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A Review Paper on ELT Articles Conducted on Mobile-Assisted Task-Based Language Learning

Hoda Sistani*

Department of English, Shahreza Branch, Islamic Azad University, Shahreza, Iran

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Abstract

This paper presents a comprehensive review of 50 studies conducted between 2014 and 2023, delving into the world of mobile-assisted task-based language learning (M-TBLL). Our investigation sought to illuminate the educational and learning contexts, methodologies, data collection techniques, learning outcomes, and challenges associated with M-TBLL. To this end, we meticulously combed through the ISI Web of Science database, ultimately analyzing 50 carefully selected papers from a pool of 398 identified publications. The review yielded several key findings. First, all included studies focused on language learning, demonstrating the versatility of M-TBLL across various linguistic domains. Second, a clear trend emerged toward higher education settings as the primary research ground for M-TBLL, highlighting its potential for advanced language acquisition. Moreover, the review revealed a growing emphasis on informal learning contexts, suggesting a shift towards mobile technology facilitating language learning beyond the traditional classroom walls. In-depth empirical studies on mobile seamless learning could shed light on the integration of mobile devices into existing learning environments. Additionally, research into tasks specifically designed based on learners' needs analyses could personalize and optimize the M-TBLL experience. Finally, investigations into cognitive load and learning anxiety in M-TBLL contexts could offer valuable insights into mitigating student stress and maximizing learning potential. By addressing these gaps and embracing emerging trends, future research can continue to shape and refine the landscape of M-TBLL, unlocking its full potential for enhancing language acquisition in diverse educational settings.

Keywords: Language learning, Mobile-assisted, Review, Task-based language learning

1. Introduction

The rapid growth of information and communication technologies (ICT) has ushered in a new era of learning possibilities. Technology-

* Corresponding Author's E-mail address: hodasistani87@gmail.com

assisted learning (TAL), encompassing both computer-assisted learning (CAL) and mobile-assisted learning (MAL), has emerged as a potent facilitator of independent and authentic language learning experiences. While CAL leverages computers to enhance educational delivery, MAL capitalizes on mobile devices' portability and wireless connectivity to facilitate language acquisition (Burston, 2014). The inherent advantages of mobile devices, such as portability, flexibility, and touch interface capabilities, have propelled their popularity in educational settings (Gliksman, 2011).

The COVID-19 pandemic further highlighted the crucial role of mobile and wireless technologies in addressing educational challenges. Mobile-based learning systems were rapidly developed to meet the urgent need for remote learning solutions (Udal et al., 2021), while mobile-sensing-based mechanisms were explored for depression detection (Thati et al., 2022). Real-world data collected from wrist-worn sensors even informed the development of task-based continuous authentication models (Ali & Payton, 2021). Additionally, advancements in indoor mobile robot positioning and mapping systems paved the way for autonomous robot navigation and localization (Xiang et al., 2020). Notably, mobile technology has also demonstrated its capability to enhance language proficiency in educational settings (Chen & Lin, 2018; Tragant et al., 2021).

Given the widespread adoption of MAL across various fields, its applications in education have garnered considerable attention (Miangah & Nezarat, 2012; Terras & Ramsay, 2012). Mobile devices' portability, flexibility, and readily available nature make MAL a highly suitable tool for enhancing language learning experiences (Ahmad, 2016). This review specifically focuses on mobile-assisted task-based language learning (M-TBLL) within the pedagogical realm. Task-based learning (TBL) has gained significant recognition as an effective pedagogical approach for developing language skills (Aliasin et al., 2019). It emphasizes goal-oriented, meaning-focused, and communication-centered tasks within a process-oriented framework (Ellis, 2012). TBL provides learners with opportunities to practice communicative strategies, increase their exposure to the target language, and enhance their fluency and accuracy in oral production (Ellis, 2009).

TBLT's journey began in the 1980s, gaining traction in English language education, particularly across Asian nations like Korea, Japan, China, Malaysia, Thailand, Bangladesh, and Vietnam. Aligned with the principles of communicative language teaching (CLT), TBLT posits that

the ultimate goal of language acquisition is achieving fluency and effective communication in the target language (Richards & Rodgers, 2001). This approach emerged as a response to the limitations of traditional methods that prioritized rote memorization of grammatical rules over practical language use (Ellis, 2003). TBLT's emphasis on real-world language use, meaningful communication activities, and focus on meaning has garnered significant interest in linguistics (Ellis, 2003). TBLT is not just a philosophy but a structured framework with distinct learning principles, syllabus design specifications, and material development guidelines. The widely adopted three-phase model by Willis (1996) provides a solid foundation for implementing TBLT effectively, encompassing pre-task planning, the task cycle itself, and post-task reflection and analysis.

2. Literature Review

Unlike traditional methods, where the instructor acts as the knowledge fountain, task-based language learning (TBLL) places learners as the principal of the learning process, fostering student-centered interactions and collaborative environments (Ellis, 2012; Samuda & Bygate, 2008). This shift aligns with constructivist learning theory, where learners actively build their understanding through engaging tasks and peer interactions (Prince, 2004).

While TBLL holds immense potential, it also presents challenges that require attention for effective implementation. One primary concern is managing time and space limitations in language classrooms. Designing and enacting meaningful tasks that engage learners and promote communicative competence can be time-consuming, and classroom layouts may not always be ideal for group work and collaboration (Lai & Li, 2011).

