

A Systematic Review on Integrating MALL in English Language Teaching

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Abstract

The use of technology in language learning has been going on for a long time. Many technological characteristics are currently utilized in language learning as a result of the rapid growth of technology. MALL is one of them. This study aims to review integrating MALL in English language teaching (ELT). The study employed a systematic review checklist as a method. Findings suggest that MALL has a good impact on students' English language development, which leads to positive outcomes, according to the overall findings. Parents, teachers, and students expressed an interest in promoting MALL in ELT. Teachers were enthusiastic about MALL and felt that it could be utilized to teach English. MALL also had a positive influence in educational contexts, with students enthusiastic about utilizing it in English classes. They also believe that MALL provides them with numerous benefits when performing their tasks. Due to the challenges teachers and students encounter in applying and using MALL in ELT, such as psychological, pedagogical, and technical limits, stakeholders are expected to develop solutions and policies to achieve effective technology-oriented learning in ELT.

Keywords: Systematic review, MALL, ELT

INTRODUCTION

Teaching English with technology might help teachers provide instructions, create creative materials, make presentations, and the like (Erben et al., 2008). By using technology, a teacher can manage classroom activities in a more efficient, controlled, and manageable way. In its growth, using technology in the classroom has made sustainable progress since it was only used as a tool for controlling, instructing, facilitating, implementing, generating and creating (Erben et al., 2008). Simultaneously, using technology in the classroom to teach English encourages students to

be more motivated and creative in their practice. For example, browsing sources from the internet, finishing assignments or project learning, and showing presentations.

For a few decades recently, the growth of technology in teaching English has increased sharply. As (Shyamlee & Phil, 2012) confirm, this quick rise and development of information technology has provided a stronger framework for investigating the new education approach. As a result, technology plays a critical role in English instruction. It also attempts to raise awareness of the strategies among English teachers in order to put them to good use.

In terms of technology in English teaching, the presence of mobile phones is critical and attracts a large number of scientists, scholars, and material designers. According to Burston (2015), the use of mobile devices as language teaching (Mobile Assisted Language Learning or MALL) aids is becoming increasingly popular as more capable and affordable smartphones and tablet computers overcome the technological and economic constraints that have impeded widespread adoption of MALL. However, much like with the growth of computer-assisted language learning in the 1980s, technological enthusiasm must be backed up with objective evidence of MALL's pedagogical success. For this reason, this study presents the following research question and documents the beneficial growth of MALL for the five most recent years. In sum up, the purpose of the study was to furnish an insightful, useful, meaningful, and informative systematically reviewed framework for intertwined MALL in the ELT classroom.

METHOD

Teaching English with technology might help teachers provide instructions, create creative materials, make presentations, and the like (Erben et al., 2008). By using technology, a teacher can manage classroom activities in a more efficient, controlled, and manageable way. In its growth, using technology in the classroom has made sustainable progress since it was only used as a tool for controlling, instructing, facilitating, implementing, generating and creating (Erben et al., 2008). Simultaneously, using technology in the classroom to teach English encourages students to be more motivated and creative in their practice. For example, browsing sources from the internet, finishing assignments or project learning, and showing presentations.

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recent years. In sum up, the purpose of the study was to furnish an insightful, useful, meaningful, and informative systematically reviewed framework for intertwined MALL in the ELT classroom.

Planning work for review

First of all, every single scholar, researcher, or investigator has been planning how she would carry out her research. Likewise, researchers ought to have mutual planning and preparation while conducting a systemic review, as Dickson (2017) declared that this work consumes a lot of time and energy. Also, they emphasized that this research needs continued persistence, much like looking for a needle in a haystack, which means that perseverance is needed. The review examined systematic reviews in International Journal of Direct Science, Research Gate Journals.

Writing review process purposes

In essence, conducting research aims to demonstrate new knowledge to people around the world. In doing so, the study's researchers also hope to raise awareness of all aspects of teaching English through mobile tools (MALL) by addressing research questions.

1. What is the efficacy of MALL in ELT?
2. What is the perception toward MALL in ELT?
3. What are the issues and challenges associated with teaching English as a second language using MALL?
4. What are the pedagogical implications for future research of teaching English with MALL?

Literature browsing

Due to the failure of the study, it was essential to do a literature search while conducting a systematic review. Collected articles would be reviewed for selection and extraction in accordance with the research's principal purpose. The scientific journals in Scopus will be searched. All of the searches were conducted between 2017 and 2021.

Between 2017 and 2021, a total of 100 articles were searched. From these figures, a more focused search was undertaken to find publications about teaching English using mobile devices (MALL).

