

EFL-TPACK: A Foundational Framework for Technology-Enhanced English Language Teaching

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ABSTRACT

The integration of Information and Communication Technology (ICT) in English Language Teaching (ELT) has become increasingly crucial in modern education, yet understanding how teachers effectively navigate the complex interplay between technology, pedagogy, and content remains a significant challenge. This theoretical review addresses this gap by presenting EFL-TPACK (English as a Foreign Language – Technological Pedagogical Content Knowledge) as a comprehensive framework synthesized from two established theoretical traditions: Technological Pedagogical Content Knowledge (TPACK) and Computer-Assisted Language Learning (CALL). Drawing on Mishra and Koehler's (2006) foundational TPACK framework and its subsequent adaptation for EFL contexts, this article provides a systematic examination of EFL-TPACK's theoretical foundations, its seven constituent knowledge domains, and its applicability for exploring teachers' knowledge, perceptions, and practices regarding ICT integration in ELT classrooms. The framework integrates principles of social constructivism with TPACK, acknowledging the socio-constructivist nature of learning while emphasizing the crucial role of technology in shaping effective language teaching practices. This review argues that EFL-TPACK offers a nuanced and contextually appropriate lens for understanding technology integration in language education, addressing the specific needs of EFL teachers who must navigate the intersection of language content, pedagogical strategies, and rapidly evolving technological tools. The article concludes by outlining implications for research, teacher education, and practice, and by identifying directions for future empirical investigation.

Keywords: EFL-TPACK, TPACK, CALL, ICT integration, teacher, knowledge, language education

INTRODUCTION

The proliferation of Information and Communication Technology (ICT) has fundamentally transformed educational landscapes across the globe. In the field of English Language Teaching (ELT), this transformation has been particularly pronounced, as digital tools and resources have created unprecedented opportunities for language learning and instruction. Computers, smartphones, interactive whiteboards, and a vast array of software applications are no longer

considered novel inventions but have become integral components of contemporary educational environments. As Rahimi and Pourshahbaz (2019) observe, "ICT-integrated teaching is not as easy as it might seem and it requires compound skills and knowledge base for both teachers and learners." The curriculum, methodologies of teaching, resources and materials, teachers, students, and the school environment must adapt and change to match the requirements of the modern world in which technology plays an undeniably significant role.

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The integration of ICT in education is expected to lead to better learning outcomes, which automatically demands more qualified teaching conditions. Research suggests that ICT can have positive effects on education, including enhanced learning efficiency, learning effectiveness, access, convenience, motivation, and institutional efficiency. The evolution of Computer-Assisted Language Learning (CALL) has transformed language education, integrating advanced technologies and innovative methodologies to enhance linguistic acquisition (Sanad, 2024). However, the path to effective technology integration is fraught with challenges. Studies reveal that one of the most important personal factors hindering technology normalization is the lack of ICT knowledge among teachers. Many teachers face the dilemma of 'changing' themselves to meet new teaching conditions, and ICT integration can reduce teaching quality in environments that lack the needed resources or where teachers do not possess sufficient technology knowledge. Research has demonstrated that teachers often face difficulties in successfully teaching with technology (Schmid et al., 2024).

In this context, understanding the knowledge base that teachers need to integrate technology effectively into their language teaching practice becomes paramount. A prominent model that describes the prerequisite professional knowledge for technology integration is the Technological Pedagogical Content Knowledge (TPACK) framework (Mishra & Koehler, 2006). Eisenhart (1991) defines a theoretical framework as "a structure that guides research by utilizing a formal theory, constructed from a well-established, coherent explanation of specific phenomena and relationships" (p. 205). The TPACK framework proposes three intertwined knowledge components essential for teaching with technology: technological, pedagogical, and content knowledge. TPACK is a complex framework that explains teacher knowledge for technology integration and its intertwining concepts. However, the application of TPACK to English language teaching contexts requires careful adaptation to account for the specific nature of language as content, the pedagogical approaches unique to language teaching, and the particular technological tools relevant to language learning.