Another hurdle faced by TBLL is the provision of adequate feedback. While its learner-centered nature fosters autonomy and exploration, it can sometimes result in a lack of structured feedback, hindering progress and limiting target language understanding (Xue, 2022). To overcome this challenge, teachers need to implement effective feedback strategies that are both encouraging and informative, allowing learners to pinpoint their strengths and identify areas requiring improvement. This can involve techniques like written annotations, peer feedback sessions, and one-on-one consultations.

Authenticity is another crucial element for TBLL's success. Inauthentic tasks can fail to engage learners and provide them with opportunities to practice language in relevant real-world scenarios

(Nunan, 2004). Teachers can incorporate genuine materials like news articles, podcasts, or videos to enhance authenticity. Additionally, utilizing technology to simulate real-world contexts through virtual scenarios or role-playing exercises can be highly effective. Encouraging learners to personalize tasks by drawing on their own experiences and interests further adds to the authenticity and relevance of the language practice.

Recognizing the inherent challenges within traditional TBLL implementation, researchers have turned to integrating mobile technologies to bolster pedagogic task effectiveness (González-Lloret & Ortega, 2014; Xue, 2022). This fusion, known as mobile-assisted task-based learning (M-TBL), has demonstrably enhanced language learning by fostering meaning-oriented and communicative approaches, ultimately leading to more authentic and engaging experiences for learners (Reynolds & Anderson, 2015). This technological infusion strengthens the task-based curriculum and enables learners to access genuine materials and participate in collaborative and interactive learning experiences, further enriching their language acquisition journey (Park & Slater, 2015).

Xue (2022) highlighted the significant challenge of inauthenticity in traditional classroom teaching due to constraints like time and space limitations. Several researchers, including González-Lloret and Ortega (2014) and Lai and Li (2011), suggested that integrating mobile technologies with TBLL could address these challenges and facilitate pedagogic task implementation. González-Lloret and Ortega's (2014) findings support this notion, demonstrating that M-TBL promotes meaning-oriented and communicative learning, leading to more authentic and engaging experiences for learners. Additionally, studies by Mulyadi et al. (2021) and V. Lin et al. (2022) indicate that mobile technologies can enhance engagement by promoting a less stressful and anxious learning environment compared to traditional face-to-face settings. Lai and Li (2011) further emphasized that integrating technology strengthens the task-based curriculum, creating a richer learning experience.

Palalas (2011) pointed out that mobile-assisted learning (MAL) allows for both synchronous and asynchronous communication while learners execute well-structured tasks. As Park and Slater (2015) stated, the fusion of mobile-assisted and task-based learning is a significant trend in language development. This combined approach, as Lin et al. (2022)

suggest, makes MAL a powerful tool for augmenting task-based learning.

This analysis focuses exclusively on M-TBLL studies to provide a current and comprehensive overview of the latest advancements in this field. The chosen studies, published between 2014 and 2023, were meticulously selected based on stringent inclusion and exclusion criteria, which will be explained in the next section.

The chief objectives were to elicit educational and learning contexts, methodologies and data collection techniques, learning outcomes, and issues in M-TBLL to comprehensively understand the field. Based on the research objective, the following research question is addressed:

1. What are the educational and learning contexts in M-TBLL?
2. What are the methodologies and data collection techniques in M-TBLL?
3. What are the learning outcomes and issues in M-TBLL?

3. Method

The systematic review utilized the PRISMA framework, which outlines the different stages of the study selection process, as shown in Figure 1. The selection process was summarized using a flow diagram, and the search was conducted individually. Figure 1 depicts the steps of study selection:

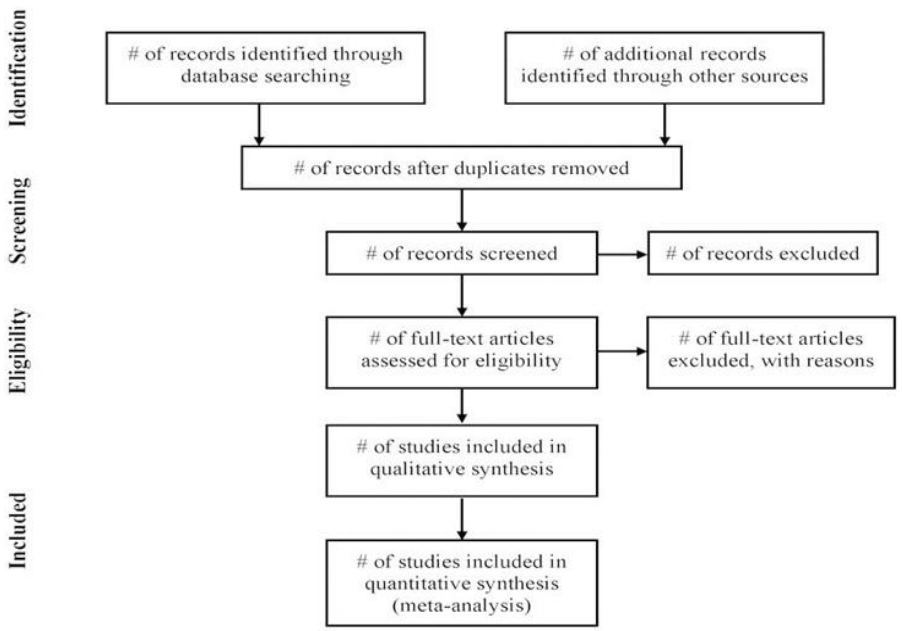

Figure 1. The progression of information across the stages of a systematic review