Screening sources

The Scopus database was used to look for international publications for this investigation. All of the searches were conducted between 2017 and 2021. The search will be limited to teaching English language literature since the primary emphasis was integrating MALL using inclusion and exclusion criteria. To keep a record of this process this study used a PRISMA flow diagram.

Acquiring papers

The inclusion and exclusion criteria were utilized to narrow and shape the review question in this research. Papers that use rigorous techniques to obtain effectiveness, instructors' and students' perceptions, difficulties, and concerns on MALL will be requested since the research topic is aiming for these. As a result, only randomized controlled studies will be accepted (Torgerson, 2003). For a paper to be considered, there must be a comparison of two or more methodologies or strategies for incorporating MALL into English language instruction. Randomized Controlled Trials (RCTs) will be considered only if they are conducted in English-speaking countries and published in English. Trials will be considered if they were published between 2017 and 2021 and if all of the participants were between the ages of 15 and 20.

MALL, English as a second language, and English as a foreign language were all mentioned in 84 of the 100 articles. These 84 publications were also removed if they did not fit the time constraint requirement, effectiveness, instructors' and students' perceptions of MALL, concerns and challenges related to MALL, or did not clearly assess MALL integration in English language instruction. The search resulted in the exclusion of 40 items. The final assessment revealed that 44 papers were needed to assess the study's quality in order to address the research questions in issue. All of the stages involved in the review approach are shown in Figure 1.

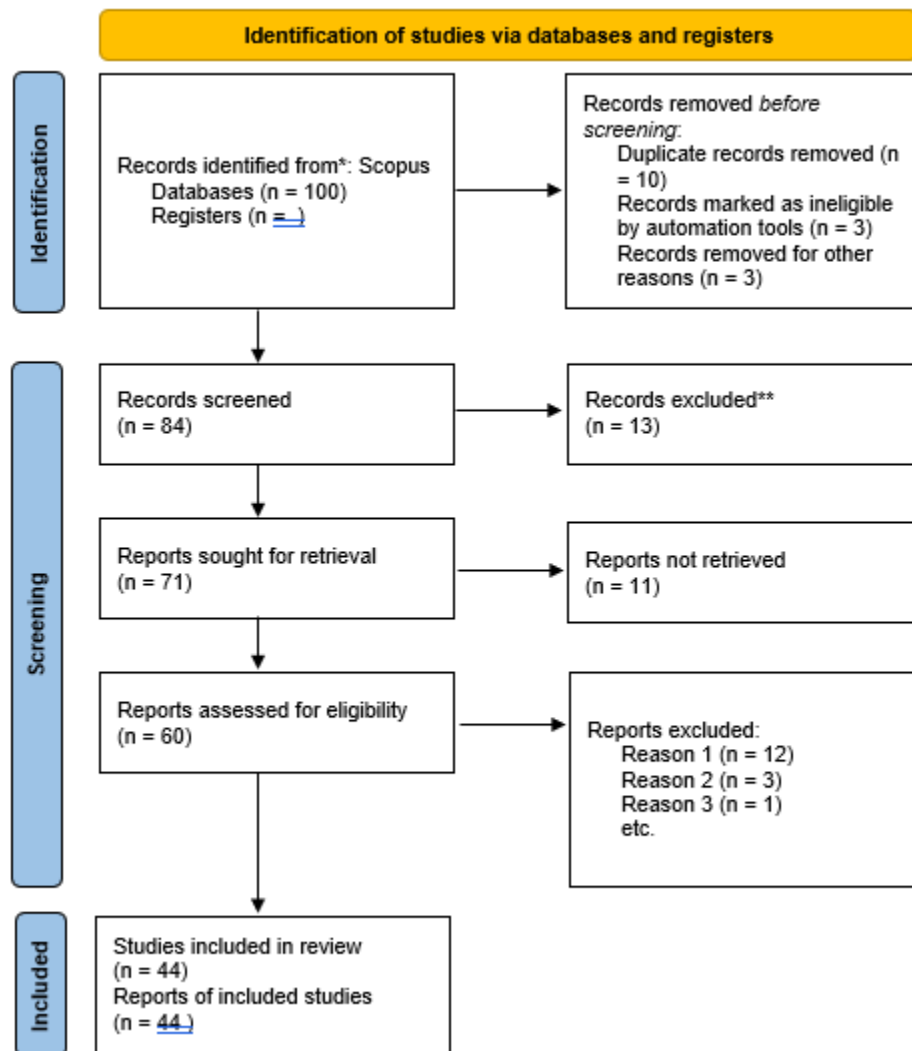


Figure 1. Review method

Selecting papers with full versions

Following completion of the record screening and receipt of the full text of the papers, the inclusion and exclusion criteria were reapplied as if reading the whole piece. Reading the abstract, introduction, and conclusion before reading the whole document to see whether it still fulfills the

inclusion requirements is one method to consider. The essential step of the systematic review was the analyzing step.

