




Original Article

An Action Research to Improve Speaking Skills of English Language Learners Through Technology Mediated Language Learning



Iqra Mahmood

Centre of English Language & Linguistics, Mehran University of Engineering & Technology, Jamshoro

 iqrak2836@gmail.com

Sania Sachal Memon

Centre of English Language & Linguistics, Mehran University of Engineering & Technology, Jamshoro

 sania.sachal@faculty.muett.edu.pk

 <https://orcid.org/0009-0002-0145-9932>

Shehnila Qureshi

Government Ghazali College and Post Graduate Centre, Latifabad Hyderabad

 shehneelaqureshi12@gmail.com

 <https://orcid.org/0009-0006-7267-7936>

How to Cite:

Mahmood, I., Memon, S. S., & Qureshi, S. (2023). An action research to improve speaking skills of english language learners through technology mediated language learning. *Academy of Education and Social Sciences Review*, 3(4), 429–439. <https://doi.org/10.48112/aessr.v3i4.633>

Publisher's Note:

International Research and Publishing Academy (iRAPA) stands neutral with regard to jurisdictional claims in the published maps and institutional affiliations.

Copyright:

© 2023 Academy of Education and Social Sciences Review published by International Research and Publishing Academy (iRAPA)



This is an Open Access article published under the Creative Commons Attribution 4.0 International (CC BY 4.0) (<https://creativecommons.org/licenses/by/4.0>)

Creative Commons Attribution (CC BY): lets others distribute and copy the article, to create extracts, abstracts, and other revised versions, adaptations or derivative works of or from an article (such as a translation), to include in a collective work (such as an anthology), to text or data mine the article, even for commercial purposes, as long as they credit the author(s), do not represent the author as endorsing their adaptation of the article, and do not modify the article in such a way as to damage the author's honour or reputation.

Abstract

This study aimed to evaluate how technology-mediated learning assists English language learners in improving their speaking skills. The study is action research in which an action plan was made and executed for four weeks. For this study, the cycle used was of Kemmis & McTaggart (1998; 2000). The action plan of this study had four cycles and students were introduced to TED Talks, Flip Grid, and BBC Learning English along with other learning materials. The researcher planned the action after reviewing the literature and did a situation analysis to ponder the reasons for students' failure to speak the English language. The action plan was executed for four weeks and data were collected by taking students' interviews and comparing results of pre and post-assessment. The findings of the study showed that technology-mediated learning is effective and helps learners improve their confidence, fluency, grammar, lexical, and pronunciation.

Keywords: Action research, ICT tools, Speaking skill, Technology mediated learning

INTRODUCTION

English language & technology are two of the most important skills in the 21st century. Without having command on English language and computer skills, one gets limited to exposure to the world. Rajendran and Yunus (2021) said that the 21st century demands people to be proficient in English in order to be global players; however, it is observed that countries where English is the second language face more challenges in learning it despite the fact that English is taught from primary schools. It is observed by the researcher that language teacher's focus more on reading, writing and other skills whereas, speaking skill gets compromised due to the reason that it is not tested in exams too. Ariyani (2018) said that speaking is ignored by teachers and students because it is not part of the national examination. On the other side, teachers also ignore speaking skills in their classes because it needs more time and students' reluctance to speak in English is also another reason.

Students fail to speak English language because they do not have exposure and resources, lack of motivation and willingness, and most importantly, teachers prefer to stick to traditional methods of teaching. It is seen that there are many learners who still struggle to speak in English language. These learners either have the anxiety issues or lack of linguistic competence which results in their failure of speaking in English language. Ngyuen (2018) said that a few learners who are confident and self-directed can actually speak in English however, those who don't find opportunity to speak face anxiety issue which, afterwards, affects their fluency. Technology, in this scenario, can help such learners by giving them access to different material, provide them opportunities to use language and give them exposure to language used in different contexts. Amanda and Tambusai (2023) viewed it as one of the possible ways to help students in leaning speaking skills. Technology also facilitates them to access language learning material in their own pace. ESL tools are learner centered and provide learning opportunities to learners. These ESL apps can, further, help students to use them anytime and anywhere.

