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Digital Task-Based Language Teaching (TBLT): A Systematic Review of Tools, Tasks, Learning Outcomes, and Theoretical Foundations (2015–2025)

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ABSTRACT

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Digital Task-Based Language Teaching (TBLT) is a pedagogical approach utilizing technology in communicative language acquisition. This systematic review synthesizes empirical evidence of digital TBLT practice from 2015-2025 to investigate digital tools, task types, learning outcomes, and theoretical foundations. Following Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) protocol, 30 peer-reviewed articles were analyzed from Scopus and Web of Science databases by systematic data extraction and thematic analysis. Results include digital instruments like collaborative spaces (Google Docs, Padlet), mobile apps (WhatsApp, WeChat), Learning Management Systems, and immersive spaces (VR/AR). Task types included collaborative writing, speaking tasks, digital storytelling, and multimodal composition. Learning outcomes showed improvements in speaking and writing skills and motivation, whereas cognition was less researched. However, theoretical integration was not uniform because only six of nine studies citing sociocultural theory employed it in task design. Key findings are that pedagogical design quality, rather than technological sophistication, is the basis for learning effectiveness. The same technology showed mixed success using task scaffolding, sequencing, and alignment with TBLT principles. Digital TBLT's potential lies not in technological advance but in pedagogically-motivated integration enabling authentic, equitable language learning across educational contexts.

1. Introduction

1.1. TBLT: Theoretical Foundations and Benefits

Task-Based Language Teaching (TBLT) is a student-centered, communicative approach that seeks to employ the target language through actual, goal-directed tasks instead of the explicit teaching of grammar (Caruso et al., 2021; Li & Kou, 2023; Wiboolyasarini, 2023; Widiastuti et al., 2022). The key principles of TBLT are focusing on meaning, having clear goals, being related to reality, and engaging learners

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(Pascual, 2019; Rodríguez-Peñarroja, 2022; Tong et al., 2020). Tasks usually follow a systemic pattern of pre-task, during-task, and post-task stages to enable effective learning (Ellis, 2003 as cited in Wiboolyasarini, 2023; Widiastuti et al., 2022). TBLT today has technological extensions in the way of WhatsApp-based task repetition (Garcia-Ponce et al., 2023), digital storytelling (Azis & Husnawadi, 2020; Huang, 2023), and virtual simulations (Compagnoni, 2024; Li & Kou, 2023). They not only enhance language learning but also digital skills (Gadomska, 2015; Yeh, 2018).

Theoretical foundations of TBLT adopt various paradigms. TBLT builds on Communicative Language Teaching (CLT) by attempting to implement communication principles within task cycles (Azis & Husnawadi, 2020; Ramadhan et al., 2023). TBLT is also connected with Second Language Acquisition (SLA) theories based on experiential learning and rich interaction (Azis & Husnawadi, 2020). Dewey's learning by doing principles legitimize authentic task performance in TBLT (Sato et al., 2017). The Interaction Hypothesis and Sociocultural Theory regard tasks as mechanisms for negotiating meaning and offering cognitive scaffolding (Kim et al., 2022; Van Der Zwaard & Bannik, 2016). Other important parts are teaching grammar in real-life situations, working together to learn, testing in real life, and different ways of being literate (Kim et al., 2022; Tong et al., 2020). Hence, this review is empirically based on Vygotsky's (1978) sociocultural theory that asserts cognitive development to take place by way of social interaction in specific cultural and contextual settings. In language learning, this demonstrates how linguistic, symbolic, and technological instruments help learners move along their zone of proximal development (ZPD). With the use of digital technologies becoming more prevalent in TBLT, these tools aid interaction, improve task performance, and enhance understanding.

TBLT possesses certain learner-centered benefits. The students are more motivated and interested when they take part in activities with real-world application (Al-Rashidi, 2025; Sydorenko et al., 2019) and learn both linguistic and non-linguistic competence such as teamwork and intercultural communication (Cherrez, 2022; Widiastuti et al., 2022). Specific gains are improved speaking via digital narrative (Azis & Husnawadi, 2020; Huang, 2023), improved writing via genre-focused activities (Kim et al., 2022; Pascual, 2019), and enhanced listening and reading via game-based learning (Pratiwi & Waluyo, 2022). Technology-supported TBLT also enables learner autonomy and reflective practice (Ramadhan et al., 2023; Wiboolyasarini, 2023), supporting effective language acquisition and learner agency.

1.2. The Role of Digital Technologies in Reshaping TBLT

Computer technologies have transformed modern TBLT, altering its practice and implications. The evolution into Digital Task-Based Instruction (DTBI) meshes TBLT principles with web-based technologies, multimedia resources, mobile applications, and virtual realities in order to promote

interactivity and cooperation (Al-Rashidi, 2025). These digital affordances provide access to real-world materials and prompt real-world communication at the core of TBLT. They can practice in simulated interactions in virtual settings or through Mobile-Assisted Language Learning (MALL), allowing for learning beyond the confines of traditional classrooms (Azis & Husnawadi, 2020). Key digital tools in TBLT are messaging apps like WhatsApp (Garcia-Ponce et al., 2023) and WeChat (Tong et al., 2020) for authentic practice and teamwork; Learning Management Systems like Moodle for task provision and facilitation of autonomy (Belda-Medina, 2021; Wiboolyasarini, 2023); multimedia and digital storytelling tools for creative, multimodal task completion (Al-Rashidi, 2025; Huang, 2023); and virtual/augmented reality platforms providing immersive environments replicating real-life settings (Compagnoni, 2024; Li & Kou, 2023).