The use of ICT in English language teaching by teachers could be studied from different perspectives and theoretical frameworks. Constructivism, computer-assisted language learning (CALL), Technological Pedagogical Content Knowledge (TPACK), connectivism, sociocultural theory, activity theory, ecological system theory, cognitive load theory, multiliteracies framework, media ecology theory, and critical pedagogy are some of the major perspectives and theoretical frameworks. Among these, CALL and TPACK are both frameworks that address integrating technology in education, particularly in language teaching contexts. CALL focuses specifically on incorporating technology to enhance language learning, emphasizing the role of technology in providing interactive and engaging language learning experiences (Levy & Hubbard, 2005). It considers a wide range of digital tools and resources to support language acquisition, from language learning apps and software to virtual reality applications. On the other hand, TPACK, introduced by Mishra and Koehler (2006), is a broader framework that considers the dynamic interplay between Technological Knowledge (TK), Pedagogical Knowledge (PK), and Content Knowledge (CK) in educational contexts. TPACK emphasizes the importance of teachers possessing a unique blend of technological, pedagogical, and content knowledge to integrate technology into teaching effectively. While CALL is a subset within TPACK, focusing specifically on language learning technologies, TPACK provides a more comprehensive perspective applicable across various subject areas. Both frameworks underscore the need for educators to understand the cooperation between technology, pedagogy, and content to make informed decisions about technology integration in language teaching and other educational contexts.

The intellectual heritage of EFL-TPACK can be traced to Lee Shulman's (1987) seminal work on pedagogical content knowledge (PCK). Shulman argued that effective teaching requires more than mere content knowledge or pedagogical knowledge in isolation; rather, teachers need a specialized form of knowledge that integrates both. PCK represents the intersection of content knowledge and pedagogical knowledge, encompassing "the ways of representing and formulating the subject that make it comprehensible to others" (Shulman, 1987, p. 9). Building on Shulman's work, Mishra and Koehler

(2006) introduced the Technological Pedagogical Content Knowledge (TPACK) framework to address the growing importance of technology in education. TPACK extends Shulman's PCK by adding a third domain: technological knowledge. The framework identifies three primary domains of knowledge that teachers need to successfully integrate educational technology: content knowledge (CK), pedagogical knowledge (PK), and technological knowledge (TK). The original TPACK framework builds upon Shulman's model and introduces four additional domains of technology-related knowledge: Technological Knowledge, Technological Content Knowledge, Technological Pedagogical Knowledge, and Technological Pedagogical Content Knowledge. More importantly, TPACK emphasizes the intersections between these domains, recognizing that effective technology integration requires an understanding of the complex relationships among technology, pedagogy, and content. TPACK emphasizes that effective technology integration by teachers depends not only on strong knowledge in each of these domains but also on the interplay between them, which informs pedagogical planning and reasoning for technology-enhanced teaching and learning activities.

After defining TPACK and critically examining existing instruments, Bostancıoğlu and Handley (2018) introduced a new instrument called English as a Foreign Language-TPACK (EFL-TPACK). They evaluated its validity and reliability by conducting content validation with CALL researchers and experts. Furthermore, they applied exploratory and confirmatory factor analyses to the survey responses from a large international sample of teachers. EFL-TPACK represents a synthesis of TPACK and CALL, designed specifically for English language teaching contexts. As Rahimi and Pourshahbaz (2019) explain, the framework "focuses on EFL teachers' TPACK" and addresses "the types of knowledge that are important in pedagogy and how these categories of knowledge and their related frameworks can differentiate models of teacher education." EFL-TPACK extends the standard TPACK framework by incorporating the specific demands of English language teaching, including attention to language skills (listening, speaking, reading, writing), language systems (grammar, vocabulary, pronunciation, language functions), and cultural nuances. A new theoretical framework named

"EFL-TPACK" can be designed by integrating elements from Technological Pedagogical Content Knowledge (TPACK) and Computer-Assisted Language Learning (CALL) (Wujiabudula, 2018). This framework aims to provide a comprehensive lens for exploring Information and Communication Technology (ICT) use in English Language Teaching (ELT) classrooms. EFL-TPACK emphasizes integrating technology within the broader context of language teaching, considering the dynamic interplay between technological knowledge, pedagogical knowledge, and content knowledge.