Extracting data

Following familiarization with the papers that include evidence to aid in answering the review question, the next stage is to identify and extract important data from each particular research as a consequence of the screening and selection process. The process of extracting important data from the included articles and storing it in a single format—usually a data extraction provided in data tables—is known as data extraction. Both descriptively and analytically, this process of collecting and presenting significant facts makes meaning of the data. Data extraction of this study takes place after the quality assessment of the included studies has been carried out. It is done to exclude poor-quality studies from the review. It saves time by preventing needless extraction of unrequired data but it can also reduce bias (Boland, et.al., 2017). This research likewise followed Boland's main procedures for data extraction (2017: 169). The first step is to figure out what data will be extracted. In this phase, the researchers construct a list of all data that will be used to summarize, explain, and analyze the findings of the studies that have been included, both individually and as a group. It was possible to get a feel of the data inside the research by skimming-reading all of the published articles. The second steps are to build and pilot the data extraction form or data extraction table(s). After deciding on the data that will be extracted, the next move is to put together data extraction form or data extraction table(s). The study preferred to store the extracted data by entering it straight into a table or series of tables. The data extraction form or data extraction table is built and tested in the second stage (s). Following the decision on the data to be extracted, the following step is to create a data extraction form or table (s). The research likes to insert the retrieved data directly into a table or set of tables for storage. The purpose of a piloting exercise is to determine how simple it is to extract data and, second, to ensure that all relevant data is obtained. Extraction of pertinent data is the third phase. The information was extracted electronically by copying and pasting pertinent bits or pieces of information into data extraction forms. The fourth steps are to complete data tables. Tables containing titles and variables such as "research characteristics," "participant characteristics," and "study findings" are crucial for describing and summarizing the retrieved data.

Assessing the quality of the papers

Following familiarization with the papers that include evidence to aid in answering the review question, the next stage is to identify and extract important data from each particular research as a consequence of the screening and selection process. The process of extracting important data from the included articles and storing it in a single format—usually a data extraction provided in data tables—is known as data extraction. Both descriptively and analytically, this process of collecting and presenting significant facts makes meaning of the data. Data extraction of this study takes place after the quality assessment of the included studies has been carried out. It is done to exclude poor-quality studies from the review. It saves time by preventing needless extraction of unrequired data but it can also reduce bias (Boland, et.al., 2017). This research likewise followed Boland's main procedures for data extraction (2017: 169). The first step is to figure out what data will be extracted. In this phase, the researchers construct a list of all data that

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FINDINGS AND DISCUSSIONS

MALL has gained popularity in recent years, especially during the Covid-19 outbreak, which restricted students and teachers from having direct physical contact in the classroom. Through MALL teaching and learning activities can still be carried out even though they are online. MALL also broadens teachers' and students' perspectives on how to use technology effectively in the classroom. It makes a substantial contribution to the teaching and learning process, as students are increasingly seeking out the benefits of technology in the classroom, particularly mobile devices, because they are dissatisfied with the traditional way of instruction. This article tried to review numerous studies on MALL in ELT. The results of studies can be divided into 4 categories: the efficacy of integrating MALL in ELT, perception on MALL in ELT, issues and challenges in using MALL, and pedagogical implications for future research on teaching English using MALL.

The Efficacy of Integrating MALL in ELT

This category is examined in detail in light of the most frequently emerged from the 44 publications' findings on the efficacy of integrating MALL in ELT. From previous findings of 22 publications found that MALL is effective tool for learning English language. Ali et al., 2020, in their research indicated that Pakistani students embrace the trend of the use MALL and are energized, positive, and happy about utilizing mobile phones for educational reasons both in and out of the classroom. Yasmin Khan & Tufail, 2020, stated that the elements of PEOU and PU of MALL are operating in this study, as seen by the learners' perspectives on cell phones. While, the finding from Mengorio & Dumlao, 2019, specified an improvement in the experimental Group's performance when compared to the Controlled Group's test scores in their research. Additionally, the experimental set's students report positive sentiments about the integration of the Mobile App into the teaching and learning process. In line with Wigglesworth, (2020), he reported that that students completed these tasks satisfactorily and regarded smartphones beneficial as language learning activities and they actively engaged in utilizing affordances on their smartphones to aid in task engagement. Mall application also can assist students in studying and comprehending

English Intensive Course (EIC) (Rohandi et al., 2018). In addition, Guo & Wang, (2018), discovered that majority of college students enjoy learning English on mobile devices. Also, The review's findings of Ok & Ratliffe, (2018) suggested that employing mobile devices to teach English to K-12th grade students has promising results. Students' learning, self-efficacy, and engagement improved as a result of using the devices for instruction, and they spent more time with the academic content.