The researchers used the ERIC ((ProQuest) database to conduct a comprehensive literature search. The Educational Resources Information Center (ERIC) is an abbreviation that refers to a digital library of education research and information which is widely recognized as a reliable database and is frequently cited by scholars (Xue & Churchill, 2019). It incorporates the Social Science Citation Index, the Science Citation Index, and the Arts & Humanities Citation Index, and features high-quality, high-impact papers. Moreover, the results obtained from this database are reproducible, making it a popular choice for systematic reviews among multiple scholars (Hsu & Liu, 2021).

The search terms used to find relevant work in the listed sources included various combinations of the following terms: "task-based", "TBLL", "mobile", "mobile teaching", "mobile learning", "MALL", "mobile-supported", "mobile-assisted", and "mobile-aided/mobile aided". These terms were used in different combinations within each published document in ERIC to locate relevant information.

According to Pahlevan-Sharif et al. (2019), PRISMA recommends reporting two types of eligibility criteria, namely study characteristics and report characteristics. Criteria (a) and (b) are used to assess report characteristics, whereas criteria (c), (d), and (e) are used to assess study characteristics. Table 1 displays the eligibility criteria, specifically the inclusion and exclusion criteria.

Then the researcher checked the papers against the inclusion criteria. The eligibility criteria are as follows:

Table 1. *Eligibility Criteria for Selecting Papers*

Inclusion Criteria
a. Being published in a peer-reviewed journal
b. Being written in the English language
c. Being in the educational context
d. Having actual data and empirical findings
e. Including task-based language learning elements and mobile learning

To start, the papers included must be specifically related to education and intended for educational purposes. Any publications outside of the educational context were deliberately excluded from consideration. As of December 1, 2023, the database contained 398 papers that were identified during the initial literature search. Moving forward, the scope of time for this study was constrained, and a systematic search was

conducted for all papers published between 2014 and 2023. According to Hwang and Tsai (2011), conducting a 10-year literature review is a practical way to explore the trends in educational technology. There were 247 papers in total as a result of the time constraints. Another characteristic of the papers is that they need to be situated within the educational context. In order to remove papers that were conducted outside of an educational context, a thorough examination was conducted on the 247 papers. The outcome of this was the elimination of 160 papers that were considered irrelevant. We retrieved and carefully reviewed the full texts of the remaining 87 relevant papers, ensuring they met the eligibility criteria. In terms of publication, it is worth mentioning that out of the 87 papers, 22 were included in conference proceedings that underwent a rigorous peer review process. In conclusion, the papers being reviewed must be of sufficient length, containing comprehensive information on the methodology employed and empirical findings supported by actual data. In the process of eliminating papers that did not meet this criterion, we excluded an additional 15 papers from the remaining 65. The study had inclusion criteria that required papers to address both mobile-assisted and task-based language learning components. As a result, 15 out of the remaining 65 papers were excluded from the analysis. Following the screening process that assessed eligibility criteria, 50 peer-reviewed papers were initially selected for data analysis.

4. Results

This paper's systematic review of Mobile-Technology-Based Language Learning (M-TBLL) involved a meticulous selection process, making 50 out of 398 papers eligible for the analysis. This rigorous approach is in line with the best practices for conducting systematic reviews, ensuring that the included papers meet specific criteria and contribute to the comprehensive understanding of the research landscape in M-TBLL. The qualitative analysis, structured around the research question, was organized into three main aspects: (1) educational and learning contexts, (2) methodologies and data collection techniques, and (3) learning outcomes and issues in M-TBLL. This systematic and structured analysis allowed for a thorough examination of the important facets of M-TBLL, providing a robust foundation for presenting the results and synthesizing the findings.

4.1. Educational and Learning Contexts

Our analysis reveals a distinct trend: research on M-TBLL predominantly focuses on higher education contexts. This finding aligns with Hwang and Fu's (2019) observation that university students boast high mobile device ownership, potentially explaining the abundance of M-TBLL studies within this demographic. Other educational levels receive considerably less research attention. Only eight papers target secondary or high school students (Kang & Kim, 2021; Morgana & Shrestha, 2018), and four studies involve participants from non-traditional settings like cultural institutes, workplace language support programs (McLellan et al., 2021), and even elementary schools (Pellerin, 2014).

Examining learning contexts paints a similar picture. While 24 studies encompass both formal and informal settings, a significant number (15, including Jiang & Li, 2018; McLellan et al., 2021) remain exclusively informal. Only nine studies, like Fang et al. (2021) and Pellerin (2014), restrict themselves to formal classroom environments. Notably, two studies (Lim & Lee, 2015; Park & Slater, 2015) leave the learning context unspecified.

These findings point towards a crucial trend in M-TBLL development: learning is increasingly migrating beyond the traditional classroom. This shift, as García Botero et al. (2019) suggest, fosters self-regulation and cultivates student ownership of their learning journey. With mobile devices enabling independent learning outside the classroom, students become more responsible and adaptable, embracing a broader, more flexible learning landscape.