The purpose of this theoretical review is threefold: first, to provide a comprehensive examination of the theoretical foundations of EFL-TPACK; second, to systematically delineate the seven knowledge domains that constitute the EFL-TPACK framework; and third, to discuss the implications of EFL-TPACK for research, teacher education, and practice.

METHODOLOGY

This study employs a theoretical review approach to critically synthesize existing literature, positioning EFL-TPACK as a foundational framework for technology-enhanced language education. This methodological choice facilitates the systematic examination of theoretical underpinnings, the delineation of its seven core knowledge domains (CK, PK, TK, PCK, TCK, TPK, and TPACK), and its socio-constructivist integration with CALL. Employing thematic synthesis, data extracted via a standardized form—covering authorship, research focus, methodology, and key findings—are organized to map conceptual interrelationships, highlight prevailing gaps, and generate comprehensive insights into teachers' knowledge, perceptions, and practices regarding ICT integration in ELT classrooms.

A rigorous literature search was conducted across major databases—including ERIC, Google Scholar, Scopus, Web of Science, and ProQuest—using targeted terms such as "EFL-TPACK," "TPACK," "CALL," and "ICT integration," with results limited to peer-reviewed journal articles, book chapters, and dissertations published in English between 1987 and 2024, emphasizing works released after 2006. Studies were included if they specifically addressed teacher knowledge, perceptions, or

practices concerning technology in EFL contexts, while those focusing solely on student outcomes, lacking substantive theoretical or empirical detail, or confined to non-language subject areas were excluded. To uphold scholarly rigor, a dual quality assessment strategy was applied: theoretical works were evaluated for argumentative clarity and framework coherence, whereas empirical studies were appraised for design appropriateness, measurement validity, analytical thoroughness, and clarity of implications, ensuring that only studies meeting minimum standards contributed to the final synthesis.

FINDING AND DISCUSSION

The EFL-TPACK Framework and Its Knowledge Components

The EFL-TPACK framework comprises seven knowledge domains that collectively represent the knowledge base teachers need for effective technology integration in English language teaching. These domains are organized into three primary domains and four intersecting domains. In the field of ELT, incorporating ICT tools is guided by TPACK, where teachers blend their knowledge of language content, teaching strategies, and technological capabilities. This integration involves designing activities that naturally incorporate digital resources, such as language learning apps, to enhance language acquisition and provide diverse learning styles (Mishra & Koehler, 2006). In this regard, integrating English language and English language teaching is indispensable for proficient language instruction (Koehler & Mishra, 2009). Rooted in Shulman's (1987) theoretical framework, EFL TPACK extends beyond the basic elements of content knowledge (CK), pedagogical knowledge (PK), and technological knowledge (TK). Recent research has empirically validated the seven-factor EFL-TPACK framework across multiple studies and contexts (Yang et al., 2026). A study investigating EFL teachers' TPACK framework in higher education in Guizhou, China, found that the seven-factor EFL-TPACK framework was supported with acceptable fit, and EFL teachers' EFL-TPACK was at a moderate level.

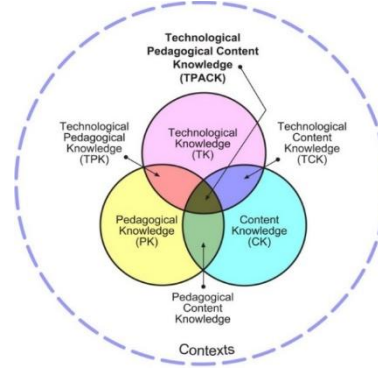


Figure 1: TPACK Framework and its Knowledge Components (Adopted from Mishra and Koehler (2009) p.17.)

Based on the above discussion and figure on TPACK, the EFL TPACK integrating ELT in ICT can be presented as shown in Figure 2.