Specifically, in language skills as well as language components, (Wu & Miller, 2020) reported in their case study about improving English learners' speaking through Mobile-Assisted Peer Feedback. The app used was user-friendly for both students and teachers. Additionally, integrating students in peer feedback enabled them to take on the role as knowledge creators (the evaluator) rather than relying solely on teacher evaluation (Wu and Miller, in press). This enabled students to alter their personalities and become more active participants in their speaking tasks. The efficacy of MALL in teaching writing also stated from some findings, as reported by Chen et al., 2017 and Jian & Jun, 2020. The usage of mobile technology (employing iPads and a digital handwriting app) improved ELLs' learning motivation and the quality of their narrative writing abilities. In addition, the employing iPads and a digital handwriting app to scaffold young ELLs' narrative writing skills (Chen et al., 2017). Furthermore, Jian & Jun, 2020 reported that providing explicit socializing activities to unfamiliar learners in mobile-assisted collaborative learning environments increased their social presence, facilitated their acquisition of complex cognitive skills such as EFL argument essay writing, and decreased their cognitive load during the learning process. Finally, according to the results of this comparison study from Mortazavi et al., (2021), university students would be interested in using MALL (LINE and WhatsApp) to increase their receptivity (listening and reading) and productivity (writing and speaking).

Not only language skills but MALL also give significant contribution toward language components: vocabulary, grammar, and pronunciation (Al-Ahdal & Alharbi, 2021; Dağdeler et al., 2020; Gu, 2018; Katemba, 2021; Lin & Lin, 2019; Mahdi, 2018; Wardak, 2021). Dağdeler et al., 2020 in their quasi-expreimental research found that there was a significant difference between the experimental group and control group in terms of receptive vocabulary knowledge. Gu, 2018 also found that Vocastyle software which was created by featured annotation assisted students in learning and remembering new terminology. The findings indicated that learners who used multimedia annotations remembered and retained information better than those who used paper-based annotations. Additionally, the meta-analysis study indicated that mobile-assisted L2 word learning interventions had a large and beneficial effect on students' vocabulary (Lin & Lin, 2019). Mahdi, 2018 in his meta-analysis also which assessed how effective of mobile devices on vocabulary learning reported that when compared to traditional methods, using mobile devices to study vocabulary was related with greater accomplishment. This is in line with Katemba, 2021. She initiated that there is a considerable difference in performance between students who were taught using MALL and those who were taught using traditional methods. Furthermore, students who used of mobile devices for collaboration resulted in improved vocabulary retention, postintervention, and group performance was significantly improved, with more learners scoring closer to the mean value (Al-Ahdal & Alharbi, 2021). Further finding stated that the students succeeded in expanding their vocabulary and getting above-average post-test results (Wardak, 2021). For other language component, grammar, MALL in the English language classroom aligned

well with the guidelines of the English 5 curriculum and syllabus, and that if used as indicated, MALL might assist Swedish students enhance their English grammar learning and motivation (Cukalevska & Johansson, 2020). In multidimensional grammar exams, students who benefited from mobile learning scored much higher than those in control groups (Sung Tae-Soo, 2018). Finally, the study provides evidence for the concept that task sharing in virtual networks can benefit language learning, specifically grammar learning (Khodabandeh et al., 2017). Furthermore, in pronunciation, it is reported that when students use mobile application (TFlat courseware), their pronunciation skill improved significantly when compared to students in the control group throughout the same time period (Sufi & Shalmani, 2018). Also, students who used English Monolingual Dictionary (EMD) application in their mobile phone, they displayed proficiency in using the EMD program, as seen by their grasp of pronunciation, grammar, and meaning information while searching for a specific word (Yudhiantara & Saehu, 2017).

The overall findings reported that MALL positively affect students in learning English language. All of the studies concluded that employing various applications and devices of MALL yielded positive results. According to the researchers, they boosted student academic learning, motivation, engagement, and time-on-task. Prior studies had suggested that adopting technology can help students develop in specific areas, and these findings backed up that theory (Pennington, 2004).