Considering these problems, the researcher believed that an action is needed to be conducted where improvement in speaking skills would be the success criteria. The action was done by the researcher to make teaching and learning of speaking skills successful. After reviewing the literature, the researcher found that there were many studies done for improving speaking skills of English language learner; however, there were few studies that focused on improving speaking skills using different ICT tools therefore, the researcher decided to plan action research by using different tools including BBC Learning English, Flip grid, and TED Talks.

Problem Statement

Being an English language teacher, the researcher observed how students faced difficulty in speaking English language in the formal and informal settings. With this, it was also noticed that students are unable to speak in English language due to anxiety, lack of opportunities, and delay in the feedback from teachers. On the other hand, teachers are not bringing updated material that grabs students' interest and encourages them to interact and participate in the class. This might be due to the lack of teachers' motivation, unavailability of time and resources. However, teachers, in Pakistan, overlook resources

like mobile phones that are accessible to almost all the university students and have rich material. This study aims to check the extent to which technology mediated learning is helpful for the improvement of students' speaking skills. By the end of the study, the study will answer the following research objective:

Research Objective

- To investigate the efficacy of technology mediated learning platforms in developing speaking skills of English language learners.

Research Question

- How technology mediated learning platforms are efficient in developing speaking skills of English language learners?

Theoretical Framework

For this study, I used Bates' Digital Pedagogy Framework (Bates, 2015) as it is a comprehensive guide for the integration of technology in an educational context. It consists of seven dimensions that are crucial for designing and implementing technology-mediated language learning activities, particularly to enhance students' speaking skills.

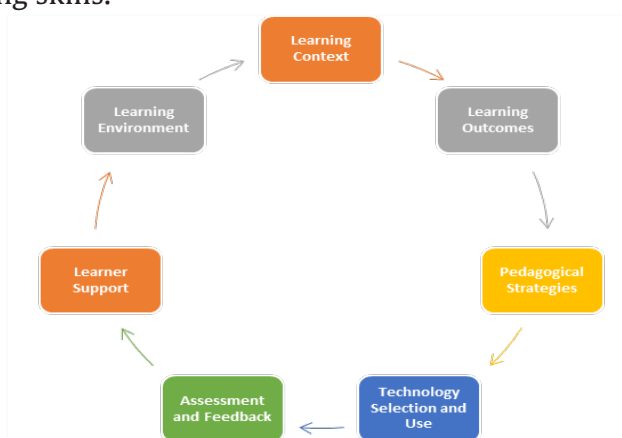


Fig. 1: Digital Pedagogy Framework (Bates, 2015)

Conceptual Framework

The conceptual framework for the study is that I reviewed the literature to know why many students fail to speak English fluently and how MALL can be integrated in the classroom. For this purpose, I reviewed literature and found that students, at different levels, are unable to speak in English Language because of lack of exposure, motivation, and teachers' reluctance to use update methods. Considering this problem, I hypothesized that using technology in language classroom can facilitate students' speaking skills. Both teachers and learners find MALL, technology mediated learning useful to bring improvement in students' speaking skill; however, it is not used often because of teachers' reluctance, availability of internet.

Then, I did situation analysis i.e. I explored the immediate context in which I had to do the intervention. I investigated the classroom environment through observations and teachers' interviews. The situation analysis helped me to plan initial steps of action. For the action, I used the Kemmis & McTaggart (2005) cycle given below (Figure 2). The cycle had steps that included planning, acting, observing, and reflecting and the cycle was repeated as long as result was not evident.

