

The Application of Mobile-Assisted Language Learning (Mall) in ESL Classroom: A Systematic Literature Review (2020-2024)

Ameera Sabeela Shohor¹ & Harwati Hashim^{1,2,3}

¹Faculty of Education, Universiti Kebangsaan Malaysia, Bangi 43600, Selangor, Malaysia

²University Research Group on Edexcellence: Development of Innovative Curriculum & Pedagogy, ³University Research Group on ELITEE: Enhanced Learning for Inclusive Transformational Education Experience

Corresponding Author Email: harwati@ukm.edu.my

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Abstract

Integration of information and communication technology (ICT) in teacher education is a means to support the teaching and learning process. Good teaching by utilising technology certainly requires changes, especially in the realm of pedagogy, hereby the application of mobile learning apps (MLA) had been created widely since pandemic occurred. Unfortunately, after the pandemic ended, teachers have stopped maximising ICT in the learning process. In fact, ICT has the ability to bring numerous benefits to teachers and students, such as joint learning areas, cooperative and collaborative learning opportunities. As a result, the purpose of this study is to determine the use and impact and role of mobile-assisted language learning (MALL) in the English Secondary Language (ESL) classroom. The method utilised is a systematic literature review, which collects data from three databases, namely Web of Science (WoS), Scopus, and Educational Resources Information Centre (ERIC), 11 articles were extracted out of 27, from 2020 to 2024, with exclusion and inclusion criteria taken into consideration.

Keywords: Mobile Language Learning (Mall), English As Secondary Language Classroom, Systematic Review, Mobile Learning

Introduction

During the pandemic era, mobile-assisted language learning (MALL) was a prominent tool in ESL classrooms. The vast options for teachers to create learning materials from MALL using their ICT skills had catered all sorts of students' learning styles. Teachers have the awareness of ICT skills and they sharpen it by implementing it in creating MALL activities for the students. The present day has been marked by various significant inventions of man, including that of mobile technologies (Al-Emran et al., 2020). Using such technologies, learners could learn anytime and anywhere. Mobile devices that involve the utilisation of wireless information and communications technologies allow societies to be connected at all times no matter

where they are or the time (Zaidi et al., 2021). Mobile devices also facilitate users in processing and transmitting information (Al-Emran et al., 2020).

However, after the pandemic ended in 2021, teachers are back to using the old-fashioned teaching style. Their ICT skills have slowly become dull without practising in applying MALL into their ESL classrooms. This is such a run-down phenomenon in the education system as the MALL allows students to learn everywhere including outside the classroom. Some modern technology, such as tablets, laptops, and mobile phones, allow children and young people to access new digital environments where they can connect, obtain information, and play (Gewerc et al., 2017; Gómez et al., 2020, Criollo et al., 2021). It is easier for them to get online worksheets because the majority of them have pandemic-prepared gadgets. This method of learning facilitates learning content access through its advanced method, operated via mobile devices (Naciri et al., 2020). This promotes a long life of self-learning in our generation.

Therefore, the growing body of research needs to be addressed and highlighted for the community in those particular contexts. Hence, this systematic review aims to review the current trends and research in mobile learning for ESL, with two research questions as follow:

RQ1: What impact does mobile-assisted language learning have on English teaching and learning within ESL classrooms?

RQ2: What is the role of mobile-assisted language learning in helping teachers improve the environment of ESL classrooms?

Mobile-Assisted Language Learning (MALL)

In recent years, technological advances have opened up new opportunities to enhance the learning processes and increased accessibility to learning materials at any time and any place (Golonka et al., 2014; Stockwell, 2022). Mobile-Assisted Language Learning (MALL) has become popular in the education system since 2019. The use of MALL in teaching and learning has changed the old-fashioned education system. MALL is becoming increasingly prevalent with numerous benefits over traditional methods of instruction (Boroughani et al., 2023; Burston & Giannakou, 2021; Xodabande & Boroughani, 2023), that include increased flexibility and convenience and the ability to incorporate multimedia content such as videos and interactive quizzes (Stockwell, 2022). While traditional methods, such as paper-based flashcards, have been shown to be effective (Nakata, 2019), mobile-assisted learning offers new opportunities to engage students in the learning process (Lai, 2020).