Perception toward MALL in ELT

Several papers also focused on and explored how parents, teachers, and students perceive MALL as a tool for learning English. Chen et al., (2017) in their ethnographic case study reported parents were motivated to promote ELs' language development through mobile technology. The same perception also stated by teachers that EFL pre-service teachers showed favorable attitudes toward the usage of MALL in English instruction (Pratiwi et al., 2020). A parallel result stated that instructors in a private university in Tokyo felt more at ease and happy when utilizing CALL and MALL. In addition, they agreed that MALL can be used to increase students' language skills and that their pupils love utilizing mobile devices to study English (Pagel et al., 2018). Cholis, (2021) also revealed that teachers believe that students in learning English through MALL play participant, initiator, performer, and passive receptor. Teachers agree that MALL is a promising and valuable tool to be applied in English language teaching.

According to students' perception, (Jeong, 2011) testified that the students' opinions about the usage of digital technology were highly positive, according to students' perceptions. The majority of students enjoy using digital devices, are at ease with them, and believe that it is critical for them to increase their digital fluency. It also implies that students believe that adopting digital tools and resources will improve their learning. It makes clear that students had a positive perspective and attitude about using their phones to help classroom activities, according to Yudhiantara & Saehu, (2017). They used their cellphones in the classroom to assist with school tasks. Reading e-books related to phonology, listening to and watching audio and video files to visualize phonological concepts, and using an offline dictionary to solve vocabulary are all instances of classroom activities aided by mobile phone use. Pérez-Paredes et al., (2018) also stated in their findings that Mobile Data-Driven Language Learning's fast and individualized feedback and direct access to a number of tools are generally well received.

Furthermore, English language learners of Instagram as a MALL tool for informal language learning were overwhelmingly positive. Additionally, based on Instagram usage habits and orientations, two distinct language learner profiles (novice and experienced) developed (Gonulal, 2019). Nuraeni et al., (2020) found in their research that the majority of students had a favorable opinion of the use of MALL to enhance classroom activities, particularly in the learning of English. The similar result also found by Alkhudair, (2020). He reported that students saw MALL as a useful and helpful tool, and they indicated enthusiasm for its application in the classroom. Eventually, those findings are consistent with Jebur, (2020) that Iraqi EFL learners' show positive attitudes towards MALL.

The findings above investigated opinions and attitudes of including MALL into EFL classrooms. Parents, teachers, as well as students indicated that they are motivated to promote MALL in English teaching and learning. Teachers showed favorable attitude and agreed that MALL can be used English language teaching. Furthermore, MALL has a favorable impact in educational settings and students are enthusiastic about using it in English learning. Also, they believe that using MALL provides them with numerous benefits when performing their tasks. Then, it can be stated that if MALL is used consistently and comprehensively, it can help students enhance their English proficiency by providing more inventive and adaptable learning techniques.

Issues and Challenges in Using MALL

Despite the benefits that MALL provides effective English language instruction reported by some findings, it is also admitted that some have not promoted as much as others. Some findings have reported about issue, challenges, as well as limitation of the application of MALL in ELT. Solihin, (2021) reported in his findings that there are some challenges faced in using MALL in teaching English: challenges for teachers, students, cultural and ethical, challenges related to the mobile devices and applications, and challenges pertaining to the conditions of some regions in Indonesia. The challenges are about teachers and students' lack of digital literacy, the hesitancy to use technological equipment, and the cost to afford mobile devices. Sam & Shalini, (2021) add more points on challenges: psychological limitations, pedagogical limitations, technical limitations, and screen size. After school, it is more likely that students prefer to study on a computer equipped with learning software and high-speed internet connection than mobile phones, since they primarily be used to communicate with others rather than to learn. Teachers also face difficulties in administering a test. In terms of modality, the screen size of any interactive communication device is critical. According to Jones et al., (2003) screen size affects the speed of internet searching tasks. More than that, the quality of learning on mobile devices is heavily influenced by internet data. It is likely that students will run into technical difficulties, such as an unstable connection or an application error (Indriani, 2015). Additionally, mobile devices required to be fully charged in order for students to continue participating in online interactions (Zain & Bowles, 2021).

Further findings more revealed about the restrictions of the use of MALL. A few negative reports of distraction danger, safety worries, feelings of doubt, and technological challenges are among the affective features also revealed by Kukulska et al., (2018). Study from García Botero et al., (2019) even discovered a lack of continuous motivation, self-monitoring, and self-management, which is mirrored in the app's low usage. Data shows that students have less time for out-of-class MALL throughout the school year and are more active during the vacations. Then (Pérez-Paredes et al., 2018) in their article indicated that teachers' acquaintance with and use of

OER Language Processing Technologies in MALL is quite limited. Teachers prefer computer-based environments to mobile devices such as smartphones and tablets. Finally, (Şad et al., 2020) discovered the more time students spend online, the more harmful effects of cellphones on language acquisition they experience.