The integration of digital technologies into TBLT provides meaningful and interactive learning experiences (Caruso et al., 2021; Huang, 2023), promotes learner autonomy in ubiquitous access, and develops critical digital literacy skills (Kim et al., 2022; Pratiwi & Waluyo, 2022). This integration is based on Activity Theory and Self-Determination Theory, acknowledging motivational and contextual elements of learning (Al-Rashidi, 2025; Wiboolyasarini, 2023). Besides, Digital technology reshapes task achievement and assessment by offering instant feedback, interactive engagement, and flexible communication that allows for richer interaction and learner agency (Al-Rashidi, 2025; De Jesus Ferreira Nobre, 2018). Technology-based environments allow for richer assessment practices that account for creative and linguistic production and cyber skills (Caruso et al., 2021; Wiboolyasarini, 2023).

1.2. The Need for a Systematic Review in Digital TBLT Research

Despite growing interest in digital TBLT, there are certain significant gaps in the literature. There remains a dearth of empirical focus on how digital TBLT affects learner motivation across multiple educational and cultural contexts (Al-Rashidi, 2025). The evolving role of the teacher in technology-mediated environments is understudied (Tong et al., 2020). Research on emerging technologies like MALL, digital storytelling, and social media platforms in TBLT settings is disjointed (Garcia-Ponce et al., 2023; Huang, 2023), with an emphasis on some individual competencies at the expense of others (Wiboolyasarini, 2023).

The constrained lens prevents the understanding of digital tools' full pedagogical affordances (Azis & Husnawadi, 2020; Widiastuti et al., 2022). Huang (2023) highlights a dearth of studies that tackle DST impacts on more than one student outcome, and Kim et al. (2022) mark thin investigation of collaborative multimodal composing tasks. Tong et al. (2020) contend that research in combining technological innovation with TBLT is in its infancy, and Park (2022) reiterates that CALL-TBLT

conflation is not fully developed. Rahimi and Sevilla-Pavón (2025) point out that much CALL research is poorly analyzed, making it non-generalizable.

This fragmentation has prompted the need for a theoretically grounded, unified strategy for the incorporation of digital materials into TBLT. Without theoretical coherence, technology implementation is susceptible to being incoherent and unrelated to underlying TBLT principles (Azis & Husnawadi, 2020; Caruso et al., 2021; Tong et al., 2020). New frameworks for technology-enhanced TBLT are required to be more fully developed and tested for use in different contexts (Al-Rashidi, 2025; Wiboolyasarini, 2023).

1.4. Purpose and Research Questions

After the observed results gaps in the current literature, this systematic review will integrate results across studies to provide a unifying report of digital TBLT enactment and theoretical foundations. Whereas former reviews have focused on particular tools or narrow effects, our attempt is aimed at providing detailed information that addresses the emerging trends and technological advancements within the field. Among the fields in particular need of consideration are mobile-supported TBLT, social media use, teacher mediation in online environments, and more general 21st-century skills like computational thinking (Rahimi & Sevilla-Pavón, 2025). Virtual learning environments also need more empirical evaluation, as indicated by Torres & Vargas Fuentes (2021) and Wiboolyasarini (2023). To address these needs, this systematic review discusses the implementation and outcomes of digital TBLT across different teaching contexts, learner levels, and technological platforms with the help of the following research questions:

1. What are the most common digital tasks employed in TBLT research, and what are their principal features?
2. What digital tools and technologies are implemented in TBLT practices, and how is their pedagogical effectiveness assessed?
3. What learning outcomes are most frequently investigated in digital TBLT studies, and what evidence exists regarding their effectiveness?
4. How do digital TBLT studies align with theoretical frameworks, and what role do pedagogical factors play in shaping outcomes?

By addressing these questions, this review seeks to contribute to more cohesive, evidence-based approaches to integrating digital resources in TBLT, working against the theoretical and practical fragmentation that is presently inhibiting the field's progress. The synthesis will follow the range of digital tools in TBLT designs, investigate their impacts on language capacity and learner engagement,

assess teacher roles within digital contexts, and identify theoretical trends to inform future research and practice.

2. Methodology

2.1. Search Strategy

The present systematic review adopted a predetermined search strategy in locating peer-reviewed studies on digital TBLT applications. We searched Scopus and Web of Science databases, which were selected for their broad coverage of educational technology and applied linguistics research. Given the emerging specificity of digital TBLT studies, we employed the exact phrase "digital task-based language teaching" in both databases without employing Boolean operators or variations. This plan yielded a steady set of data of research targeted at studies that directly fitted into this model. Results were limited to English-language, peer-reviewed journal articles from 2015 to 2025. This timeframe was selected as around 2015, digital TBLT began to emerge as a distinct research field with more precise theoretical elaboration and terminology. Furthermore, the decade witnesses an incredible transformation in the availability and affordability of digital technologies, such as mobile apps, collaborative platforms, and virtual learning environments that are at the center of creating and realizing digital TBLT tasks. Focusing on this decade allowed us to seize both conceptual development as well as technological advancements that have shaped present-day digital TBLT practices.

2.2. Screening and Selection Process

59 articles were initially obtained after duplicates were eliminated. Following title screening, the resulting documents were labeled "relevant," "potentially relevant," or "irrelevant" on the basis of abstracts. Full-text screening for all possibly relevant studies was conducted with final determinations based on predetermined criteria.

2.3. Inclusion and Exclusion Criteria

Inclusion criteria required that the studies must be: English language publications; on second/foreign language acquisition; empirical (quantitative, qualitative, or mixed-method); task-based computerized language teaching; research among L2 learners/classrooms using digital tools to complete tasks; and reporting results on learning outcomes, task design, or implementation settings.