Learning a language is never an easy journey especially for English. There are many aspects such as grammar, vocabulary, and pronunciation. These considerations necessitate developing innovative teaching approaches to address students' specialised (i.e., technical) learning needs. Nowadays, teachers need to comprehend the students' needs while teaching them. They are no longer the generation who need chalk and talk to learn about English. They need stimulants like pictures, videos and sounds for them to understand better. These sensory items can only be given by using MALL in learning sessions.

Moreover, with the current rising metaverse element such an Artificial-Intelligence (AI) that can be added in MALL, it is a huge step-up for students' education. Despite the fact that computers have been used in education for over 20 years, they do not deliver the same level

of individualised attention as a human tutor. This has sparked interest in research on intelligent tutoring systems (ITSs). As a future educator, this system is currently a prodigy of AI. ITSs provide significant flexibility in material presentation and a better ability to respond to individual student demands. MALL applications such as Duolingo, Grammarly, Nearpod, Little Hippo, Quizizz, Kahoot and ChatGPT are easy to conduct and a huge help for students to learn English. These applications acquire "intelligence" by capturing pedagogical decisions about how to teach as well as learner information. This increases adaptability by modifying the system's interactions with the student.

Commentary of MALL in ESL classrooms

Eventually, after the immersion of AI in MALL, learning English has become more fun and interactive. AI technologies for language learning can help students save time by executing certain tasks for them and providing a more personalised learning experience depending on their needs and progress. Not only that, previous study shows that lesson contents can be tailored according to students' personal needs and requirements in learning and combined with interactive learning. AI in MALL also can help to keep students engaged and motivated to continue learning (Johnson, Vilhjálmsson, & Marsella, 2005; De Haas, Vogt & Krahmer, 2020; Xu, Dugdale, Wei & Mi, 2022).

Method

This systematic review follows the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) method, which includes four processes: identification, screening, eligibility, and inclusion, as seen in Figure 1. PRISMA has been widely used by researchers since it is comprehensive and adaptable to diverse studies. As a result, the purpose of this study and the systematic review procedure are as follows.