Referring to these challenges, Heejung Jung, (2018) suggest that practitioners should educate and train their instructors in a way that allows them to comprehend and respond to EFL learners' learning characteristic in applying MALL in their classroom. In addition, the government should be aware that just introducing new learning technology does not guarantee improved results. Lastly, all parties involved, including parents, students, instructors, schools, and governments, must see everything that could obstruct teaching and learning connected to MALL as an unavoidable need of the times. Stakeholder solutions and policies are expected in order to realize learning with technology integration and accomplish effective technology-oriented learning.

Pedagogical implication

MALL has been extensively researched in ELT since its inception. Especially because the Covid epidemic has radically altered the educational landscape. MALL became a hot topic of conversation. MALL's teaching effectiveness has been demonstrated in various investigations. Positive ideas, impressions, and attitudes are also expressed by parents, students, and teachers. However, the review's findings highlight a number of obstacles that will make applying MALL in ELT problematic. The researcher presents numerous instructional implications based on the review's findings.

It is recommended that teachers be able to structure the learning phases in a way that is consistent with MALL's features. Despite the fact that it is an online method of learning, teachers must remember their responsibility to monitor, motivate, and involve students in order for them to continue actively interacting online. Because it is apparent that when students have their phones in their hands, there will be several distractions that might cause learning to be disrupted. Students, for example, may be unable to control their urges to do things with their devices that aren't necessary, such as clicking on game advertisements on Facebook. Additionally, people may become addicted to such products. Second, individuals may waste time speaking, updating their status, and commenting on other people's postings that are unrelated to or irrelevant to their language education. They may, for example, write things in their first language that are purely about their feelings toward their female pals (Ali, 2018).

Furthermore, technology is one of the important tools of language learning activity; it helps learners to improve their language learning skills. Teachers should encourage their learners to use technology in increasing their language abilities. Therefore, teachers and students must have significant technological proficiency (Ahmadi, 2018). Teachers must be knowledgeable about the technology that will be utilized in the classroom, whether it is for teaching, constructing test, or assessing learning results. Students must also be technologically proficient so that they do not stutter when operating applications and software that they will later employ in their study. Teachers are supposed to be able to select the MALL application that best meets their needs while also taking into account students' socioeconomic circumstances. As noted by Chen and Lin (2018) that teachers and teaching practitioners are being motivated to develop their class instruction by incorporating mobile technology to satisfy students' interests and needs. Teachers must utilize MALL with care so that pupils do not become overwhelmed while working on homework.

To conclude, the use of MALL needs to be evaluated periodically. Students and parents might be surveyed as part of the evaluation process. Teachers will be able to use the results of the survey to improve and create better MALL-based learning by reflecting on the results of the survey.

CONCLUSION

This current study reviewed previous findings on the efficacy, perception, issues and challenges, and pedagogical implications of MALL in ELT. The study's findings demonstrated that MALL is effective in ELT in terms of English language teaching and learning. MALL has a good impact on students' English language development, which leads to positive outcomes, according to the overall findings. While, parents, teachers, and students expressed an interest in promoting MALL in ELT. Teachers were enthusiastic about MALL and felt that it could be utilized to teach English. MALL also had a positive influence in educational contexts, with students enthusiastic about utilizing it in English classes. They also believe that MALL provides them with numerous benefits when performing their tasks. Due to the issues of limitation faced by teacher and students in applying and using MALL in ELT; psychological limitations, pedagogical limitations, technical limitations, it is expected that stakeholder find solutions and policies in order to realize effective technology-oriented learning in ELT. Referring to the issues, several pedagogical implications are offered for the accomplished successful MALL-based approach in ELT. However, more research is required to review more extensively the efficacy, perceptions, issues and challenges of MALL on wide range aspects of ELT phenomena with a larger number of publications.