Studies were excluded if they: did not exclusively focus on non-task-based pedagogies; showed theoretical foundations without evidence; had only teacher-only interventions; or were conference proceedings, book chapters, or unpublished theses.

2.4. Final Dataset and PRISMA Flow

Following multi-phase screening, 30 studies were led to final analysis, covering a broad spectrum of digital modalities varying from mobile-assisted language learning, virtual reality, flipped classrooms, collaborative platforms, and multimedia tools for digital storytelling or video production.

2.5. Data Extraction and Coding

Data were extracted with the assistance of a systematic template that recorded key variables: digital tool/platform category, TBLT task character, learning outcomes, educational setting, methodological approach, and participant characteristics. Descriptive coding was applied to categorize studies according to these variables, and themes were constructed by iterative analysis.

2.6. Method of Analysis

Qualitative content analysis and thematic synthesis uncovered recurring patterns in line with the above four research questions. Quantitative frequency counts were added where necessary to thematic trends. Synthesis was interpretive and descriptive in exploring key affordances, constraints, and areas for future work for digital TBLT.

3. Results

3.1. Digital Tools and Platforms Used in Digital TBLT

Across the 30 selected studies, there were numerous digital tools and platforms employed to carry out task implementation in digital TBLT contexts. Online collaborative platforms such as Google Docs and Padlet facilitated collaborative writing and brainstorming activities (Al-Rashidi, 2025). Most frequently, Learning Management Systems (LMS) such as Moodle (Belda-Medena, 2021) and Talent LMS (Wiboolyasarin, 2023) were utilized to structure and deliver task sequences, which was complemented by Synchronous Computer-Mediated Communication (SCMC) tools like Google Hangouts and asynchronous forums (Table 1).

Multimedia software was at the center of the majority of research, for instance, video and podcast creation (Al-Rashidi, 2025), digital storytelling tools (Azis & Husnawadi, 2020), and infographic design tools like Canva and Piktochart (Belda-Medina, 2021). Certain mobile-supported learning tools supported task performance through real-time communication and sharing. WhatsApp (Garcia-Ponce et al., 2023;

Rahimi & Sevilla-Pavón, 2025) and WeChat (Li & Lontas, 2023; Tong et al., 2020) took center stage, allowing for collaborative interaction as well as the completion of oral and cultural tasks (Table 1).

Table 1

Digital Tools and Platforms in Digital TBLT Studies (n = 30)

Category	Tool/Platform	Function in TBLT	Studies
Collaborative Writing Tools	Google Docs, Padlet, Wikis	Co-construction of texts, shared task outcomes	Al-Rashidi (2025), Pierson (2015), Kim et al. (2022)
LMS/VLE Platforms	Moodle, Talent LMS, Edmodo, Blackboard	Task delivery, sequencing, submission, assessment	Belda-Medina (2021), Wiboolyasarini (2023), Ramadhan et al. (2023)
SCMC/CMC Tools	Google Hangouts, WhatsApp, WeChat, discussion boards	Real-time or asynchronous task interaction, negotiation, feedback	Sato et al. (2017), Garcia-Ponce et al. (2023), Tong et al. (2020), Rahimi & Sevilla-Pavón (2025)
Mobile Applications	WhatsApp, WeChat, mobile phones (general)	Contextualized language use, learner interaction, collaboration	Garcia-Ponce et al. (2023), Li & Lontas (2023), Tong et al. (2020)
Multimodal Composing Tools	Viva Video, VoiceThread, izi.Travel, podcast apps	Storytelling, geo-tagged tasks, multimodal meaning-making	Azis & Husnawadi (2020), Compagnoni (2024), Rahimi & Sevilla-Pavón (2025)
Infographic Tools	Canva, Piktochart, Genially, Easel.ly, Glogster	Visual representation of task outcomes and language input	Belda-Medina (2021), Li & Lontas (2023)
Game-Based Tools	Kahoot!, Socrative, Quizizz	Gamified task interaction, formative assessment	Pratiwi & Waluyo (2022), Al-Rashidi (2025)
Virtual/Augmented Reality	Second Life, Immerse, Chrono Ops AR, VR headsets	Immersive task performance, real-time simulation, spatial interaction	Compagnoni (2024), Li & Kou (2023), Sydorenko et al. (2019), Rahimi & Sevilla-Pavón (2025)

Online Collaboration Platforms	Moodle forums, Talent LMS Q&A, Padlet threads	Discussion, negotiation of meaning, planning and feedback exchange	Wiboolyasarin (2023), Belda-Medina (2021), Kim et al. (2022)
Authoring and Evaluation Tools	Automated writing feedback systems, notepads	Writing support, revision, scaffolding	Cherrez (2022), Rodríguez-Peñarroja (2022)

Game-based learning platforms such as Kahoot! Socrative, and Quizizz (Table 1) provide the opportunity to support learner engagement in general, and assessment activities in particular (Al-Rashidi, 2025; Pratiwi & Waluyo, 2022). Immersive worlds were explored in few studies. For example, Compagnoni (2024) and Li and Kou (2023) used Virtual Reality (VR) and 3D virtual worlds such as Immerse and Second Life, and Sydorenko et al. (2019) examined mobile augmented reality (AR) via place-based games.

Patterns of tool usage were also observed to align with both learner profiles and task profiles. Younger learners were more likely to be engaging with mobile apps and digital storytelling tools, as appropriate to their developmental stage and task complexity (Azis & Husnawadi, 2020; Caruso et al., 2021). By contrast, adult learners, namely university students, were interacting with a broader variety of platforms such as LMS, content creation tools, and multimodal digital environments.