4.2. Research Methods and Data Collection Techniques

The choice of research methods in M-TBLL investigations reveals a shifting landscape. While both quantitative (n=11) and qualitative (n=17) approaches remain prevalent, there's a significant rise in the adoption of mixed methods (n=32). This growing preference for mixed methods suggests researchers recognize its value in triangulating data sources. By combining quantitative and qualitative perspectives, they paint a more nuanced and comprehensive picture of participants' experiences within M-TBLL, revealing both objective measures and deeper insights into participants' perceptions and thoughts. Table 2 summarizes the results:

Table 2. *Research Methods*

Research Methods	Number of studies
Quantitative	11
Qualitative	17
Mixed-methods	32

Among the 50 reviewed papers, 38 delve into their research design choices. Notably, 18 studies, including Fang et al. (2021), Habib et al. (2022), and Lim & Lee (2015), utilize a robust experimental comparison-based design with pre- and post-test scores. This allows for a clear comparison of learning outcomes between groups engaged in M-TBLL and traditional methods. However, several studies adopt alternative approaches, offering valuable insights through different lenses. Five studies, like T. H. Chen & Lin (2018) and Park & Slater (2015), employ an exploratory design, seeking to uncover new possibilities and insights into M-TBLL implementation. Similarly, five studies, including Morgana & Shrestha (2018) and Pellerin (2014), utilize an action research approach, focusing on collaborative problem-solving and improvement cycles within specific M-TBLL contexts. A single study by Gasparini (2018) adopts a case study design, offering in-depth analysis of a specific M-TBLL implementation, and Tragant et al. (2021) employ a longitudinal study, providing valuable insights into the long-term effects of M-TBLL on language learning.

The scholars employ a diverse range of tools to gather data on M-TBLL experiences. Questionnaires (n=22), pretest and posttest scores (n=11), and interviews (n=32) remain popular choices, enabling quantitative, comparative, and qualitative data collection respectively. However, researchers are not limited to these traditional methods. Observation (n=9) offers valuable insights into learners' interactions and engagement with M-TBLL tools. Additionally, a range of other instruments (n=13) are utilized, consisting of a range of materials such as field notes, written drafts, meeting minutes, reflective journals, recordings, language textbooks, and language resources.

Table 3. ***Data Collection Techniques in Reviewed Papers***

Research Methods	Numbers of Studies
Interview	32

Questionnaire	22
Interviews	32
Pretest-Posttest	11
Observation	9
Other instruments	13

This rich tapestry of data collection methods showcases the multifaceted nature of M-TBLL research and underscores the researchers' commitment to capturing the diverse experiences and outcomes within this evolving field (see Table 3). The chosen data collection tools in M-TBLL research reflect its diverse aspects and evolving nature. Questionnaires (n=22) remain popular, enabling the exploration of various topics, including students' oral communication strategies (Fang et al., 2021), technology integration perceptions (An, 2013), and task design preferences (Gasparini, 2018). Additionally, researchers utilize questionnaires to gauge learners' attitudes towards M-TBLL itself, assessing their perceptions of mobile technology for language learning (Chen & Lin, 2018; Morgana & Shrestha, 2018) and task needs related to mobile device use (Park & Slater, 2015). Kang and Kim (2021) further use questionnaires to investigate the complex interplay between digital literacy, motivation, and language proficiency.

Where quantitative insights require deeper understanding, interviews (n=32) come into play. These qualitative explorations are used to triangulate data in studies by An (2013) and Jiang & Li (2018), providing richer context and uncovering learners' lived experiences with M-TBLL. Interviews also play a valuable role in studies examining various aspects of M-TBLL implementation. Morgana and Shrestha (2018), McLellan et al. (2021), as well as Pellerin (2014), employ them to explore the utilization of mobile technology for language learning, evaluate task modules, and examine changes in pedagogical approaches. In their research, Park and Slater (2015) and Gasparini (2018) employ interviews to carry out thorough needs analyses, thereby guaranteeing that M-TBLL interventions are precisely tailored to address learners' individual requirements.

Observation (n=9) adds another layer of understanding by capturing learners' interactions and engagement with M-TBLL tools in real-time. Studies by Morgana and Shrestha (2018), McLellan et al. (2021), and

Pellerin (2014) exemplify this approach, enriching their qualitative data with valuable non-verbal cues and behavioral insights.

Beyond these core methods, researchers utilize a range of other instruments (n=13) to gather diverse and nuanced data. Written drafts, recordings, reflective journals, field notes, meeting minutes, language textbooks, and language resources all find their place in this methodological toolbox. This eclectic mix showcases the commitment of M-TBLL researchers to capturing the multifaceted experiences and outcomes within this evolving field.

4.3. Learning Outcomes and Issues

M-TBLL's impact extends far beyond enhancing traditional language skills like speaking, listening, writing, and vocabulary. Studies consistently demonstrate its effectiveness in improving language proficiency, as evidenced by positive results in Fang et al. (2021), Chen and Lin (2018), Morgana and Shrestha (2018), and Hadi and Emzir (2016). However, nuanced findings about grammar learning point to the need for further exploration in this area.