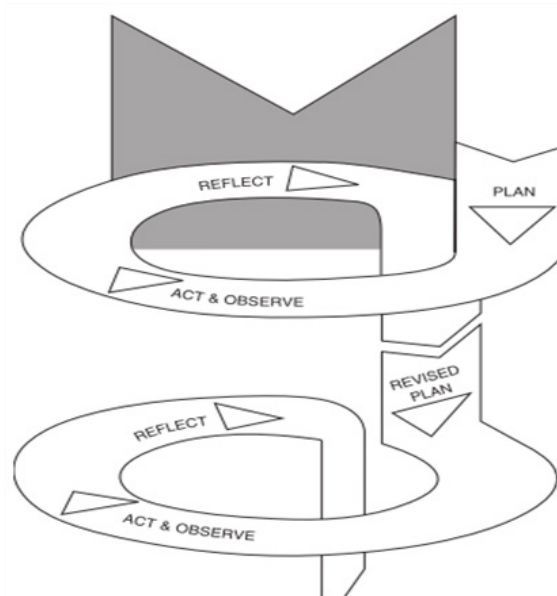


Fig. 2: Kemmis & McTaggart (2005) Cycle

LITERATURE REVIEW

Tayebinik and Puteh (2015) defined technology mediated learning as a learning environment that intends to have properties of teaching and learning. In TML, instructors and learners share material and interact with each other via technology. TML includes e-learning along with computer assisted language learning and further defined Technology mediated learning as the environment in which learners, instructors, peers interact with each other using technology. Bower (2019) said that the use of digital technologies such as wikis, blogs, social media, mobile applications, virtual worlds, learning management systems and so on has increased and is getting common in formal learning environments, particularly within online learning environments such as massive open online courses (MOOCs), and in many of these instances technology is the means by which interactions between participants (most typically teachers and students) is mediated.

The past decade has witnessed a remarkable surge in the utilization of mobile applications for language learning purposes (Burston, 2013). This phenomenon can be attributed to several factors, including the widespread adoption of smartphones and tablets, coupled with advancements in technology. Technology mediated Language learning has gained prominence as a transformative approach to language education in recent years (Kukulka-Hulme & Shield, 2008). A key advantage of technology mediated Language learning lies in its flexibility, allowing learners to engage with language content at their convenience. Recent research has highlighted the efficacy of MALL in enhancing language skills. For instance, a study by Guo, et al., (2021) found that learners who used mobile language learning apps showed significant improvements in vocabulary acquisition and speaking proficiency. The integration of multimedia elements in technology mediated Language learning, such as interactive exercises, videos, and gamification, further enhances engagement and the overall learning experience (Burston, 2013; Sarwar, & Bhamani, 2018).

Technology has the potential to significantly impact learners' speaking skills in language acquisition (Chen, et al., 2019). Recent research has shed light on how these applications can effectively improve spoken language proficiency. For instance, language learning apps often incorporate features like voice recognition technology and interactive speaking exercises, enabling learners to practice pronunciation and speaking in a controlled, supportive environment (Chinnery, 2006). These applications also offer learners opportunities for real-time feedback on pronunciation, intonation, and fluency (Rustam, et al., 2023).

Santos, et al. (2016) investigated the impact of smartphone-based augmented reality on Chinese as a second language learners' vocabulary acquisition and pronunciation, revealing substantial improvements in speaking ability. Additionally, mobile apps often incorporate features such as voice recognition technology and interactive speaking exercises, providing learners with opportunities to practice

pronunciation and speaking in a controlled, supportive environment. These features enable learners to receive real-time feedback on pronunciation, intonation, and fluency, contributing to their speaking skill development.

English language learners often encounter various challenges when developing their speaking skills. One significant challenge is the fear of making mistakes, which can inhibit learners' willingness to engage in conversations (Zheng, et al., 2019). Furthermore, lack of confidence in pronunciation and fluency may lead to speaking anxiety (Horwitz, et al., 1986). Research by MacIntyre et al. (2019) emphasizes that learners may face challenges related to the accuracy of their spoken language, including grammatical errors and vocabulary limitations. Additionally, learners from non-native English-speaking backgrounds may struggle with the pronunciation of English sounds and the rhythm of speech (Derwing & Munro, 2005). These challenges underscore the importance of creating a supportive and low-anxiety learning environment and implementing effective strategies to address learners' specific needs. Mobile assisted language learning can be considered as the next generation of e-learning. So, we do not say that mobile phones are going to replace the existing language learning devices, rather, they act as extensions to normalize learning in new environment having new capabilities.

Thus, it could be said that MALL focuses on developing innovative learning approaches in the area of English language learning. New approaches to language teaching (LT) are being introduced as mobile phones and wireless technologies are becoming popular and handy. One of the greatest advantages of MALL is that students can do some language learning inside their classrooms while the teacher facilitates them, then they can easily become autonomous learners and can practice the language anytime and anywhere. Another advantage is that learners can download various applications and programs that can help them in learning various language skills, grammar, and vocabulary.