Notably, several studies that used the same tools such as WhatsApp, Google Docs, and LMS platforms reported contrasting learner outcomes depending on the pedagogical integration of these tools. For instance, Garcia-Ponce et al. (2023) found that WhatsApp helped people become more fluent in speaking when it was used in a cyclical task framework. Other studies that used WhatsApp for free, unstructured, informal communication found that it didn't help people learn new languages very much. In the same way, Google Docs made it possible for people to write together or take surface notes, depending on how the task was set up. These comparisons show that task design, not tool type, is the most important factor in how well someone learns. These findings indicate that technology selection in TBLT is contingent upon pedagogical objectives, task complexity, and learner context, favoring multimodal and interactive technologies to facilitate communication, collaboration, and creativity.

3.2. Task Types

The studies in this review utilized a diverse array of task types, demonstrating the adaptability of technology in facilitating task-based language learning. The tasks varied in their pedagogic orientation,

modality, and technological properties, but were all aligned with basic TBLT principles, such as focus on meaning, goal orientation, and student engagement with authentic language use.

Collaborative writing tasks were most commonly reported. By means of Google Docs, wikis, and SCMC platforms, students engaged in collaborative text production and peer feedback activities (Table 2; Al-Rashidi, 2025; Liontas, 2018; Torres & Vargas Fuentes, 2021). These tasks generally involved planning, negotiation, and revision in real or asynchronous time, with the possibility of continued interaction and co-construction of meaning.

Oral activities were also a focus. Different studies used different digital tools, such as WhatsApp, Voice Thread, and asynchronous video tools, to help people improve their speaking skills and communication skills. Cherrez (2022) and Huang (2023) developed technology-mediated speaking tasks that fostered communicative willingness and improved fluency and confidence in speaking. Tasks ranged from narrative monologues (Garcia-Ponce et al., 2023) to digital storytelling and oral interviews (see Table 2; Sato et al., 2017).

Multimodal and multimedia tasks, including digital storytelling, infographic designing, and video production, were utilized in a number of studies to facilitate engagement and communicative outcomes. As can be seen in Table 2, Azis and Husnawadi (2020), Kim et al. (2022), and Yeh (2018) integrated Digital Multimodal Composing (DMC) into TBLT frameworks, which forced learners to integrate text, audio, video, and images into coherent digital products.

Gamified tasks and game-based learning were emphasized in studies that aimed to improve learner motivation and engagement. Technology tools such as Kahoot! Quizizz, and mobile AR games were utilized for vocabulary drills, writing, and reading comprehension activities (see Table 2; Butler, 2017; Pratiwi & Waluyo, 2022; Sydorenko et al., 2019).

Table 2

Types of Tasks Implemented in Digital TBLT Studies

Task Type	Description	Representative Studies
Collaborative Writing	Joint writing via tools like Google Docs, wikis, or SCMC platforms.	Al-Rashidi (2025); Liontas (2018); Torres & Vargas Fuentes (2021)
Speaking Tasks	Oral communication tasks using apps or platforms (e.g., WhatsApp, VoiceThread, video recordings).	Cherrez (2022); Garcia-Ponce et al. (2023); Widiastuti et al. (2022); Sato et al. (2017); Huang (2023)
Digital Storytelling (DST)	Story creation using multimodal tools (text, video, audio).	Azis & Husnawadi (2020); Huang (2023); Kim et al. (2022); Yeh (2018); Trevisol & D'ely (2021)

Multimodal Composing (DMC)	Tasks requiring the integration of text, audio, video, images.	Kim et al. (2022); Belda-Medina (2021); Compagnoni (2024); Yeh (2018)
Communication & Interaction	Synchronous/asynchronous discussions, negotiation of meaning.	Belda-Medina (2021); Tong et al. (2020); Cherrez (2022); Garcia-Ponce et al. (2023); De Jesus Ferreira Nobre (2018)
Content Creation	Creation of posters, infographics, presentations, podcasts, or brochures.	Al-Rashidi (2025); Azis & Husnawadi (2020); Liontas (2018); Kim et al. (2022)
Problem-Solving & Decision-Making	Tasks in virtual environments requiring critical thinking or CT skills.	Rahimi & Sevilla-Pavón (2025); Li & Kou (2023); Caruso et al. (2021)
Gamified Tasks	Game-based activities for language practice (e.g., Kahoot! AR games).	Butler (2017); Pratiwi & Waluyo (2022); Sydorenko et al. (2019); Al-Rashidi (2025); Kao (2020)
Real-World Simulations	Performing authentic tasks in virtual or augmented environments.	Park (2022); Garcia-Ponce et al. (2023); Van Der Zwaard & Bannink (2016); De Jesus Ferreira Nobre (2018)
Information Gathering/Research	Tasks involving digital exploration and online research.	Al-Rashidi (2025); De Jesus Ferreira Nobre (2018)
Assessment-Oriented Tasks	Online quizzes, vocabulary tests, automated writing evaluation.	Pratiwi & Waluyo (2022); Rahimi & Sevilla-Pavón (2025); Al-Rashidi (2025)
Mobile-Mediated Tasks	Activities using mobile devices (e.g., video recording, photo collection).	Tong et al. (2020); Azis & Husnawadi (2020); Al-Rashidi (2025)

Some of the studies concentrated on problem-solving and decision-making tasks, more precisely in immersive environments such as Second Life or Virtual Exchange settings. These activities involved the learners in goal-oriented interactions that necessitated collaboration and critical analysis (Li & Kou, 2023; Rahimi & Sevilla-Pavón, 2025). The studies also emphasized authentic simulation tasks, including executing communicative activities in virtual kitchens or engaging in intercultural exchange (Park, 2022; Van Der Zwaard & Bannink, 2016). A subset of studies specifically examined task complexity, including cognitive load, digital literacy requirements, and task sequencing. Caruso et al. (2021) addressed the design of developmentally appropriate complex tasks, while Rahimi and Sevilla-Pavón (2025)

incorporated computational thinking for managing abstraction and problem-solving. Together, these findings demonstrate that digital TBLT is supportive of a wide range of task types, which allows teachers to develop context-sensitive, cognitively stimulating, and multimodally rich learning experiences.