But M-TBLL's influence transcends mere textbook skills. It significantly impacts affective factors, positively shaping learners' perceptions and psychological states. Azar and Nasiri (2014), Lei et al. (2022), and McLellan et al. (2021) reported positive attitudes toward task design and implementation, while An (2013) found mixed sentiments, highlighting the importance of tailoring tasks to individual preferences. Engaging with native speakers on WeChat, for example, boosted student enjoyment, satisfaction, and confidence (Jiang & Li, 2018; Xiangli & Tongtong, 2017). M-TBLL also fosters student engagement and independence, as Morgana and Shrestha (2018) and Tragant et al. (2021) observed with mobile devices and instant messaging. Pellerin's (2014) study further showcases M-TBLL’s potential to enhance metacognition and conscious awareness.

Studies often compare M-TBLL with traditional methods, offering valuable insights into its implementation and effectiveness. Tong et al. (2020) identified two key themes in WeChat-supported tasks: a holistic model and teacher's active motivation dynamic, highlighting the crucial role of teachers in navigating this new landscape. Park and Slater (2015) observed a gap in teacher familiarity with mobile devices compared to students, calling for professional development initiatives. Gasparini

(2018) found positive student perceptions of WhatsApp for language learning, demonstrating its potential acceptability. Interaction is a frequently examined variable, with Lim and Lee (2015) and Tragant et al. (2021) suggesting that M-TBLL promotes higher levels of engagement. These findings align with the broader research on mobile learning in language education, as confirmed by meta-analyses like Wang et al. (2016).

While M-TBLL offers immense potential, challenges remain. Lim and Lee (2015) found that despite completing tasks more easily with mobile chat, learners still preferred face-to-face interaction. De la Fuente (2014) and Lan and Lin (2016) offer contrasting perspectives: the former found M-TBLL more effective in promoting noticing and comprehension, while the latter observed fewer mistakes and better peer cooperation in a seamless mobile context. These results point to the need for nuanced approaches and careful consideration of student preferences and learning styles.

The detailed learning outcomes from these studies are presented in the table in the Appendix. They underscore the multifaceted nature of M-TBLL's impact, extending beyond language proficiency to encompass affective factors, technology integration, and student engagement. M-TBLL's potential to reshape language learning is undeniable, but embracing its full potential requires addressing challenges, embracing research-informed practices, and continually adapting to the evolving landscape of mobile technology and education.

These findings resonate with the broader landscape of mobile learning in language education. Meta-analyses by Cho et al. (2018) and research syntheses paint a clear picture: interest in mobile devices for language learning is surging, with a plethora of studies investigating their impact on diverse learning outcomes like vocabulary, language arts, reading, and even pronunciation (Cho et al., 2018). Moreover, research delving into the integration of mobile technology in self-directed language learning outside the classroom, as exemplified by Lai et al. (2022), sheds light on the multifaceted nature of mobile-assisted language learning and its profound implications for learners' behavior and overall learning outcomes. This convergence of evidence underscores the significant potential of M-TBLL, extending far beyond its immediate impact on language skills.

5. Discussion

Delving into the past decade's research on mobile technology-based language learning (M-TBLL), this paper comprehensively examines 50 scholarly works published between 2014 and 2023.

Mobile-Assisted Task-Based Language Learning (M-TBLL) has garnered significant attention in recent years due to its potential to enhance language learning outcomes. Studies such as those by Fang et al. (2021), Chen and Lin (2018), Morgana and Shrestha (2018), and Hadi and Emzir (2016) have consistently shown the positive impact of M-TBLL on language proficiency, encompassing skills like speaking, listening, writing, and vocabulary. However, while these studies highlight the effectiveness of M-TBLL in various language domains, there is a need for further exploration, particularly in the realm of grammar learning. Beyond its influence on traditional language skills, M-TBLL plays a crucial role in shaping learners' affective factors and psychological states. Research by Azar and Nasiri (2014), Lei et al. (2022), and McLellan et al. (2021) have underscored the positive attitudes toward task design and implementation in M-TBLL. Tailoring tasks to individual preferences, as emphasized by An (2013), is essential for optimizing learner engagement and motivation. Moreover, M-TBLL fosters student engagement, independence, and metacognition, as observed in studies by Morgana and Shrestha (2018), Tragant et al. (2021), and Pellerin (2014). Comparative studies, such as those by Tong et al. (2020) and, provide insights into the effectiveness of M-TBLL compared to traditional methods, emphasizing the pivotal role of teachers in facilitating effective M-TBLL implementation. While M-TBLL shows promise in revolutionizing language learning, challenges persist. Studies by Lim (2015), De la Fuente (2014), and Lan and Lin (2016) present contrasting perspectives on the effectiveness of M-TBLL in promoting language learning outcomes, underscoring the importance of tailored approaches that consider individual learner needs and preferences.

It masterfully unveils several key threads woven into the tapestry of M-TBLL research. Foremost among these is the focus on language learning, with English as a Foreign Language (EFL) claiming center stage and studies spanning geographical boundaries. Further analysis reveals a prevalent student-centered approach, where informal learning environments, language proficiency, and learner perceptions are increasingly taking the spotlight. This review also paints a clear picture of M-TBLL’s burgeoning popularity, with studies and cognitive

explorations steadily rising over the past decade, pointing to a field brimming with potential.