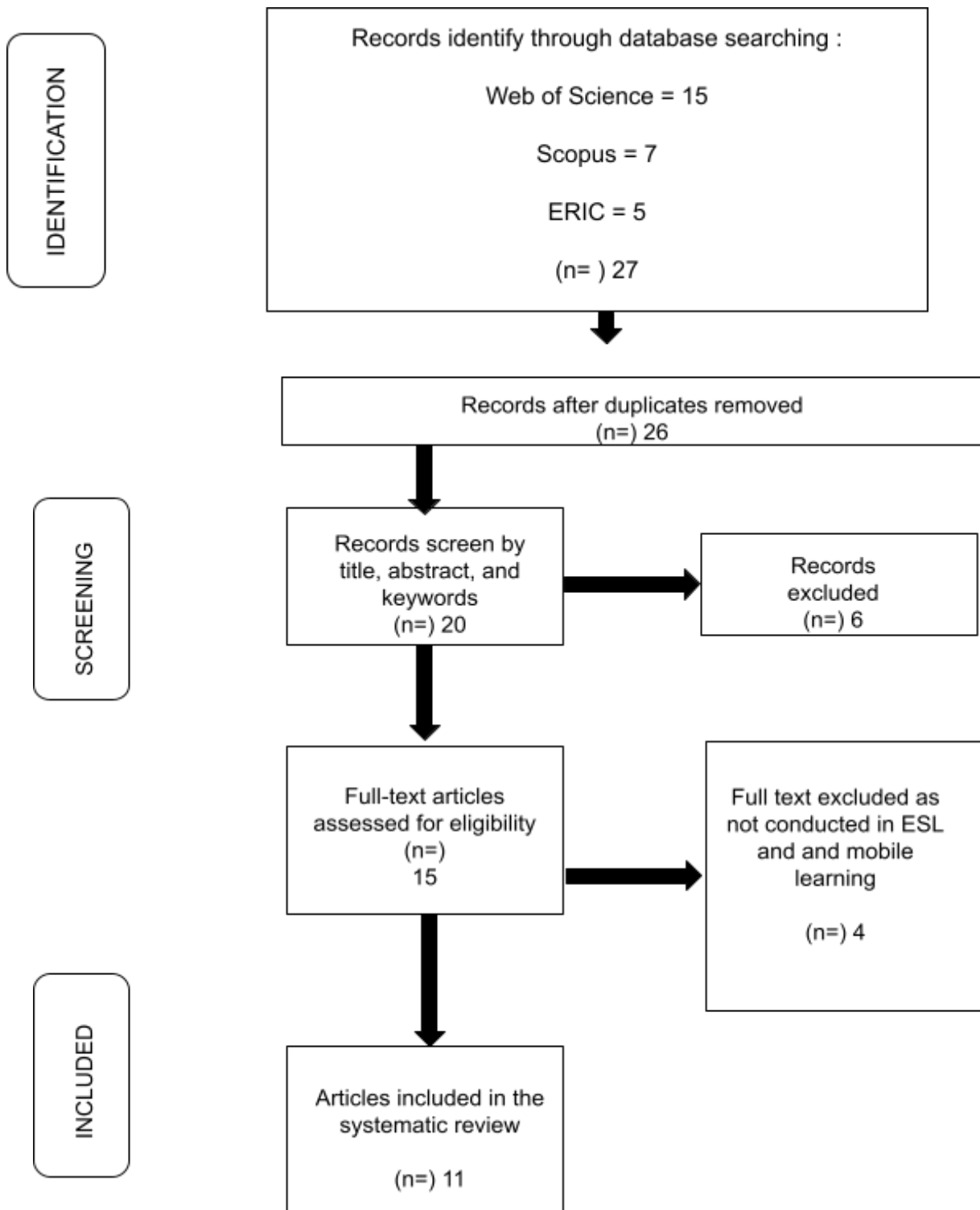


Figure 1 : PRISMA systematic review

Identification

The first phase in the systematic review is to go over the identification procedure, as described in the PRISMA recommendations. Three databases were chosen based on their suitability for the purpose of this study: Web of Science (WoS), Scopus, and the Educational Resources Information Centre. The primary phrases used in this systematic review were carefully chosen to reflect the constructs to be examined. Words relevant to mobile learning and English as a Second Language (ESL) were used. Table 1 provides the search string used in this investigation for each database.

Table 1

Search String Used in this Study

Database	Search String
Web of Science (WoS)	TS=("English as Second Language*" OR "ESL") AND ("mobile learn*" OR "mobile assisted language learning*" OR "mobile app*")
Scopus	TITLE-ABS-KEY(("English as a Second Language*" OR "ESL") AND ("mobile learn*" OR "mobile assisted language learning*" OR "mobile app*"))
ERIC	Mobile assisted language learning in ESL classroom

Screening

The screening process began with detecting duplicate articles across several databases, which resulted in the removal of 11 duplicate articles. The remaining 128 papers were then screened based on their titles, abstracts, and keywords, with an emphasis on relevance to English as a Second Language (ESL) and mobile learning. Of these, 74 papers were deemed unrelated to the study's purpose and were excluded. Following the initial screening, the remaining 54 publications were evaluated using specified inclusion and exclusion criteria, as shown in Table 2.

Table 2

Inclusion and Exclusion Criteria

Inclusion Criteria	Exclusion Criteria
Studies conducted between 2019 and 2024 (6 years timespan)	Studies conducted before 2019
Articles from journals	edings, review articles, book
The text was written in English	Text not written in English
to mobile learning and English as Second Language (ESL)	ed to mobile learning and English as Second Language (ESL)

Following meticulous selection criteria, 28 articles emerged as potential candidates for inclusion in this systematic review.

Included

The articles for this systematic review revolved around Mobile-Assisted Language Learning (MALL) in English as Secondary Language (ESL) classroom . The studies included are displayed in Table 3.

Based on the table below, six articles were chosen from WoS, three from Scopus, and two from ERIC. These databases were selected due to the quality of the articles, particularly in the education field. The aims of the studies were all related to Mobile-Assisted Language Learning (MALL) in English as Secondary Language (ESL) classroom context.