REFERENCES

- Ahmadi, M. R. (2018). *The Use of Technology in English Language Learning: A Literature Review*. January.
- Al-Ahdal, A. A. M. H., & Alharbi, M. A. (2021). MALL in Collaborative Learning as a Vocabulary-Enhancing Tool for EFL Learners: A Study Across Two Universities in Saudi Arabia. *SAGE Open*, 11(1). <https://doi.org/10.1177/2158244021999062>
- Ali, M., Mahmood, M. A., Ali, M. M., Mahmood, M. A., & Yasmeen, T. (2020). " *Exploring the efficacy of Mobile Assisted Language learning amongst Pakistani ESL learners : An attitudinal Study* ". 17(9), 9787–9807.
- Alkhudair, R. Y. (2020). Mobile assisted language learning in saudi efl classrooms: Effectiveness, perception, and attitude. *Theory and Practice in Language Studies*, 10(12), 1620–1627. <https://doi.org/10.17507/tpls.1012.16>
- Chen, Y., Carger, C. L., & Smith, T. J. (2017). Mobile-assisted narrative writing practice for young english language learners from a funds of knowledge approach. *Language Learning and Technology*, 21(1), 28–41.
- CHOLIS, H. W. N. (2021). Students' Roles in Learning English through Mobile Assisted Language Learning (MALL): A Teachers' Beliefs View. *International Journal of Educational Research Review*, 169–175. <https://doi.org/10.24331/ijere.869600>

- Cukalevska, M., & Johansson, E. (2020). *Independent Project with Specialization in English The Impact of MALL on English Grammar Learning*.
- Dağdeler, K. O., Konca, M. Y., & Demiröz, H. (2020). The effect of mobile-assisted language learning (MALL) on EFL learners' collocation learning. *Journal of Language and Linguistic Studies*, 16(1), 489–509. <https://doi.org/10.17263/JLLS.712891>
- Doing a Systematic Review A Student's Guide* by Angela Boland (editor), Gemma Cherry (editor), Rumona Dickson (editor) (z-lib.org).epub.pdf. (n.d.).
- 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. <https://doi.org/10.1080/09588221.2018.1485707>
- Gonulal, T. (2019). The use of instagram as a mobile-assisted language learning tool. *Contemporary Educational Technology*, 10(3), 309–323. <https://doi.org/10.30935/cet.590108>
- Gu, S. (2018). *Effect of Annotation Preferences of the EFL Students ' on Their Level of Vocabulary Recall and Retention*. <https://doi.org/10.1177/0735633118796843>
- Guo, M., & Wang, M. (2018). Integrating WeChat-based Mobile-Assisted Language Learning into College English Teaching. *EAI Endorsed Transactions on E-Learning*, 5(17), 155646. <https://doi.org/10.4108/eai.25-9-2018.155646>
- Heejung Jung. (2018). Learners' Resistance to Mobile-Assisted Language Learning (MALL). *English Language Teaching*, 30(1), 1–18. <https://doi.org/10.17936/pkelt.2018.30.1.001>
- Jebur, M. S. (2020). The Use of Mobile-Assisted Language Learning (MALL) by Iraqi EFL College Students' and their Attitudes Towards it. *Journal of University of Babylon for Humanities*, 2, 150–160.
- Jones, M., Buchanan, G., & Thimbleby, H. (2003). *Improving web search on small screen devices*. 15, 479–495. [https://doi.org/10.1016/S0953-5438\(03\)00036-5](https://doi.org/10.1016/S0953-5438(03)00036-5)
- Katamba, C. V. (2021). Enhancing Vocabulary Performance through Mobile Assisted Language Learning at a Rural School in Indonesia. *Acuity: Journal of English Language Pedagogy, Literature and Culture*, 6(1), 1–11. <https://doi.org/10.35974/acuity.v6i1.2457>
- Khodabandeh, F., ed-din Alian, J., & Soleimani, H. (2017). The effect of MALL-based tasks on EFL learners' grammar learning. *Teaching English with Technology*, 17(2), 29–41.
- Lin, J. J., & Lin, H. (2019). Mobile-assisted ESL/EFL vocabulary learning: a systematic review and meta-analysis. *Computer Assisted Language Learning*, 32(8), 878–919. <https://doi.org/10.1080/09588221.2018.1541359>
- Mahdi, H. S. (2018). Effectiveness of Mobile Devices on Vocabulary Learning: A Meta-Analysis. *Journal of Educational Computing Research*, 56(1), 134–154. <https://doi.org/10.1177/0735633117698826>
- Mengorio, T. M., & Dumlao, R. (2019). The Effect of Integrating Mobile Application in