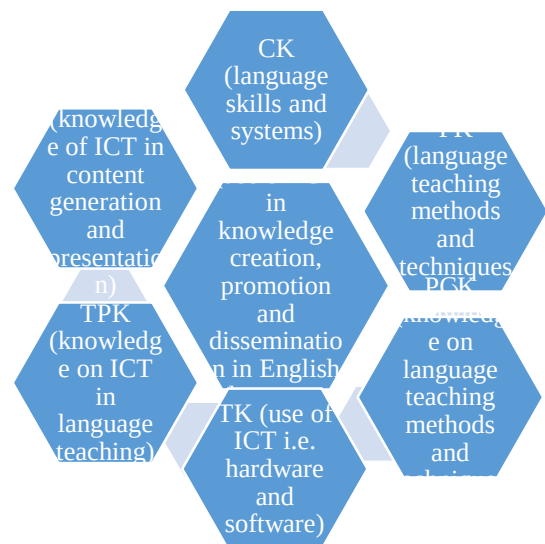


Figure 2: EFL TPACK Framework

Content Knowledge (CK)

Content Knowledge (CK) within the EFL-TPACK framework refers to teachers' understanding of the subject matter in ELT. This knowledge encompasses concepts, theories, frameworks, evidence, and established practices within ELT. In the context of EFL, CK involves a comprehensive understanding of the English language skills (listening, speaking,

reading, and writing) and systems (grammar, vocabulary, language functions) along with the subject matter and cultural nuances. Without a strong foundation in CK, the risk of imparting inaccurate information or fostering misconceptions about the English language among students becomes significant (Koehler & Mishra, 2009; Abdul Rauf, Swanto & Salam, 2021). Teachers must possess deep knowledge of the language they are teaching, including its structures, usage, and variation. To enhance CK, teachers interact with various forms of content and utilize ICT tools and techniques, including CALL resources (Mishra & Koehler, 2006). The integration of CALL into CK involves using digital materials and language learning apps, fostering a deep comprehension of English language disciplines.

Pedagogical Knowledge (PK)

Pedagogical Knowledge (PK) within EFL-TPACK corresponds to a teacher's in-depth understanding of teaching and learning processes in ELT. It involves managing classrooms, planning lessons, and assessing students effectively. PK goes beyond generic pedagogical knowledge to include strategies for language skill development (listening, speaking, reading, writing), language components (grammar, vocabulary, pronunciation), and considerations for diverse learners (Koehler & Mishra, 2009). PK also incorporates an awareness of students' cognitive processes, motivations, and dispositions towards language learning in the EFL context (Farhadi & Öztürk, 2023). As part of PK, CALL plays a significant role in enhancing pedagogical knowledge. Teachers integrate various CALL tools and techniques to employ diverse teaching strategies that address the needs of students. With its interactive exercises and gamified elements, CALL becomes an integral component in constructing and upgrading pedagogical knowledge within the EFL-TPACK framework.

Technological Knowledge (TK)

Pedagogical Content Knowledge (PCK)

Pedagogical Content Knowledge (PCK) represents the intersection of content knowledge and pedagogical knowledge. In EFL-TPACK, PCK encompasses the teacher's ability to represent and formulate the English language in ways that make it comprehensible to learners. This includes knowledge of how to teach

specific language skills and systems, how to address common learner difficulties, and how to select appropriate pedagogical strategies for particular content and learners. Teachers with strong PCK can transform their content knowledge into forms that are pedagogically powerful and appropriate for their students (Shulman, 1987).

Technological Content Knowledge (TCK)

Technological Content Knowledge (TCK) within EFL-TPACK is concerned with using technology to teach specific content knowledge related to the English language. For instance, knowing how to use multimedia tools to teach grammar rules or using online dictionaries for vocabulary development (Koehler & Mishra, 2009). TCK involves understanding how technology can represent and present language content in ways that support learning. Teachers with strong TCK can select and use technology tools that are appropriate for teaching particular language content and that support learners in developing their language knowledge and skills.

Technological Pedagogical Knowledge (TPK)

Technological Pedagogical Knowledge (TPK) in EFL-TPACK focuses on how technology transforms teaching procedures in English language instruction. This could involve the integration of simulation software for language experiments, multimedia for enhancing listening comprehension, or interactive language learning platforms (Andriany & Adnan, 2022). TPK stresses the importance of using technology to enhance language learning experiences and outcomes (Koehler & Mishra, 2009). Teachers with strong TPK are able to select and use technology tools that are appropriate for their pedagogical goals, that support effective teaching practices, and that enhance student learning. Analysis of knowledge co-occurrences shows that technological and pedagogical knowledge is consistently applied together across instructional contexts.