Study	Database	Aim	Samples	Findings
Lazebna, N & Prykhodko, A (2021)	Scopus	To implement of modern technologies during English language classes and use authentic video courses and video equipment, which enable the teacher to use various technologies in working with video films	50 students of the fourth year of education, Bachelor's degree in Translation, aged 20-21 years old	MALL technology fosters ESL student engagement and skill development in the classroom.
Aliakbari, M & Mardani, M (2022)	Wos	To determine the impact of mobile learning classes on English Foreign Language (EFL) learners' speaking skill development and their motivation to participate in class discussions.	60 students from Kish institute in Ilam, Iran	Mobile learning classes were more effective than face-to-face classes in developing EFL learners' speaking skill and students prefer mobile

				interaction
Misdi et al (2023)	Wos	To assess students' empowerment toward the enactment of mobile-assisted extensive reading in a private university	27 students from the Department of English Education	MALL makes reading fun and motivating. MALL, demonstrating that self regulated learning was shouted through students' reading motivation and self-reflection, including satisfaction and impacts.
Zhou, S (2022)	Wos	To analyse the effect of mobile learning on the optimization of preschool education teaching mode under the epidemic	preschools teachers	MALL maximises multimedia's benefits, enhancing teaching appeal by vividly showcasing knowledge. It serves as a potent supplemental tool for students preparing for college entrance exams, fostering teacher-student communication and optimising post-class online

				learning habits.
Zhang, Y & Zuo, L (2020)	Wos	To optimise the design of individualised class-room teaching for mobile English learning in colleges, and find a scientific and effective English teaching mode and strategy for mobile learning	283 college students	Several problems in mobile learning, including difficulty to stay focused, irrational spending of learning time and unclear learning objectives.
Budiarto, M K et al (2024)	Scopus	To identify the use of mobile learning application (MLA) and its impact as a form of ICT integration in learning	10 selected articles	Mobile-based learning with smartphones is a growing trend across education levels, proven to enhance students' academic performance and skills, aligning with contemporary needs.
Lim, Fei V. & Toh, Weimin (2024)	ERIC	To identify and analyse typical learning gains associated with different categories of apps used in the L2 English classroom, based on a systematic review of international studies published between	20 journals published between 2010 and 2021.	Quiz apps engage students with mobile-based quizzes. Puzzle apps enhance grammar and vocabulary learning. Platform

		2010 and 2021.		apps boost reading, writing, vocabulary, and grammar skills. Augmented reality apps heighten student engagement in language learning. Virtual reality apps aid listening and speaking skill development.
etruk, R (2024)	Wos	To explore how mobile devices impact L2 learners' pronunciation, their attitudes toward mobile learning for pronunciation, and the types of devices and apps used in the process.	15 empirical studies published between 2015 and 2022, based on PRISMA 2020	Mobile devices positively benefit EFL learners' pronunciation acquisition. Most studies show learners have positive attitudes toward using mobile learning for improving pronunciation.
aylova M et al (2022)	Wos	To compare the impact of mobile language learning apps versus traditional methods on L2 proficiency.	23 articles published in peer reviewed journals from 2007–2019	These studies reveal a notable advantage in L2 learning achievement when using MALL applications

				compared to traditional classroom methods, observed across various factors.
Niloufar Koleini et al (2024)	Scopus	To investigate the effectiveness of Mobile-Assisted Learning (MALL) in the context of enhancing university students' acquisition of technical vocabulary	80 psychology students with intermediate English proficiency	Immediate benefits of MALL and its potential to enhance proficiency in specialised vocabulary over time.
Suherdi D et al (2022)	ERIC	To explore teachers' responses to trends and practices of mobile technology adoption and their future teaching plan.	5 EFL teachers from secondary school	Teachers agree that motivation drives the integration of mobile technology in EFL lessons. Its adoption moderately boosts students' language acquisition and performance. Teachers' ease of use and perceived usefulness strongly influence motivation. Nevertheless,
				MALL encounters challenges too.

Data Analysis Procedure

All articles selected were exported to a referencing software, Mendeley. Then, thematic analyses were carried out to identify the main themes to answer the following research questions:

- (1) What impact does mobile-assisted language learning have on English teaching and learning within ESL classrooms?
- (2) What is the role of mobile-assisted language learning in helping teachers improve the environment of ESL classrooms?

This review analysed the articles interpretively, categorising the themes for the research questions.

The themes were classified based on the platform mentioned in the literature review for the first research question. The platforms mentioned in each article were categorised into the impact of MALL on teaching and learning. For the second research question, the role of MALL in improving classroom environment mentioned in the articles. Findings from the articles are discussed in the following section.

