challenges and solutions. *Script* <https://doi.org/10.24903/sj.v10i1.2000>
- Haleem, A., Javaid, M., Qadri, M. A., & Suman, R. (2022). Understanding the role of digital technologies in education: A review. *Sustainable Operations and Computers*, 3, 275–285. <https://doi.org/10.1016/j.susoc.2022.05.004>
- Langelaan, B. N., Gaikhorst, L., Smets, W., & Oostdam, R. J. (2024). Differentiating instruction: Understanding the key elements for successful teacher preparation and development. *Teaching and Teacher Education*, 140. <https://doi.org/10.1016/j.tate.2023.104464>
- Msambwa, M. M., Kangwa, D., & Cai, L. (2024). Integration of information and communication technology in secondary education for better learning: A systematic literature review. *Social Sciences & Humanities Open*, 10, 101203. <https://doi.org/10.1016/j.ssaho.2024.101203>
- Ryan, R. M., & Deci, E. L. (2020). Intrinsic and extrinsic motivation from a self-determination theory perspective: Definitions, theory, practices, and future directions. *Contemporary Educational Psychology*, 61. <https://doi.org/10.1016/j.cedpsych.2020.101860>
- Safawi, S. S., & Akay, C. (2022). The effect of differentiated instruction approach on students' academic achievement and attitudes: A meta-analysis study. *Integrity Journal of Education*

Exploring Teachers' and Students' Experiences at SMA Muhammadiyah (Plus) Salatiga in Implementing TPACK and Choice Boards and Training, 6(6), 120–132. <https://doi.org/10.31248/IJET2022.163>

- Saputra, A. D., Widhiyanto, U., Uctuvia, V., & Susanto, A. K. (2025). Unpacking differentiated instruction in Indonesian EFL classrooms: Implementation realities and pedagogical barriers. *J-SHMIC: Journal of English for Academic*, 12(2), 135–147. [https://doi.org/10.25299/jshmic.2025.vol12\(2\).23983](https://doi.org/10.25299/jshmic.2025.vol12(2).23983)
- Schmidt, D. A., Baran, E., Thompson, A. D., Mishra, P., Koehler, M. J., & Shin, T. S. (2009). Technological pedagogical content knowledge (Track): The development and validation of an assessment instrument for preservice teachers. *Journal of Research on Technology in Education*, 42(2), 123–149. <https://doi.org/10.1080/15391523.2009.10782544>
- Smale-Jacobse, A. E., Meijer, A., Helms-Lorenz, M., & Maulana, R. (2019). Differentiated instruction in secondary education: A systematic review of research evidence. *Frontiers in Psychology*, 10. <https://doi.org/10.3389/fpsyg.2019.02366>
- Sy, Y. R., Raja, P., & Sinaga, T. (2023). Investigating English teachers' perception about the use of TPACK in EFL learning. 16(02), 3. <http://ejournal.radenintan.ac.id>
- Tomlinson, C. A. (2005). *The differentiated classroom : responding to the needs of all learners*. Pearson Education <https://doi.org/10.4135/9781452232362.n10>
- Tundreng, S., Yawan, H., & Marhamah, M. (2025). Implementing differentiated instruction in Indonesian secondary schools: Opportunities and challenges from language teachers. *English Review: Journal of English Education*, 13(1), 93–106. <https://doi.org/10.25134/erjee.v13i1.10741>
- Wijaya, W. M. (2024). Teachers' challenges in implementing the Merdeka curriculum in Indonesia <https://doi.org/10.56799/peshum.v3i4.4088>