Technological Pedagogical Content Knowledge (TPACK)

Technological Pedagogical Content Knowledge (TPACK) in EFL brings together all these literacies to ensure that English language teachers can effectively work with technology, integrate it into their language

teaching, and manage technology-based language learning environments (Koehler & Mishra, 2009). TPACK involves understanding how to use various technologies to teach, represent, and facilitate the creation of knowledge specific to the English language, considering language macro skills, language components, and effective instructional strategies within the context of language learning. Teachers with strong TPACK are able to make informed decisions about technology integration that are grounded in their understanding of content, pedagogy, and technology and the relationships among them. Research demonstrates that teachers at more advanced levels present themselves as content creators rather than technology users in technology-infused teaching (Haryati et al., 2024). EFL-TPACK emphasizes the effective use of technologies, particularly digital media and computer-based technologies, in knowledge construction within ELT (Kanuka & Anderson, 1999). TPCK, a core component of EFL-TPACK, emphasizes the teacher's technological pedagogical knowledge for effective teaching and ICT utilization. Mishra and Koehler (2006) highlight that the pedagogical use of technology necessitates the development of TPCK knowledge, emphasizing the interconnectedness of technology, pedagogy, and content.

The Socio-Constructivist Foundation of EFL-TPACK

EFL-TPACK is not merely a technical framework but is grounded in a socio-constructivist view of learning. This theoretical foundation acknowledges the dynamic nature of learning and the importance of social interaction and experiential learning in knowledge construction. As Jones and Brader-Araje (2002) note, teachers can use past knowledge, preconceptions, and cognitive dissonance to devise curricula and instructional approaches beyond rote memorization, enabling deeper comprehension. The socio-constructivist foundation of EFL-TPACK suggests that technology should not be used simply as a delivery mechanism for content but as a tool for creating opportunities for meaningful interaction, collaboration, and knowledge construction.

This perspective also emphasizes the role of the teacher as a facilitator of learning rather than merely a transmitter of knowledge. Teachers using EFL-TPACK are not simply applying technology to

their teaching but are actively designing learning experiences that leverage technology to support social interaction and knowledge construction. They recognize that learning is a social process and that technology can be used to create rich, interactive learning environments that support this process. EFL-TPACK serves as an appropriate theoretical framework for exploring teachers' knowledge, perceptions, and practices regarding the use of ICT in ELT classrooms. This framework combines the social constructivist theory of learning with TPACK, emphasizing the role of social interaction and experiential learning in knowledge construction. Teachers, recognizing the dynamic nature of learning, can use past knowledge, preconceptions, and cognitive dissonance to devise curricula and instructional approaches beyond rote memorization, enabling deeper comprehension (Jones & Brader-Araje, 2002). This theoretical foundation supports the study in understanding the complex interplay between social and individual processes in co-constructing knowledge in ICT integration.

The socio-constructivist foundation of EFL-TPACK also acknowledges the importance of context in learning. TPACK is inherently context-dependent, requiring its application to specific educational settings, which is why Koehler and Mishra introduced the dotted circle labelled "Contexts" around the Venn diagram with the seven knowledge domains in 2009. Language learning is not an abstract process but is situated in specific social, cultural, and institutional contexts. Technology can provide access to diverse contexts and can support learning that is relevant and meaningful to learners. Additionally, the societal position of individuals can influence technology use, creating inequalities in technology distribution and access within the EFL-TPACK framework (Van Dijk, 2013). These theoretical principles, with the integration of CALL, provide fundamental guidelines for understanding and interpreting issues related to technology integration in ELT classrooms, ensuring a comprehensive exploration of the phenomena studied in this research.

EFL-TPACK and CALL Integration

The integration of CALL within the EFL-TPACK framework is essential for understanding how technology can support language learning. CALL provides the specific knowledge and tools relevant to

language teaching, while TPACK provides the broader framework for understanding teacher knowledge for technology integration. Together, they offer a comprehensive lens for exploring ICT use in ELT classrooms. CALL integration within EFL-TPACK can be understood across the different knowledge domains. In CK, CALL resources provide access to authentic language materials and digital content that supports language learning. In PK, CALL tools support diverse pedagogical approaches and create opportunities for interactive, engaging language learning experiences. In TK, CALL provides the specific technological skills and knowledge needed to use digital tools for language teaching.