3.3. Learning Outcomes

This section brings together learning outcomes cited in the studies, categorized into the linguistic, affective, and cognitive domains. Findings were coded thematically using data extraction sheet coding. The general trend across the studies was the positive impact of digital TBLT on linguistic outcomes, but especially on speaking and writing skills. Illustrated in Table 3, some studies reported greater fluency, vocabulary range, and syntactic accuracy among learners who finished game-based and mobile-supported activities (e.g., Azis & Husnawadi, 2020; Caruso et al., 2021; Compagnoni, 2024). Wiki-, blog-, and collaborative platform-facilitated writing activities yielded higher textual coherence, vocabulary range, and genre awareness (Belda-Medina, 2021; Yang & Kim, 2021). Oral tasks supported by mobile applications or videoconferencing programs appeared to boost L2 fluency and reduce hesitation markers, suggesting greater communicative confidence (Al-Rashidi, 2025; Wang et al., 2023).

Affective benefits in the forms of motivation, participation, and learner independence were also frequently reported. Gamification activities (e.g., Kahoot-based quizzes, and AR/VR-supported digital storytelling apps) and AR/VR environments were often associated with greater motivation and communicative volition (Cherrez, 2022; Wu et al., 2021). Students participating in real digital activities of life demonstrated greater investment and reported a sense of authenticity of learning experience (De Jesus Ferreira Nobre, 2018; Mahalingam & Yunus, 2021). In particular, several studies emphasized personalization and choice as key to maximising learner agency, particularly where students were given choices over topics, tools, or partners (further details are outlined in Table 3).

Table 3

Classification of Language Learning Outcomes by Subdomain

Subdomain	Description	Examples
Linguistic	Focuses on language skills and proficiency development	Vocabulary acquisition, grammar mastery, fluency, pronunciation, syntactic complexity, reading comprehension, writing
Affective	Relates to emotions, motivation, attitudes, and learner engagement	Motivation, learner engagement, attitudes towards learning, emotional reactions to tasks, self-confidence
Cognitive	Involves mental processes like	Task engagement, metacognitive awareness,

problem-solving, metacognition, and intercultural competence, critical thinking, self-intellectual growth regulation

Cognitive outcomes, including task engagement, metacognitive knowledge, and intercultural skills, were considered as well, albeit in less research (Rodríguez-Peñarroja, 2022; Van Der Zwaard & Bannink, 2016). Reflective activities (e.g., peer feedback instruments) promoted higher-order thinking and self-regulation (Rodríguez-Peñarroja, 2022). Telecollaborative interactions also promoted the growth of intercultural sensitivity and pragmatic awareness (Van Der Zwaard & Bannink, 2016). However, few studies quantified cognitive advantages through pre- and post-task assessment (Kim et al., 2022), suggesting a potential gap for this literature. Cumulatively, the evidence indicates that speaking and writing are most frequently used targets of digital TBLT, and consistent reports of fluency, accuracy, and lexis development exist. Affective outcomes, in particular engagement and motivation, were also widespread, and these are often linked to characteristics of digital tasks like interactivity and gamification. Whilst cognitive development evidence does exist, it is less widely researched and possibly more narrowly researched to solve.

3.4. Contextual Factors

Digital TBLT has been investigated most frequently in higher education contexts, with some studies examining undergraduates, pre-service teachers, or English education and applied linguistics students (Belda-Medina, 2021; Pratiwi & Waluyo, 2022; Wiboolyasarín, 2023; Yeh, 2018). As indicated in Table 4, several studies have adapted task-based digital interventions for child learners, such as primary and secondary school students (Butler, 2017; Caruso et al., 2021; Ramadhan et al., 2023). These studies verify that, with effective scaffolding and an adequate level of task complexity, digital TBLT can assist language learning in all age brackets, though younger learners are likely to require more help with both technological tools and task management.

There is a wide variety of institutional settings and delivery modes that encompass digital ones to be encountered across the reviewed literature. These range from online-exclusive classrooms to blended modes and historical face-to-face classrooms augmented by digital add-ons (Belda-Medina, 2021; Garcia-Ponce et al., 2023). Synchronous and asynchronous communication software such as Zoom, WhatsApp, LMS websites, and learning apps were widely used to facilitate interaction and collaboration (Rahimi & Sevilla-Pavón, 2025; Tong et al., 2020). Surprisingly, several studies emphasize how learner digital literacy is both a pre-requisite and a byproduct of digital TBLT. For example, Belda-Medina (2021) and Wiboolyasarín (2023) highlighted that students' awareness of digital contexts directly influenced the

successful accomplishment of tasks, while others, such as Ramadhan et al. (2023), designed tasks with the express intention of creating new digital abilities.

Another key contextual variable is task length (as in Table 4), which varied extremely across studies from single short-duration tasks completed within a single class session (e.g., Azis & Husnawadi, 2020) to multi-week and semester-long endeavors allowing more prolonged engagement, iteration, and reflection (Huang, 2023; Van Der Zwaard & Bannink, 2016). That variation testifies to the versatility and adaptability of digital TBLT to suit different curricular timelines and institutional needs. At the same time, more general contextual problems are present. These are technological infrastructure limitations, for instance, bad internet connections or no access to digital resources (Li & Kou, 2023); institutional support powerful for teaching development (see Table 4; Pratiwi & Waluyo, 2022); and cultural expectations or values that affect student participation in cooperative activity (Rodríguez-Peñarroja, 2022; Tong et al., 2020).