The research design choices and data collection tools in Mobile-Assisted Task-Based Language Learning (M-TBLL) studies vary widely, as evidenced by the diverse methodologies employed. Some studies opt for robust experimental designs with pre- and post-test scores to compare learning outcomes between M-TBLL and traditional methods (Feng et al., 2021; Habib et al., 2022), while others take exploratory, action research, case study, or longitudinal approaches to delve deeper into M-TBLL implementation and effects (Chen & Lin, 2018; Morgana & Sherestha, 2018; Tragant et al., 2021). Data collection tools such as questionnaires, interviews, observations, and a range of other instruments are utilized to gather quantitative, qualitative, and nuanced data, showcasing the multifaceted nature of M-TBLL research and the commitment of researchers to capturing diverse experiences and outcomes in this evolving field.

This review's findings shine a spotlight on M-TBLL as a burgeoning field with the potential to revolutionize language education and pedagogy. This significance is further underscored by the rise of virtual and mobile learning environments, a trend accelerated by the COVID-19 pandemic's shift to virtual classrooms. Beyond highlighting the current state of M-TBLL research, the paper's call for future inquiries to address identified gaps and limitations reflects a profound commitment to advancing our understanding of this domain and its potential to transform language learning outcomes.

By precisely synthesizing key findings and research trends, this review serves as a vital contribution to the existing knowledge base on M-TBLL. It offers invaluable resources for scholars and educators eager to delve deeper into this field. The review's systematic approach, coupled with its unwavering emphasis on empirical studies and the identification of research gaps, positions it as a foundational work. This review paper serves as a guiding light for future investigations in the domain of mobile-technology-based language learning, paving the way for groundbreaking research and innovative practices that can reshape the future of language education.

6. Conclusion

This paper's rigorous exploration of M-TBLL, rooted in a meticulous analysis of 50 published works, paints a vivid picture of the field's current research landscape.

In conclusion, the varied data collection tools used in M-TBLL research highlight the complexity and richness of this area of study. By employing a range of methods, researchers can gain comprehensive insights into the effectiveness, challenges, and nuances of implementing M-TBLL in language learning contexts.

Furthermore, reviewing different papers suggests M-TBLL's multifaceted impact extends beyond language proficiency to encompass affective factors, technology integration, and student engagement. Embracing the full potential of M-TBLL requires addressing challenges, leveraging research-informed practices, and adapting to the evolving landscape of mobile technology and education.

The current review lays a powerful foundation for future empirical investigations and scholarly explorations in M-TBLL by meticulously dissecting the identified trends, methodologies, and key findings. More importantly, the paper's emphasis on the need for in-depth empirical studies and its candid acknowledgment of research gaps and limitations illuminate the dynamic nature and enduring significance of M-TBLL as a burgeoning field of inquiry. This review goes beyond simply consolidating existing knowledge on M-TBLL; it serves as a potent catalyst for continued research and exploration. The identified avenues for future investigation are particularly compelling, promising exciting strides in areas like mobile seamless learning, task design, and the integration of mobile learning with social media platforms to unlock new possibilities for language acquisition. By meticulously outlining these promising paths, the paper not only summarizes the current state of the field but also propels it forward, paving the way for groundbreaking research and innovative practices in M-TBLL.

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References

Ahmad, J. (2016). Technology-assisted language learning is a silver bullet for enhancing language competence and performance: A case study. *International Journal of Applied Linguistic and English Literature, 5*(7), 118-131.

Ali, Z., & Payton, J. (2021). Task-based continuous authentication using wrist-worn devices. In *2021 IEEE International Conference on Pervasive Computing and Communications Workshops and other Affiliated Events (PerCom Workshops)* (pp. 642-647). IEEE.

Aliasin, S. H., Saeedi, Z., & Pineh, A. J. (2019). The relationship between EFL teachers' perception of task-based language teaching and their dominant teaching style. *Cogent Education, 6*(1), Article: 1589413.

An, I. S. (2013). Integrating technology-enhanced student self-regulated tasks into university Chinese language course. *International Journal of Computer-Assisted Language Learning and Teaching (IJCALLT), 3*(1), 1-15.

Azar, A. S., & Nasiri, H. (2014). Learners' attitudes toward the effectiveness of mobile assisted language learning (MALL) in L2 listening comprehension. *Procedia-Social and Behavioral Sciences, 98*, 1836-1843.

Chang, M. M., & Lan, S. W. (2021). Flipping an EFL classroom with the LINE application: students' performance and perceptions. *Journal of Computers in Education, 8*, 267-287.

Chen, T. H., & Lin, C. C. (2018). Enhancing L2 English learning through mobile-assisted TBLT: EFL learners' perspectives. *The Journal of Asia TEFL, 15*(2), 453-461.

Cho, K., Lee, S., Joo, M. H., & Becker, B. J. (2018). The effects of using mobile devices on student achievement in language learning: A meta-analysis. *Education sciences, 8*(3), 105.

Dai, Y., & Wu, Z. (2023). Mobile-assisted pronunciation learning with feedback from peers and/or automatic speech recognition: A mixed-methods study. *Computer Assisted Language Learning, 36*(5-6), 861-884.

de la Fuente, M. J. (2014). Learners' attention to input during focus on form listening tasks: The role of mobile technology in the second language classroom. *Computer Assisted Language Learning, 27*(3), 261-276.