At the intersections, CALL integration becomes even more significant. In TCK, CALL provides tools for teaching specific language content, such as grammar, vocabulary, and pronunciation. In TPK, CALL supports pedagogical approaches that leverage technology for language teaching. And in TPACK, CALL is fully integrated with content and pedagogical knowledge to support effective technology-enhanced language teaching. As Alotumi (2023) notes, EFL TPACK "underpins CALL integration in ELTE." This integration is essential for preparing teachers to use technology effectively in their language teaching practice. The evolution of CALL has transformed language education, integrating advanced technologies and innovative methodologies to enhance linguistic acquisition, while also highlighting critical issues such as educator preparedness and inconsistencies in implementation (Sanad, 2024).

Implications for Research, Teacher Education, and Practice

Implications for Research

EFL-TPACK provides a valuable framework for empirical research on technology integration in language teaching. The framework offers a comprehensive set of constructs that can be operationalized and measured, enabling researchers to investigate various aspects of teacher knowledge and practice. Recent studies have validated the seven-factor EFL-TPACK framework and examined its relationship with demographic factors such as gender, age, and professional experience (Baser, Kopcha, & Ozden, 2015; Bostancioğlu & Handley, 2018). Research has found correlations between demographic factors and the EFL-TPACK framework, suggesting

that policymakers or course developers should take demographic factors into consideration when designing professional development programs (Yang et al., 2026).

Future research could explore several directions. First, there is a need for more studies that examine EFL-TPACK in diverse contexts, including different educational levels, institutional settings, and cultural contexts. Second, longitudinal studies could investigate how EFL-TPACK develops over time and how it is influenced by professional development experiences. Third, studies could examine the relationship between EFL-TPACK and student outcomes, investigating whether teachers with higher levels of EFL-TPACK are more effective in supporting student language learning. Research could also explore the relationship between EFL-TPACK and other constructs, such as teacher beliefs, self-efficacy, and motivation. Understanding how these factors interact with EFL-TPACK could inform the design of professional development programs and support the development of teachers' technology integration knowledge and skills.

Implications for Teacher Education

EFL-TPACK has significant implications for teacher education programs. As Rahimi and Pourshahbaz (2019) note, the framework addresses "the types of knowledge that are important in pedagogy and how these categories of knowledge and their related frameworks can differentiate models of teacher education." Teacher education programs should provide opportunities for teachers to develop all seven knowledge domains of EFL-TPACK, with particular attention to the integration of CALL with content and pedagogical knowledge.

Recent studies have highlighted the value of providing teachers TPACK-based courses in teacher training (Kim & Lee, 2025). Research has shown that a TPACK-based teacher education courses effectively increased pre-service teachers' sense of self-efficacy about technology integration into their teaching practice, reduced their anxiety about technology integration, and equipped them with knowledge and skills to effectively use digital technologies in their content areas. Professional development programs should be sustained, contextually relevant, and focused on the integration of technology with content and pedagogy. They should provide opportunities for

teachers to experiment with technology in their teaching, to reflect on their practice, and to learn from colleagues. The praxeological learning approach, following the Technological Pedagogical Content Knowledge Framework step-by-step and highlighting context-sensitivity, has been shown to scaffold pre-service teachers' knowledge construction cumulatively and provide them with authentic learning experiences (Sercan & Kuru-Gönen, 2023).

Implications for Practice

For practicing teachers, EFL-TPACK offers a framework for reflecting on their own knowledge and practice. Teachers can use the framework to identify areas of strength and areas for development in their technology integration knowledge. They can also use the framework to guide their professional learning and make informed decisions about when and how to use technology in their teaching. By considering the relationships among content, pedagogy, and technology, teachers can select technology tools that are appropriate for their teaching context, that support their pedagogical goals, and that enhance student learning of language content.

Teachers should also be aware of the challenges associated with technology integration, including issues of access, equity, and the rapid pace of technological change. EFL-TPACK provides a framework for addressing these challenges by emphasizing the importance of understanding technology in relation to content and pedagogy. By developing their EFL-TPACK, teachers can become more confident and competent users of technology in their language teaching. As Tafazoli (2024) argues, language teachers must engage in CALL teacher education and professional development to keep up with the ever-evolving technology landscape and improve their teaching effectiveness. Research indicates that teachers who successfully implement TPACK in their classrooms manage technology-rich learning supported by appropriate teaching strategies and the adoption or adaptation of learning content (Haryati et al., 2024).