RESEARCH METHODOLOGY

For this study, action research was conducted to check that how technology mediated learning can aid teachers to improve their students' speaking skills. The researcher planned to do action research because this research design explores practical problem and aims to solve the problems by finding their possible solutions. Action research designs are systematic procedures done by individuals to improve the practice of education by studying issues or problems they face. Educators reflect about these problems, collect and analyse data, and implement changes based on their findings (Creswell, 2020). The present study had four cycles where a specific plan was followed to check how technology can be effective in a language classroom.

Participants

For this study, 30 participants were chosen who were not proficient in speaking English language. All these participants were from the age of 13-16 and were enrolled in schools and colleges. To exactly know about students' proficiency, pre-test was taken and they were evaluated on a speaking rubric. The rubric measured student's grammatical accuracy, fluency, coherence, lexical knowledge and pronunciation.

Data Collection Plan

Data collection started with reconnaissance. Reconnaissance is a fact-finding stage in which researcher identifies problems and hypothesizes solutions. I, firstly, reviewed literature to check why students find it difficult to speak in English language and found that learners find it difficult to speak in English language because of less exposure to language, students' unwillingness to speak in target language and teachers' reliance on traditional teaching methods and not making use of material available online. Further, I hypothesized that use of technology, mobile applications, and other online tools can help in improving speaking skills of English language learners. For this, I also did situation analysis i.e. I explored the immediate context in which I had to do the intervention. I investigated the classroom environment through observations and teachers' interviews, the situation analysis helped me to plan initial steps of action.

Data Collection

For this study, there were four cycles. In the first cycle, researcher focused on the basics of English speaking. For this purpose, the researcher used BBC Learning English to introduce basic vocabulary to students so that they could learn how to greet, response, question, and introduce themselves. However, it was noticed by the researcher that students were hesitant to participate in the class and their participation level was too low. Researcher concluded that this could be because of learners' anxiety and fear of making mistakes therefore, Flip grid was introduced in the second cycle. Flip grid is a platform where learners can share their recorded videos at their own pace and comfort while peers, teachers give them feedback.

In the second cycle, researcher focused on the vocabulary. Vocabulary building was done with the help of BBC Learning English. New words were introduced to the learners and they were asked to listen and practice as many times as possible. In addition, students were asked to use those words. The app was also used to improve students' grammar, pronunciation, and vocabulary. Then, students were given a task to post their videos on Flip grid and students were asked to watch each other's videos and make comments on them. In this cycle, it was noticed that learners were trying to participate; however, they still faced challenge in producing a speech that was coherent and were still in need of practice.

In the third and fourth cycles, students were shown TED Talks and then they were asked to sit in groups and discuss the videos they had seen and prepare presentations. All students worked on the presentations and shared their views about a certain topic. This was done repeatedly for four days. Later on, students were asked to prepare individual presentations and post them on Flip grid. The final presentation that was posted on Flip grid were then assessed and feedback was given on the last day of fourth cycle.

By the end, post-test was taken to check if there was any improvement in the speaking skill of English language learners. The test result were compared using SPSS and paired sample t-test was run to compare results of pre and posttest.

Data Analysis

For the quantitative analysis, SPSS was used and paired sample T-Test was run to compare results of pre and posttest. To ensure validity of the test, content analysis was done i.e. experts in the field checked the rubric and helped in designing the rubric. For the reliability of the test, inter rater reliability was ensured by asking a colleague to rate students' speaking and then compare their scores.

For the qualitative analysis, thematic analysis was done. Interviews were taken from students after the pretest and students' interviews were transcribed. Codes were generated out of the transcription and, later on, themes were generated to understand perceptions of students on the integration of mobile applications in English language classrooms to improve students' speaking skills.

FINDINGS & DISCUSSION

Students speaking scores of pre and post-test were compared using paired sample t-test.