Table 4

Contextual Factors in Digital Task-Based Language Teaching

Factor	Description and Examples
Educational Level	Digital TBLT has been mostly implemented at the university level with undergraduate or pre-service teachers (Belda-Medina, 2021; Pratiwi & Waluyo, 2022), but some studies also examined primary and secondary learners (Butler, 2017; Caruso et al., 2021).
Delivery Format	The reviewed studies used online, blended, and in-person formats supported by digital tools. Platforms included Zoom, LMS (e.g., Moodle, Canvas), and messaging apps like WhatsApp and Telegram (Tong et al., 2020; Rahimi & Sevilla-Pavón, 2025).
Digital Literacy	Learners' digital competence influenced their task engagement and outcomes. While some studies addressed low literacy through training, others considered it a variable affecting results (Belda-Medina, 2021; Ramadhan et al., 2023).
Institutional Support	The availability of infrastructure, teacher training, and access to digital tools varied greatly across studies and was critical to successful implementation (Widiastuti et al., 2022).
Task Duration & Frequency	Task duration ranged from single-session activities (Azis & Husnawadi, 2020) to semester-long integration (Huang, 2023), affecting the depth of learning and learner engagement.
Implementation	Challenges included limited internet connectivity, lack of access to devices, and

Challenges	teachers' unfamiliarity with digital tools (Li & Kou, 2023; Pratiwi & Waluyo, 2022).
Research Gaps	Scholars called for more research in underrepresented regions and suggested focusing on long-term effects, equity, and sustainability in digital TBLT (Al-Rashidi, 2025; Rodríguez-Peñarroja, 2022).

Overwhelmingly, though the studies reviewed indicate promising and diverse applications of digital TBLT, several patterns and gaps exist. First of all, there is a clear need to look beyond sufficiently resourced, university-level contexts, especially in under-represented education systems and even among marginalized groups of learners (Al-Rashidi, 2025; Caruso et al., 2021). Second, although tools and platforms are expanding, from simple chat programs to more elaborate AR and VR environments, most investigations failed to examine systematically how these technologies interact with certain learner needs and institutional constraints (Rahimi & Sevilla-Pavón, 2025). Finally, while most reports indicated enhancements in linguistic and digital literacies, few offered longitudinal findings or examined persistent use across a number of semesters or school years.

4. Discussion

4.1. Overview and Interpretation of Key Findings

This section critically interprets the findings of the systematic review in relation to each of the four research questions. It attempts to go beyond summary by providing theoretical insights, pedagogical implications, and recommendations for future research, thereby responding to the reviewer's comment on depth of analysis and coverage of all research questions.

4.1.1. Tool and Task Integration (RQ1 & RQ2)

One of the key findings of this review is that online TBLT environments are founded on a wide variety of technological platforms, collaborative writing tools, mobile applications, game-based tools, and immersive environments. However, the pedagogical value of these tools is not intrinsic. The studies reviewed here note that learning outcomes are mediated to a large degree by how these tools are embedded within task structures. For instance, WhatsApp-supported speaking tasks built fluency and interactional competence when placed within scaffolded cycles that included pre-task planning and reflective post-task analysis (Garcia-Ponce et al., 2023). Above all, studies using the same digital tools created different results depending on task complexity, learner support, and alignment of communicative goals. These findings stress the need for pedagogical intentionality. Tools need to be selected and introduced not because of their newness, but because of their potential to support goal-directed, meaning-

centered, and context-sensitive task design. As the findings have demonstrated, the same tools such as WhatsApp and Google Docs resulted in radically different learning outcomes based on the structure, sequencing, and pedagogical coherence of the tasks they were incorporated into.

4.1.2. Learning Outcomes and Underexplored Dimensions (RQ3)

The research covered herein reports consistent gains in speaking and writing ability, motivation, and student engagement, particularly where tasks are authentic, collaborative, and multimodal. Cognitive effects such as critical thinking, metacognitive awareness, and intercultural competence were comparatively underreported or measured inadequately. Although certain studies incorporated reflective components, only a limited number (e.g., Kim et al., 2022; Rodríguez-Peñarroja, 2022) employed rigorous pre-/post-task assessments or learning analytics to quantify higher-order cognitive effects. Furthermore, most studies depended on self-report measures, which restricted objectivity. Longitudinal designs and multimodal data (e.g., discourse analysis, behavioral logs, peer interaction) that track the developmental trajectories of both linguistic and cognitive development would significantly advance the field. To fully understand how digital TBLT can help students learn 21st-century skills, we need to fill in these gaps.

4.1.3. Theoretical Alignment and Gaps (RQ4 – Part 1)

A notable limitation identified is the lack of continuous application of theoretical models across studies. Sociocultural theory was utilized in nine studies; however, only six exhibited a definitive connection between theoretical constructs (i.e., scaffolding, mediation, ZPD) and task design. The Interaction Hypothesis, Activity Theory, and Self-Determination Theory were also cited but more peripherally. This paucity of theoretical content means that digital enthusiasm sometimes gains the upper hand over principled pedagogical design. On the other hand, some studies stood out, such as Rahimi & Sevilla-Pavón (2025), which used Self-Determination Theory to design tasks that encouraged learner autonomy and intrinsic motivation. These exceptions show that theory-conscious digital TBLT can result in more pedagogically coherent and learner-centered outcomes. For the discipline to advance, researchers must move beyond token calls for theory and instead use frameworks to guide task sequencing, tool selection, and learner interaction. By doing so, the design coherence and explanatory power of future research are enhanced.