Limitations and Future Directions

While this theoretical review provides a comprehensive examination of EFL-TPACK, several limitations should be acknowledged. First, as a

theoretical review, this study synthesizes existing literature rather than presenting primary empirical data. Future empirical research is needed to validate the EFL-TPACK framework in diverse contexts and to investigate its relationship with teacher practice and student outcomes. Second, the review focused primarily on literature published in English, which may have excluded relevant studies published in other languages. Third, the dynamic nature of technology means that the specific technological tools and applications referenced in the literature may become outdated, though the theoretical framework itself remains relevant.

Future research directions include: (a) conducting longitudinal studies to investigate how EFL-TPACK develops over time and how it is influenced by professional development experiences; (b) examining EFL-TPACK in diverse contexts, including different educational levels, institutional settings, and cultural contexts; (c) investigating the relationship between EFL-TPACK and student outcomes; (d) exploring the relationship between EFL-TPACK and other constructs such as teacher beliefs, self-efficacy, and motivation; and (e) developing and validating instruments to measure EFL-TPACK in different contexts and with different populations. Additionally, future research should examine how contextual factors shape EFL-TPACK and how it manifests in diverse environments, as recent scholarship has shown growing interest in how different contexts influence teachers' TPACK (Computers and Education Open, 2024).

CONCLUSION

This theoretical review has presented EFL-TPACK as a foundational framework for understanding technology integration in English language teaching. Synthesizing TPACK and CALL, EFL-TPACK provides a comprehensive lens for exploring teachers' knowledge, perceptions, and practices regarding ICT use in ELT classrooms. The framework is grounded in a socio-constructivist view of learning and emphasizes the dynamic interplay between technological knowledge, pedagogical knowledge, and content knowledge.

EFL-TPACK comprises seven knowledge domains: content knowledge (CK), pedagogical knowledge (PK), technological knowledge (TK),

pedagogical content knowledge (PCK), technological content knowledge (TCK), technological pedagogical knowledge (TPK), and technological pedagogical content knowledge (TPACK). Each of these domains is essential for effective technology integration in language teaching, and together they provide a comprehensive framework for understanding teacher knowledge. The framework integrates principles of constructivism with TPACK, acknowledging the socio-constructivist nature of learning while emphasizing the crucial role of technology in shaping effective language teaching practices. This theoretical foundation will guide the exploration of teachers' knowledge and practices regarding ICT integration in ELT classrooms, providing a holistic understanding of the dynamic relationship between technology, pedagogy, and content knowledge.

The framework has significant implications for research, teacher education, and practice. For researchers, EFL-TPACK provides a set of constructs that can be operationalized and measured, enabling empirical investigation of technology integration in language teaching. Recent empirical studies have validated the seven-factor EFL-TPACK framework across multiple contexts (Yang et al., 2026), demonstrating its robustness and applicability. For teacher educators, the framework provides guidance for designing programs that develop all aspects of teacher knowledge for technology integration. Research has demonstrated the transformative potential of TPACK-based instruction in EFL teacher preparation (Kim & Lee, 2025). For practicing teachers, EFL-TPACK offers a lens for reflecting on their own knowledge and practice and for making informed decisions about technology integration.

As technology continues to evolve and permeate educational contexts, frameworks like EFL-TPACK will become increasingly important for understanding and supporting effective technology integration. TPACK may be conceptualized as a dynamic construct that is applied differently depending on the context and teaching experience rather than a static integration of its components (Driesel et al., 2024). By providing a comprehensive and contextually appropriate framework for understanding teacher knowledge in technology-enhanced language education, EFL-TPACK contributes to the ongoing effort to prepare teachers for the challenges and opportunities of 21st-century

language teaching. This review concludes by encouraging further empirical investigation of EFL-TPACK and its application in diverse teaching contexts, with the ultimate goal of enhancing the quality of technology-enhanced language education for learners worldwide.

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