Results

RQ1 : *What impact does mobile-assisted language learning have on English teaching and learning within ESL classrooms?*

In this systematic review, mobile learning is categorised into (1) Skill development , (2) enhance students' academic performance , (3) positively benefit EFL learners' pronunciation acquisition, (4) several problems in MALL, and (5) enhance proficiency in specialised vocabulary over time. These categories emerged from reviewing the literature and were classified as such for better categorising mobile usage in learning English for specific purposes. Table 4 (below) shows the type of categorisation with the respective articles used in this study.

Table 4

Impact of Mobile-Assisted Language Learning (Mall) Have on English Teaching an Learning Within ESL Classrooms

Impact of mobile-assisted language learning (MALL) have on English teaching and learning within ESL classrooms	
1.Skill development	Communication skills, logical thinking, the ability of self-expressing,background knowledge, culture, art, the geography of the UK,cross-cultural knowledge, communication skills, knowledge about the American culture, traditions relationships between people, communication skills,cultural awareness, communication skills, critical thinking speaking skills, phonetics improvement, intonation, and pronunciation knowledge of history, culture, the life of the, United Kingdom and the United States,communication skills
2.Enhance students' academic performance	Technology-based learning innovation through mobile learning, Smartphone technology as a tool to help achieve competence,
3.Positively benefit EFL learners' pronunciation acquisition	MALL proved to be an effective app, and most students suggested that they were satisfied and highly motivated when using the app, as it offered instructional videos, authentic material, and interactive learning environments
4.Several problems in MALL	Difficulty to stay focused, irrational spending of learning time and unclear learning objectives

5.Enhance proficiency in specialised vocabulary over time	
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Table 4 presents findings from five articles investigating the impact of mobile-assisted language learning (MALL) on English teaching and learning in ESL classrooms. Among these, studies referenced as 1 and 5 consistently highlight MALL's role in enhancing English proficiency, particularly in vocabulary acquisition. These articles emphasise that MALL tools contribute significantly to expanding learners' vocabulary knowledge and comprehension skills.

Furthermore, references 1 and 3 discuss how MALL supports pronunciation improvement in ESL contexts. They suggest that mobile technology facilitates more accurate pronunciation practice through interactive and accessible learning resources. Overall, the reviewed studies collectively affirm the positive influence of MALL on ESL education, suggesting that integrating mobile technology can enhance language learning experiences by addressing specific linguistic challenges effectively.

Article (4) contrasts with the other studies by highlighting negative impacts of MALL on English teaching and learning in ESL classrooms. It identifies challenges such as decreased student focus, inefficient use of learning time, and unclear educational objectives, presenting a critical perspective on the potential drawbacks associated with mobile-assisted language learning compared to the predominantly positive findings of the other reviewed studies.

RQ2 : What is the role of mobile-assisted language learning in helping teachers improve the environment of ESL classrooms?

In this systematic review, mobile learning is categorised into (1) MALL makes reading fun and motivating, (2) more effective than face-to-face classes in developing EFL learners' speaking skill and students , (3) maximises multimedia's benefits, (4) engage students with mobile-based quizzes, and (5) boosts students' language acquisition. These categories emerged from reviewing the literature and were classified as such for better categorising the role of mobile-assisted language learning in learning English for specific purposes. Table 5 (below) shows the type of categorisation with the respective articles used in this study.

Table 5

Role of Mobile-Assisted Language Learning in Helping Teachers Improve the Environment of ESL Classrooms

Role of mobile-assisted language learning in helping teachers improve the environment of ESL classrooms	
1.MALL makes reading fun and motivating	Mobile-Assisted Extensive Reading Promotes Students' Sense of Empowerment, Mobile-Assisted Extensive Reading Builds Active and Independent Collaborative Learning.Mobile-Assisted Extensive Reading Promotes Re-Meaning-Making Tasks in Self- Regulated Learning.
2.More effective than face-to-face classes in developing EFL learners' speaking skill and students	Learning increased through mobile learning classes, and they prefer mobile interaction to face-to-face interaction Behavioural outcomes such as effort, desire persistence, engagement, initiating and sustaining of activities
3.Maximises multimedia's benefits	A powerful auxiliary learning method for communication between teachers and students and optimise students' learning habits after class online
4.Engage students with mobile-based quizzes	Puzzle apps enhance grammar and vocabulary learning. Platform apps boost reading, writing, vocabulary, and grammar skills. Augmented reality apps heighten student engagement in language learning. Virtual reality apps aid listening and speaking skill development.
5.Boosts students' language acquisition	Teachers agree that motivation drives the integration of mobile technology in EFL lessons.