Table 1

Results of Pre-Test

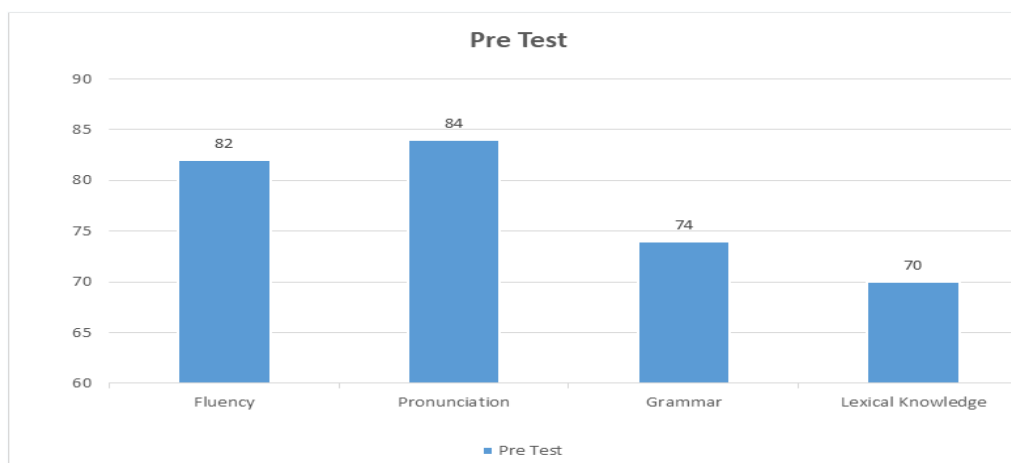


Table 2
Results of Post-Test

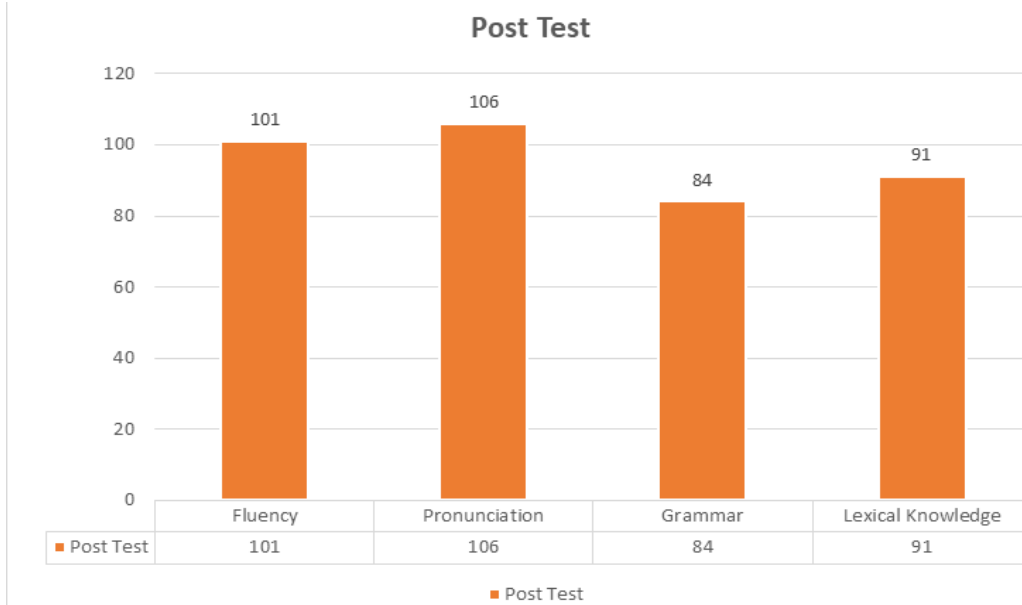


Table 3
General Findings of the Study

	Fluency	Post-Fluency	Lexical	Post-lexical	Grammar	Post-Grammar	Pronunciation	Pos-pronunciation
Mean	4.10	5.05	3.50	4.55	3.70	4.20	4.20	5.30
Median	4.00	5.00	3.00	4.00	4.00	4.00	4.00	5.00
Std. Deviation	1.410	1.276	1.000	.999	1.031	.951	1.005	.657