- Language Learning: An Experimental Study. *JET (Journal of English Teaching)*, 5(1), 50. <https://doi.org/10.33541/jet.v5i1.959>
- Mortazavi, M., Nasution, M. K. M., Abdolazadeh, F., Behroozi, M., & Davarpanah, A. (2021). Sustainable learning environment by mobile-assisted language learning methods on the improvement of productive and receptive foreign language skills: A comparative study for asian universities. *Sustainability (Switzerland)*, 13(11). <https://doi.org/10.3390/su13116328>
- Nuraeni, C., Carolina, I., Supriyatna, A., Widiati, W., & Bahri, S. (2020). Mobile-Assisted Language Learning (MALL): Students' Perception and Problems towards Mobile Learning in English Language. *Journal of Physics: Conference Series*, 1641(1). <https://doi.org/10.1088/1742-6596/1641/1/012027>
- Ok, M. W., & Ratliffe, K. T. (2018). Use of Mobile Devices for English Language Learner Students in the United States: A Research Synthesis. *Journal of Educational Computing Research*, 56(4), 538–562. <https://doi.org/10.1177/0735633117715748>
- Pagel, J. W., Lambacher, S., Kikuchi, H., & Mori, S. (2018). *Student and instructor attitudes toward CALL and MALL in the L2 classroom*. 891–898. <https://doi.org/10.4995/head18.2018.8108>
- Pérez-Paredes, P., Ordoñana Guillamón, C., & Aguado Jiménez, P. (2018). Language teachers' perceptions on the use of OER language processing technologies in MALL. *Computer Assisted Language Learning*, 31(5–6), 522–545. <https://doi.org/10.1080/09588221.2017.1418754>
- Pratiwi, N. P. A., Nariyati, N. P. L., & Sudirman, S. (2020). EFL pre-service teachers' perception toward the use of mobile assisted language learning in teaching English. *International Journal of Language Education*, 4(1), 38–47. <https://doi.org/10.26858/ijole.v4i2.10052>
- Rohandi, M., Husain, N., & Bay, I. W. (2018). Pengembangan Mobile-Assisted Language Learning Menggunakan User Centered Design. *Jurnal Nasional Teknik Elektro Dan Teknologi Informasi (JNTETI)*, 7(1). <https://doi.org/10.22146/jnteti.v7i1.397>
- Şad, S. N., Özer, N., Yakar, Ü., & Öztürk, F. (2020). Mobile or hostile? Using smartphones in learning English as a foreign language 1. *Computer Assisted Language Learning*, 0(0), 1–27. <https://doi.org/10.1080/09588221.2020.1770292>
- Sam, D. P., & Shalini, R. (2021). Limitations and Advantages in Implementing MALL in the Tertiary ESL Classrooms: A Review. *International Journal of Recent Technology and Engineering*, 9(5), 27–32. <https://doi.org/10.35940/ijrte.e5097.019521>
- Solihin, S. (2021). Using Mobile-Assisted Language Learning (MALL) to Teach English in Indonesian Context: Opportunities and Challenges. *VELES Voices of English Language Education Society*, 5(2), 95–106. <https://doi.org/10.29408/veles.v5i2.3150>
- Sufi, E., & Shalmani, H. B. (2018). the Effects of Tflat Pronunciation Training in Mall on the Pronunciation Ability of Iranian Efl Learners. *European Journal of Foreign Language Teaching*, 3(2), 87–103. <https://doi.org/10.5281/zenodo.1245173>

- Technology, I., & Language, E. (2015). *iTELL (Indonesia Technology Enhanced Language Learning)*. 31–33.
- Wardak, M. (2021). Mobile Assisted Language Learning (Mall): Teacher Uses of Smartphone Applications (Apps) To Support Undergraduate Students' English as a Foreign Language (EFL) Vocabulary Development. *Angewandte Chemie International Edition*, 6(11), 951–952., 9(1), 2013–2015.
- Wrigglesworth, J. (2020). Using smartphones to extend interaction beyond the EFL classroom. *Computer Assisted Language Learning*, 33(4), 413–434.
<https://doi.org/10.1080/09588221.2019.1569067>
- Wu, J. G., & Miller, L. (2020). *Improving English Learners' Speaking through Mobile-assisted Peer Feedback*. <https://doi.org/10.1177/0033688219895335>
- Yasmin Khan, M., & Tufail, H. (2020). An Investigation into the Effectiveness of MALL during COVID-19 at the Higher Education in Pakistani EFL Classrooms. *Global Language Review*, V(I), 175–185. [https://doi.org/10.31703/glr.2020\(v-i\).19](https://doi.org/10.31703/glr.2020(v-i).19)
- Yudhiantara, R. A., & Saehu, A. (2017). Mobile-Assisted Language Learning (MALL) in Indonesian Islamic Higher Education. *IJELTAL (Indonesian Journal of English Language Teaching and Applied Linguistics)*, 2(1), 21. <https://doi.org/10.21093/ijeltal.v2i1.52>
- Zain, D. S. M., & Bowles, F. A. (2021). Mobile-assisted language learning (Mall) for higher education instructional practices in efl/esl contexts: A recent review of literature. *Call-Ej*, 22(1), 282–307.