Ellis, R. (2003). *Task-based language learning and teaching*. Oxford University Press.

Ellis, R. (2009). Task-based language teaching: Sorting out the misunderstandings. *International Journal of Applied Linguistics, 19*(3), 221-246.

Ellis, R. (2012). *Language teaching research and language pedagogy*. John Wiley & Sons.

Fang, W. C., Yeh, H. C., Luo, B. R., & Chen, N. S. (2021). Effects of mobile-supported task-based language teaching on EFL students' linguistic achievement and conversational interaction. *ReCALL, 33*(1), 71-87.

García Botero, G., Questier, F., & Zhu, C. (2019). Self-directed language learning in a mobile-assisted, out-of-class context: do students walk the talk? *Computer Assisted Language Learning*, *32*(1-2), 71-97.

Garzón, J., Lampropoulos, G., & Burgos, D. (2023). Effects of Mobile Learning in English Language Learning: A Meta-Analysis and Research Synthesis. *Electronics*, *12*(7), 1595.

Gasparini, A. (2018). Building tasks with instant messaging apps. *E-mentor*, *5*(77), 24-29.

Gliksman, S. (2011). One year later: Assessing the impact of iPads on education. *Tablet Computers in Education.*

González-Lloret, M., & Ortega, L. (Eds.). (2014). *Technology-mediated TBLT: Researching technology and tasks* (vol. 6). John Benjamins Publishing Company.

Habib, S., Haider, A., Suleman, S. S. M., Akmal, S., & Khan, M. A. (2022). Mobile assisted language learning: Evaluation of accessibility, adoption, and perceived outcome among students of higher education. *Electronics*, *11*(7), 1113.

Hadi, M. S., & Emzir, E. (2016). Improving English speaking ability through mobile assisted language learning (mall) learning model. *IJLECR (International Journal of Language Education and Cultural Review)*, *2*(2), 71-74.

Hsu, K. C., & Liu, G. Z. (2021). A systematic review of mobile-assisted oral communication development from selected papers published between 2010 and 2019. *Interactive Learning Environments*, Online First.

Hsu, T. C. (2017). Learning English with augmented reality: Do learning styles matter? *Computers & Education*, *106*, 137–149.

Hwang, G. J., & Fu, Q. K. (2019). Trends in the research design and application of mobile language learning: A review of 2007–2016 publications in selected SSCI journals. *Interactive Learning Environments*, *27*(4), 567–581.

Hwang, G. J., & Tsai, C. C. (2011). Research trends in mobile and ubiquitous learning: A review of publications in selected journals from 2001 to 2010. *British Journal of Educational Technology*, *42*(4), E65–E70.

Jiang, W., & Li, W. (2018). Linking up learners of Chinese with native speakers through WeChat in an Australian tertiary CFL curriculum. *Asian-Pacific Journal of Second and Foreign Language Education*, *3*(1), Article 14.

Kang, S., & Kim, Y. (2021). Examining the quality of mobile-assisted, video-making task outcomes: The role of proficiency, narrative ability, digital literacy, and motivation. *Language Teaching Research*, Online First.

Lai, C., & Li, G. (2011). Technology and task-based language teaching: A critical review. *CALICO Journal*, *28*(2), 498–521.

Lai, Y., Saab, N., & Admiraal, W. (2022). University students' use of mobile technology in self-directed language learning: Using the integrative model of behavior prediction. *Computers & Education*, *179*, 104413.

Lan, Y. J., & Lin, Y. T. (2016). Mobile seamless technology-enhanced CSL oral communication. *Educational Technology & Society*, *19*(3), 335-350.

Lei, X., Fathi, J., Noorbakhsh, S., & Rahimi, M. (2022). The impact of mobile-assisted language learning on English as a foreign language learners' vocabulary learning attitudes and self-regulatory capacity. *Frontiers in Psychology*, *13*, 872922.

Lim, C., & Lee, J. H. (2015). The effects of task modality and type on Korean EFL learners' interactions. *Journal of Asia TEFL*, *12*(2), 87–123.

Lin, T. J., & Lan, Y. J. (2015). Language learning in virtual reality environments: Past, present, and future. *Educational Technology & Society*, *18*(4), 486–497.

Lin, V., Liu, G. Z., Hwang, G. J., Chen, N. S., & Yin, C. (2022). Outcomes-based appropriation of context-aware ubiquitous technology across educational levels. *Interactive Learning Environments*, *30*(18), 1515-1538.

Loewen, S., Crowther, D., Isbell, D. R., Kim, K. M., Maloney, J., Miller, Z. F., & Rawal, H. (2019). Mobile-assisted language learning: A Duolingo case study. *ReCALL*, *31*(3), 293-311.

McLellan, G., Kartchava, E., & Rodgers, M. (2021). Technology-mediated language training: Developing and assessing a module for a blended curriculum for newcomers. *Canadian Journal of Applied Linguistics / Revue Canadienne de Linguistique Appliquée*, *24*(2), 208-233.

Miangah, T. M., & Nezarat, A. (2012). Mobile-assisted language learning. *International Journal of Distributed and Parallel Systems (IJDPS)*, *3*(1), 309-319.

Morgana, V., & Shrestha, P. N. (2018). Investigating students' and teachers' perceptions of using the iPad in an Italian English as a

foreign language classroom. *International Journal of Computer-Assisted Language Learning and Teaching (IJCALLT)*, *8*(3), 29-49.