The value for paired sample t-test was calculated by measuring the difference in the value of pre and post-test. The test showed that the df value was 19, the t-value was -8.340 and sig 2 tailed value was 0.00. Based on this result, we can conclude that there was a significant difference between the pre and post test results. The results of pre and post-test were compared to check the difference in the speaking proficiency of students before and after the action plan. In the pre-test, the students' score of speaking fluency was 82 whereas, in the post test, it was 101. In the same way, there was difference in students' pronunciation before and after the action plan i.e. in the pre-test, their pronunciation scored 84 whereas, in the post-test, it scored 106. Moreover, difference was seen in the score of lexical and grammar too. The findings are in alignment with the research that states that these applications often incorporate interactive features, such as gamification elements, quizzes, and voice recognition technology, enhancing learner engagement and motivation. This difference in results show that using technology mediated language learning platform in an English language classroom can help students to improve their speaking skills.

After the post test, interviews were taken from students to know their perception on the use of ICT tools to improve students' speaking skills. Interview transcripts were transcribed and thematic analysis was done to understand students' perceptions on the use of tools like TED Talks, Flip Grid, and BBC Learning English. Students were of the view that Speaking course enhanced their speaking practice and provided them confidence to participate and engage in class with their peers, teachers, and friends. It was also found that the speaking course using TED Talks, Flip Grid, and BBC Learning English was effective in improving students' speaking skills. It provided them with valuable practice and helped them to gain confidence in expressing themselves verbally.

The tools like ICT resources, online platforms for conversations, speech recognition software for pronunciation practice, Flow and Elsa speaks, speaking cards and Academic discussions can be used to enhance student practice. Teachers shared that there are various tools that can be used to facilitate students' speaking skills. Some effective tools include interactive language-learning apps, online platforms for virtual conversations with native speakers, language exchange programs, and speech recognition

software for pronunciation practice. Additionally, using multimedia resources like videos, podcasts, and audio recordings can provide exposure to different accents and improve listening and speaking abilities.

The findings are in alignment with the research that states that these applications often incorporate interactive features, such as gamification elements, quizzes, and voice recognition technology, enhancing learner engagement and motivation. It is important to choose tools that cater to students' individual needs and interests. These findings are in alignment with the research which has stated that the past decade has witnessed a remarkable surge in the utilization of mobile applications for language learning purposes (Burston, 2013). Not only this, research also indicated that Mobile applications offer learners unprecedented accessibility to language learning resources at their fingertips, making it possible to engage in language learning activities anytime and anywhere (Burston, 2013).

Discussion

According to the findings of the study, Mobile-assisted language learning (MALL) and technology mediated learning platforms have gained prominence as a transformative approach to language education in recent years, the findings are in alignment with the research done by Kukulska-Hulme and Shield (2008), who have mentioned that MALL leverages the ubiquity of mobile devices such as smartphones and tablets to facilitate language learning in diverse contexts. A key advantage of Technology Mediated Language Learning Platform lies in its flexibility, allowing learners to engage with language content at their convenience. Recent research has highlighted the efficacy of Technology Mediated Language Learning Platforms in enhancing language skills. For instance, a study by Guo, et al., (2021) found that learners who used Technology Mediated Language Learning Platform or mobile language learning apps showed significant improvements in vocabulary acquisition and speaking proficiency. Technology Mediated Language Learning Platforms also promote personalized learning experiences, as these applications often adapt content based on learners' progress and preferences, aligning with contemporary theories of learner-centered education. The integration of multimedia elements in Technology Mediated Language Learning Platform such as interactive exercises, videos, and gamification, further enhances engagement and the overall learning experience (Burston, 2013). These recent findings underscore the potential of Technology Mediated Language Learning Platform as a dynamic and effective approach to language education.

The tools like ICT resources, online platforms for conversations, speech recognition software for pronunciation practice, Flow and Elsa speaks, speaking cards and Academic discussions can be used to enhance student practice. Teachers shared that there are various tools that can be used to facilitate students' speaking skills. Some effective tools include interactive language-learning apps, online platforms for virtual conversations with native speakers, language exchange programs, and speech recognition software for pronunciation practice. Additionally, using multimedia resources like videos, podcasts, and audio recordings can provide exposure to different accents and improve listening and speaking abilities.