Table 5 summarises findings from five articles exploring how mobile-assisted language learning (MALL) supports teachers in enhancing the environment of ESL classrooms. Studies referenced as 1, 2, and 5 underscore MALL's role in motivating students, which is crucial for maintaining their focus throughout lessons. These articles argue that the use of MALL during teaching and learning sessions effectively boosts student motivation, thereby fostering a more engaging and participatory classroom atmosphere.

Furthermore, articles 3 and 4 highlight that MALL contributes to creating a conducive learning environment for English language acquisition. They discuss how MALL surpasses traditional face-to-face classes in effectiveness and enhances the classroom environment by introducing engaging activities like mobile-based quizzes. This approach not only diversifies teaching methods but also actively involves students in interactive learning experiences, promoting deeper engagement and understanding of English language concepts.

The collective findings underscore the transformative impact of integrating MALL into ESL classrooms. By enhancing motivation and creating dynamic learning environments, MALL empowers teachers to deliver more effective and engaging instruction. It supports diverse learning styles and encourages active student participation, ultimately fostering a positive learning atmosphere that enhances both teaching effectiveness and student outcomes in English language education. As educators continue to explore and refine MALL strategies, these insights provide valuable guidance for optimising ESL classroom environments through innovative technology integration.

Discussion

The discussion surrounding mobile-assisted language learning (MALL) in ESL classrooms, as depicted in Tables 4 and 5, presents a multifaceted view of its impact on English teaching and learning. Articles referenced as 1 and 5 consistently highlight MALL's significant role in enhancing English proficiency, particularly through improved vocabulary acquisition facilitated by interactive and accessible mobile tools. These studies underscore how such technologies can deepen learners' engagement and comprehension skills, addressing specific linguistic challenges effectively. Additionally, Articles 1 and 3 discuss MALL's contribution to pronunciation improvement in ESL contexts, emphasising its ability to facilitate more accurate practice through interactive resources. These findings collectively affirm MALL's potential to bolster language skills comprehensively.

Furthermore, Articles 1, 2, and 5 emphasise MALL's capacity to motivate students, thereby fostering a dynamic and participatory classroom atmosphere. By integrating mobile technology into lessons, educators can sustain student interest and enhance engagement throughout learning sessions. Articles 3 and 4 further support this viewpoint by highlighting MALL's role in creating conducive learning environments that surpass traditional face-to-face methods in effectiveness. They argue that interactive activities such as mobile-based quizzes not only diversify teaching approaches but also actively involve students, promoting deeper understanding and engagement with English language concepts.

However, amidst these positive perspectives, Article 4 presents a critical stance by identifying potential drawbacks associated with MALL in ESL classrooms. It points out challenges such as decreased student focus, inefficient use of learning time, and unclear educational objectives. This critical view prompts a discussion on how educators can mitigate these challenges through thoughtful integration strategies and pedagogical adaptation. Effective implementation may involve aligning MALL use with clear learning objectives, providing

structured guidance to students, and incorporating technology seamlessly into lesson planning to maximise its benefits while addressing potential distractions.

Looking forward, the integration of MALL into ESL classrooms necessitates ongoing research and adaptation to evolving educational landscapes and technological advancements. Future directions could explore innovative MALL strategies that leverage emerging technologies like artificial intelligence and augmented reality to further enhance language learning experiences. Such advancements hold promise in catering to diverse learning styles and preferences, potentially transforming ESL education by offering personalised and interactive learning opportunities.

Conclusion

In conclusion, the discussion on MALL's impact on ESL education, as illustrated through Tables 4 and 5, highlights both its potential benefits and challenges. By enhancing vocabulary acquisition, pronunciation practice, and student motivation, MALL emerges as a powerful tool for enriching English language learning experiences. However, addressing concerns such as student focus and instructional clarity remains crucial for maximising its effectiveness. Moving forward, continued research and thoughtful integration efforts will be essential in harnessing MALL's full potential to support ESL educators and learners in achieving their language learning goals.

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