Mulyadi, D., Wijayatiningsih, T. D., Singh, C. K. S., & Prastikawati, E. F. (2021). Effects of technology-enhanced task-based language teaching on learners' listening comprehension and speaking performance. *International Journal of Instruction*, *14*(3), 717-736.

Nunan, D. (2004). *Task-based language teaching*. Cambridge University Press.

Osifo, A. (2019). Improving Collaboration in Blended Learning Environments through Differentiated Activities and Mobile-Assisted Language Learning Tools. *International Association for Development of the Information Society*.

Ozer, O., & Kılıç, F. (2018). The effect of mobile-assisted language learning environment on EFL students' academic achievement, cognitive load, and acceptance of mobile learning tools. *EURASIA Journal of Mathematics, Science and Technology Education*, *14*(7), 2915-2928.

Pahlevan-Sharif, S., Mura, P., & Wijesinghe, S. N. R. (2019). A systematic review of systematic reviews in tourism. *Journal of Hospitality and Tourism Management*, *39*, 158-165.

Palalas, A. (2011). Mobile-assisted language learning: Designing for your students. *Second language teaching and learning with technology: views of emergent researchers*, 71-94.

Park, M., & Slater, T. (2015). A typology of tasks for mobile-assisted language learning: Recommendations from a small-scale needs analysis. *TESL Canada Journal*, *31*(8), 93.

Pellerin, M. (2014). Language tasks using touch screen and mobile technologies: Reconceptualizing task-based CALL for young language learners. *Canadian Journal of Learning and Technology/La revue canadienne de l'apprentissage et de la technologie*, *40*(1).

Pingmuang, P., & Koraneekij, P. (2022). Mobile-Assisted Language Learning using Task-Based Approach and Gamification for Enhancing Writing Skills in EFL Students. *Electronic Journal of e-Learning*, *20*(5), 623-638.

Prince, M. (2004). Does active learning work? A review of the research. *Journal of Engineering Education*, *93*(3), 223-231.

Reynolds, B. L., & Anderson, T. A. F. (2015). Extra-dimensional in-class communications: Action research exploring text chat support of face-to-face writing. *Computers and Composition*,

Richards, J. C., & Rodgers, T. S. (2014). *Approaches and methods in language teaching*. Cambridge University Press.

Samuda, V., & Bygate, M. (2008). *Tasks in second language learning*. Palgrave Macmillan. *35*, 52–64.

Terras, M. M., & Ramsay, J. (2012). The five central psychological challenges facing effective mobile learning. *British Journal of Educational Technology*, *43*(5), 820-832.

Thati, R. P., Dhadwal, A. S., Kumar, P., & Sainaba, P. (2022). A novel multi-modal depression detection approach based on mobile crowdsensing and task-based mechanisms. *Multimedia Tools and Applications*, Online First.

Tong, P., An, I. S., & Zhou, Y. (2020). Holistic and dynamic: Teacher-researcher reflections on operating mobile-assisted learning tasks supported by WeChat for Chinese as a foreign language. *Instructional Science*, *48*(6), 729-763.

Tragant, E., Pinyana, À., Mackay, J., & Andria, M. (2021). Extending language learning beyond the EFL classroom through WhatsApp. *Computer Assisted Language Learning*, Online First.

Udal, A., Jaanus, M., & Piho, G. (2021). Task-based mobile learning ISC-System: Built-in Coronavirus immunity confirmed. In M. E. Auer, & T. Rüütmann (Eds.), *Educating engineers for future industrial revolutions* (pp. 604- 616). Springer.

Van de Vyver, J. (2023). *The role of mobile-assisted language learning in instructed second language acquisition: a mixed methods approach to the integration of MALL in language skills training in the Federation Wallonia-Brussels* (Doctoral dissertation, UCL-Université Catholique de Louvain).

Viberg, O., Wasson, B., & Kukulska-Hulme, A. (2020). Mobile-assisted language learning through learning analytics for self-regulated learning (MALLAS): A conceptual framework. *Australasian Journal of Educational Technology*, *36*(6), 34-52.

Wang, Y., Fang, W. C., Han, J., & Chen, N. S. (2016). Exploring the affordances of WeChat for facilitating teaching, social and cognitive presence in semi-synchronous language exchange. *Australasian Journal of Educational Technology*, *32*(4), 18–37.

Willis, J. (1996). A flexible framework for task-based learning. *Challenge and change in language teaching*, *52*, 62.

Xiang, Y., Yang, X. Q., Yang, W. W., & Miao, W. H. (2020). Localization and mapping algorithm for the indoor mobile robot based on LIDAR. In IOP Conference Series: Materials Science and Engineering, 831(1), 012021.

Xiangli, C., & Tongtong, D. (2017). Wechat as a learning community in EFL teaching: An action research study. *Journal of Asia TEFL*, *14*(3), 548.

Xue, S. (2022). A conceptual model for integrating affordances of mobile technologies into task-based language teaching. *Interactive Learning Environments*, *30*(6), 1131-1144.

Xue, S., & Churchill, D. (2019). A review of empirical studies of affordances and development of a framework for educational adoption of mobile social media. *Educational Technology Research and Development*, *67*(5), 1231- 1257.