The findings are in alignment with the research that states that these applications often incorporate interactive features, such as gamification elements, quizzes, and voice recognition technology, enhancing learner engagement and motivation. It is important to choose tools that cater to students' individual needs and interests. These findings are in alignment with the research which has stated that the past decade has witnessed a remarkable surge in the utilization of mobile applications for language learning purposes (Burston, 2013). Not only this, research also indicated that Mobile applications offer learners unprecedented accessibility to language learning resources at their fingertips, making it possible to engage in language learning activities anytime and anywhere (Burston, 2013).

These tools can be used to improve speaking skills by providing opportunities for practice, feedback, and exposure to authentic language. Interactive language-learning apps offer exercises and prompts for speaking practice, while online platforms connect students with native speakers for conversational practice. Language exchange programs allow students to engage in real-life conversations with language learners from different backgrounds. Speech recognition software helps students refine their pronunciation by providing feedback on their spoken language. Multimedia resources enhance listening and speaking skills by exposing students to different accents and speech patterns. Overall, these tools

create a dynamic and immersive learning experience that supports the development of speaking skills. The personalization aspect of many mobile language learning apps, tailoring content and exercises to individual proficiency levels and learning objectives, adds to their appeal (Burston, 2013).

CONCLUSION & RECOMMENDATIONS

This study has been helpful in proving that language learning process can be made effective when technology mediated platforms are used by the teacher. For comparing results of pre and post-test, researcher did quantitative analysis by using SPSS software. The test results showed that there was significant difference in students' speaking proficiency and most importantly, it was students' pronunciation that improved a lot after the intervention of the action plan. In addition, the researcher also found that action plan can only be successful if proper planning is done after every cycle and researcher makes decisions only on the needs of students' challenges in previous cycles. To sum up, this study can benefit all stakeholders (students, teachers, management) who are in the field of education as they can facilitate the language teaching process with fun activities ensuring participation and engagement of students.

Language teachers should explore different online platforms that can be used to help facilitate the language teaching process. Moreover, they should make proper planning before using those resources in the classroom and should also be ready with technical glitches that are always possible while using technology mediated platforms.

Limitations of the Study

This study was done on students to check that use of technology in a language classroom can help students to improve speaking skills of sophomores. The action was an action research and included only 20 participants. However, this study was limited to a specific classroom and its data cannot be generalized to a larger population. The same study could be done in different context with a large population. Additionally, the study focused on one particular skill i.e. speaking skills. In future, research can impact of technology to improve other language skills as well. Lastly, the researcher made use of TED Talks, Flip Grip, and BBC Learning English for this study; however, there are still hundreds of other language learning platforms that can be used by future researchers to check their use in English Language classrooms.

Implications of the Study

This study can benefit all stakeholders (students, teachers, management) who are in the field of education as they can facilitate the language teaching process with fun activities ensuring participation and engagement of students. In addition, teachers can make use of material available online to fit in their classrooms or at least match their students' needs. Lastly, this study can be helpful for students who want to study at their own pace but are not sure about its effectiveness.

Competing Interest

The authors had no competing interests.

References

- Amanda, T., & Tambusai, A. (2023). The effect of English songs on students' vocabulary mastery at grade nine of SMPN 2 Galang. *Jurnal Pendidikan Tambusai*, 7(3), 22049-22053.
<https://doi.org/10.31004/jptam.v7i3.9825>
- Aryani, R. (2018). *The relationship of students' speaking self-efficacy, collocational competence, and their speaking performances* (Master's thesis, Jakarta: FITK UIN Syarif Hidayatullah Jakarta).
- Bates, A. W. (2015). *Teaching in a digital age: Guidelines for designing teaching and learning*. Tony Bates Associated Ltd.
- Bower, M. (2019). Technology-mediated learning theory. *British Journal of Educational Technology*, 50(3), 1035-1048.

<https://doi.org/10.1111/bjet.12771>

Burston, J. (2013). Mobile-Assisted Language Learning: A Selected Annotated Bibliography of Implementation Studies 1994-2012. *Language Learning & Technology*, 17(3), 157-225.