4.1.4. Pedagogical Factors Affecting Task Effectiveness (RQ4 – Part 2)

Pedagogical aspects took center stage in shaping the effectiveness of digital TBLT interventions. Successful studies had explicit task sequencing (pre-task, during-task, post-task), scaffolding mechanisms, learner choice opportunities, and incorporation of multimodal production. For instance, Kim et al. (2022) revealed that guided planning in multimodal composition resulted in greater output quality and engagement. Research without explicit instructional guidance, with no digital preparation support and authenticity of task, shows modest results. The LMS environments were used in a few cases to disseminate content rather than serve as platforms for substantial interaction, implying a gap between the capacities of the tools and their pedagogical applications. These findings emphasize that digital TBLT is not solely dependent on technology access, but rather on teachers' capacity to design tasks that are contextually relevant, theoretically grounded, and attuned to learners' needs. Teacher development must therefore prioritize not only digital tool proficiency but also pedagogical expertise in task design.

4.2. Theoretical and Conceptual Implications

An evident theoretical gap was seen across the whole literature. Only 9 out of the 30 studies explicitly align with prominent SLA theories in their designs. Below, Table 5 summarizes citation versus application frequency for the major theoretical frameworks:

Table 5

Theoretical Frameworks in Digital TBLT Studies: Citation vs. Application

Theory	Cited	Applied in Task Design
Sociocultural Theory (Vygotsky, 1978)	9	6
Interaction Hypothesis (Long, 1996)	5	2
Activity Theory	4	3
Self-Determination Theory	2	0
Multimodal Literacies	3	1

Digital TBLT aligns with sociocultural theory, as platforms like Google Docs and WhatsApp facilitate scaffolding learner interaction within the Zone of Proximal Development (Garcia-Ponce et al., 2023; Tong et al., 2020). Nevertheless, the majority of these studies only implicitly substantiated this. The same mismatch was also seen in gamification-based case studies: learners' engagement was frequently described, but motivational theories were rarely applied (Pratiwi & Waluyo, 2022). Problematic as this is since engagement, particularly in computer-based tasks, extends beyond mere behavioral answers such as completion of a task to cognitive and affective involvements and is closely related to the motivational concepts such as autonomy, interest, and perceived competence. Motivation

theories like Self-Determination Theory (Deci & Ryan, 1985) offer explanatory power for explaining why students engage in tasks, to what intensity they do so, and under what conditions they persist. The use of such theories can push researchers to move beyond surface measures and examine root causes of deep and durable engagement in digital TBLT environments.

4.3. Methodological Considerations

The review also suggests a methodological bias toward mixed-method designs, with 58% of the studies combining pre- and post-tests with learner feedback (Huang, 2023; Li & Kou, 2023). While it was valid, overuse of self-report data undermined its objectivity. Common weaknesses included small-sized samples, short-term interventions (Garcia-Ponce et al., 2023; Pratiwi & Waluyo, 2022), and vague description of tool-task interaction (Belda-Medina, 2021; Wiboolyasarin, 2023). Controlled experiments yielded clarity with a dearth of ecological validity (Widiastuti et al., 2022). Ethnographic studies offered context-rich information (Azis & Husnawadi, 2020), though usually without comparative metrics. Underreporting of digital literacy and access issues (Ramadhan et al., 2023; Yeh, 2018) constrained insight into learner diversity. These methodological constraints have immediate implications for classroom practice, as discussed below.

4.4. Pedagogical and Technological Implications

Digital TBLT holds much promise for practice, particularly when tool utilization is integrated into pedagogically principled task cycles. For example, mobile-supported tasks with WhatsApp (Garcia-Ponce et al., 2023) facilitated learner autonomy and collaboration when organized into pre-task (e.g., planning the topic), during-task (e.g., exchanging messages), and post-task (e.g., reflection through voice notes) stages. Instructors must use tools like Voice Thread or Canva (Azis & Husnawadi, 2020; Kim et al., 2022) to facilitate multimodal production. Care must be taken, though, since gamification may promote surface engagement if not tied to meaningful tasks (Sydorenko et al., 2019). Sequencing is possible within LMS systems (Belda-Medina, 2021), but over-standardization may suppress innovation. Thus, tool-task-context fit needs to be balanced by curriculum designers, making tools fit the setting and learning objectives. For instance, VR may be suitable for intercultural simulations in universities (Li & Kou, 2023) but impractical in schools with limited bandwidth (Butler, 2017). The following boxed example shows how these ideas work in practice with a simple but effective WhatsApp-based speaking activity that uses mobile technology in a fully scaffolded task cycle: **Boxed Example: Ideal TBLT Task Design, a WhatsApp-based speaking task**

- Pre-task: Students come up with restaurant vocabulary on a shared Padlet.

- Task: They use WhatsApp voice messages to pretend to order food in pairs.
- Post-task: the class will have a reflective discussion and give each other feedback based on the transcripts.

This cycle includes digital mediation, setting communication goals, and having students think about what they learned. This corroborates the general conclusion that it is not the tool, but the quality of task design in terms of scaffolding, authenticity, and alignment with learning aims that holds the secret to success in digital TBLT. This example demonstrates how even low-tech tools, when situated within a comprehensible pedagogical model, can maintain purposeful interaction, promote autonomy, and reinstate the underlying principles of TBLT through visible and context-appropriate design.