Chen, C. M., Chen, L. C., & Yang, S. M. (2019). An English vocabulary learning app with self-regulated learning mechanism to improve learning performance and motivation. *Computer Assisted Language Learning*, 32(3), 237-260.

<https://doi.org/10.1080/09588221.2018.1485708>

Chinnery, G. M. (2006). Going to the MALL: Mobile Assisted Language Learning. *Language Learning & Technology*, 10(1), 9-16.

Creswell, J. W. (2020). *Educational research: Planning, conducting, and evaluating quantitative and qualitative research*. Pearson Higher Ed.

Derwing, T. M., & Munro, M. J. (2005). Second language accent and pronunciation teaching: A research-based approach. *TESOL quarterly*, 39(3), 379-397.

<https://doi.org/10.2307/3588486>

Guo, Y., He, X., Su, Y., Dai, Y., Xie, M., Yang, S., ... & Wang, C. (2021). Machine-learning-guided discovery and optimization of additives in preparing Cu catalysts for CO₂ reduction. *Journal of the American Chemical Society*, 143(15), 5755-5762.

<https://doi.org/10.1021/jacs.1c00339>

Helwa, H. S. (2017). Using mobile assisted language learning (MALL) approach for developing prospective teachers' EFL listening comprehension skills and vocabulary learning. *Journal of Research in Curriculum Instruction and Educational Technology*, 3(4), 133-176.

<https://dx.doi.org/10.21608/jrciet.2017.24440>

Horwitz, E. K., Horwitz, M. B., & Cope, J. (1986). Foreign language classroom anxiety. *The Modern language journal*, 70(2), 125-132.

<https://doi.org/10.2307/327317>

Kukulska-Hulme, A., & Shield, L. (2008). An overview of mobile assisted language learning: From content delivery to supported collaboration and interaction. *ReCALL*, 20(3), 271-289.

<https://doi.org/10.1017/S0958344008000335>

MacIntyre, P. D., Gregersen, T., & Mercer, S. (2019). Setting an agenda for positive psychology in SLA: Theory, practice, and research. *The Modern Language Journal*, 103(1), 262-274.

<https://doi.org/10.1111/modl.12544>

Nguyen, H. T. (2018). English-medium-instruction management: The missing piece in the internationalisation puzzle of Vietnamese higher education. *Internationalisation in Vietnamese Higher Education*, 119-137.

https://doi.org/10.1007/978-3-319-78492-2_7

Rajendran, T., & Yunus, M. M. (2021). Chatterpix Kids: A potential mobile app for helping primary ESL pupils improve their speaking fluency. *International Journal of Learning, Teaching and Educational Research*, 20(4), 18-42.

<https://doi.org/10.26803/ijlter.20.4.2>

Rustam, S., Jiawen, L., & Pei-Yu, C. (2023). The Impact of Mobile-Assisted Social Language Learning Activities on Speaking Skills and Self-Efficacy Development. *IEEE Transactions on Learning Technologies*.

<https://doi.org/10.1109/TLT.2023.3243721>

Santos, M. E. C., Lübke, A. I. W., Taketomi, T., Yamamoto, G., Rodrigo, M. M. T., Sandor, C., & Kato, H. (2016). Augmented reality as multimedia: the case for situated vocabulary learning. *Research and Practice in Technology Enhanced*

Learning, 11, 1-23.

<https://doi.org/10.1186/s41039-016-0028-2>

Sarwar, S., & Bhamani, S. (2018). Measuring school support for learning English as a Foreign Language through SSELL. *Journal of Education and Educational Development*, 5(2), 194-210.

<https://doi.org/10.22555/joeeed.v5i2.2007>

Tayebinik, M., & Puteh, M. (2015). Sense of community: How important is this quality in blended courses. *arXiv preprint arXiv:1504.00249*.

<https://doi.org/10.48550/arXiv.1504.00249>

Zheng, Y., Lu, X., & Ren, W. (2019). Profiling Chinese university students' motivation to learn multiple languages. *Journal of Multilingual and Multicultural Development*, 40(7), 590-604.

<https://doi.org/10.1080/01434632.2019.1571074>