4.5. Equity and Access Considerations

Contextual considerations shaped digital TBLT in various ways, including learners' digital literacy, institutional infrastructure, and sociocultural dynamics. Studies in under-resourced environments reported limitations such as unstable internet connection and lack of devices (Butler, 2017; Li & Kou, 2023). Yet, there were few responses to such concerns in terms of equity-sensitive task design or low-bandwidth alternatives. Equity concerns were observed but not necessarily translated into research design. With the global ambitions of digital TBLT, there is a need to adopt inclusive practices that are accommodating of diverse learner profiles and infrastructural settings. Future research needs to prioritize accessible and scalable digital pedagogies, particularly for marginalized communities.

4.6. Policy Implications

Policy makers must fund teacher development not only in how to use digital technologies but in the pedagogical foundations of TBLT task design. As Widiastuti et al. (2022) observed, a lack of pedagogical understanding limited teachers to harness maximum use of platforms like Moodle. Education systems must also invest in low-bandwidth, scalable tools and release clear guidelines on digital pedagogy with equity.

4.7. Limitations of the Review

This study is limited by its inclusion criteria (English-language, peer-reviewed, empirical) that may leave out grey literature and studies from underrepresented regions. The 2015–2025 timeframe favored contemporary tools but could overlook seminal CALL research. In addition, the use of a single search term "digital task-based language teaching" with conceptual precision and consistency, could have excluded relevant research employing alternative terms such as "technology-mediated TBLT," "digital

tasks in language learning," or "CALL-integrated TBLT." This limited search strategy was adopted to find research studies that explicitly self-identify with the digital TBLT paradigm, a relatively new but emerging line of research. Yet, this limitation may have narrowed the dataset's range, and future reviews would benefit from more comprehensive keyword variations and Boolean logic to elicit a broader range of studies.

4.8. Suggestions for Subsequent Research

Future research in digital Task-Based Language Teaching (TBLT) should focus on creating theoretical models that combine Second Language Acquisition theory, Computer-Assisted Language Learning, and multimodal learning approaches. A more precise elucidation of the role of digital technologies in mediating learning processes, particularly within theoretical frameworks such as sociocultural theory or complexity theory, will enhance the theoretical foundation for future research. Researchers are urged to transcend dependence on self-report measures and integrate multimodal data sources, including screen capture, discourse analysis, and learning analytics, to elucidate a more holistic understanding of learner behavior and task engagement. Longitudinal studies monitoring variations in language proficiency and digital literacy over time would provide robust evidence regarding the enduring effects of digital Task-Based Language Teaching (TBLT) interventions. Equity needs to be at the center of future research with careful attention to how infrastructural disparities, socioeconomic status, and learner diversity impact access and outcomes in digitally mediated tasks. Serious attention should also be placed on how task complexity, sequencing, and learning outcome are interrelated, particularly within the framework of learners' cognitive and affective development. Finally, researchers should also examine institutional and policy dimensions of digital TBLT implementation, i.e., how school management, funding models, and national curricula intersect (or don't intersect) with pedagogical goals. These principles will help establish a more cohesive, inclusive, and pedagogically driven foundation for digital TBLT practice and research. Digital TBLT is no longer a niche innovation; it is, in fact, a crucial pedagogical methodology. To fulfill its potential, the field must transcend mere enthusiasm for tools and embrace research and practice that are theoretically informed, equity-focused, and methodologically robust. The conclusion brings these ideas together to make a vision for the future of the field.

5. Conclusion

This systematic review aimed to investigate the implementation and evaluation of digital Task-Based Language Teaching (TBLT) in empirical studies published from 2015 to 2025. The review analyzed 30 peer-reviewed articles, comparing the varieties of digital tasks, technological tools, educational outcomes,

and theoretical frameworks utilized in contemporary research. The aim was also not only to map what has been done, but to assess the extent to which digital technologies have been leveraged to support task-based pedagogy in language learning.

The results bring to the fore several key contributions. Firstly, the review revealed that learning outcomes were more dependent on how tasks were scaffolded, sequenced, and contextualized, than on technology per se. As the analysis has shown, even the same tools like WhatsApp and Google Docs registered disparate outcomes depending on pedagogical integration. It means that task design, rather than technological advancement, is the most decisive element in effective digital TBLT implementation. Second, the review identified strong evidence for linguistic and affective benefits, especially in speaking and writing, and signaled large gaps in the measurement of cognitive effects, the cultivation of receptive abilities (listening and reading), and the engagement of diverse learner groups. Third, while numerous studies implicitly relied on theoretical frameworks like Vygotsky's sociocultural theory or Long's Interaction Hypothesis, explicit theoretical incorporation into task design was scarce. Finally, the review noted persisting issues of equity and access, issues that remain crucial as digital learning ever more stretches across the globe.

Methodologically, the prevalence of short-term, small-scale studies and overreliance on self-report data point towards the need for more robust and more diverse research methods. But simultaneously, the existence of mixed-methods designs and creative utilization of digital environments point towards an emerging field with much potential for innovation. This review contributes to the field in giving a stronger sense of what successful digital TBLT can look like. It issues a challenge to future research to more overtly link theory and practice, bring questions of equity and access to the fore, and take data-oriented, longitudinal methodologies. As digital technologies change, so do the ways we judge how useful they are for teaching.

Lastly, digital TBLT should not be seen as a set of technologies or tasks that are meant to happen. Instead, it should be seen as a language learning method that changes with the times and responds to the situation. Its potential lies not in the novelty of digital technology per se, but in its intentional, pedagogically driven integration. Researchers, practitioners, and policymakers bear the responsibility to ensure that digital TBLT is both innovative and inclusive, fostering rich, equitable, and theoretically informed language learning across diverse global contexts.

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