

A Systematic Review on the use of Technology in Enhancing ESL Learners' Speaking Skills

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Abstract

In the contemporary world, technology is an indispensable resource for a multitude of activities. The utilization of contrivances and gadgets in day-to-day life is intensifying, as it is a ceaseless process for educational and amusement or relaxation purposes. Technology renders the learners with quick access to various information, rapid learning process and entertaining possibilities in order to apply the acquired knowledge. Providing a captivating classroom atmosphere may have a good effect on learners and educators. When contrasting conventional teaching methods to various technologies, additional options for innovation and entertainment, as well as an interactive learning experience, are provided. Various technologies have been used in ESL teaching over the past few years. This study is a systematic analysis of recent documented research on the use of technology to improve ESL learners' speaking skills from 2015 to 2021. This systematic review intends to investigate the usage of various technologies in enhancing the speaking skills of ESL learners. Twenty-one studies were chosen to be thoroughly reviewed for this study. According to the results, technology is a pivotal resource to utilize in an ESL classroom as it boosts ESL learners' speaking skills by raising their enthusiasm and competence in a stimulating educational setting, as well as enhancing their engagement as an active teaching tool.

Keywords: Technology, ESL, ESL Learners, Speaking Skills and Educators

Introduction

Technology in Education

Almost every day, an innovative app or device is launched in the marketing industry that contributes to enrich our lifestyles in some manner and make daily life considerably better, as well as to progress an established application or device. Badia (2015) stated that the usage of technologies in the educational setting is extremely effective in assisting learners in comprehending and absorbing information that they are being taught. There is a lot of remarkable technology that may be utilised to augment the content of the syllabus. According to Ghavifekr (2015), learners can access assessments, exercises, projects, and research topics through various applications, which can enable them to pursue their knowledge beyond the

school syllabus. Learners also learn to utilize the technologies in today's setting via the school's basic computer classes. This ensures that after the completion of schooling, the learners should have no difficulty in utilizing technology in their working place, which may help them to render as highly competent than a person who does not have exposure to a particular application or technologies during their schooling (Bonaveri, 2016). The impact of technology in classroom setting is intensifying with every passing year, as learning is a lifelong journey of professional and personal development that is not restricted to syllabuses. The influence of technology is enormous, particularly on the educational system. Raja (2018) asserted that technology can be utilized to enrich learning resources, favourably affect discussion, group projects, and more between educators and learners. Besides, Garba (2015) stated that Malaysia's education system relies on 21st century learning in order to assist learners by offering digital expertise and sophisticating the opportunities that they can seize using diverse technology. Thus, Darmi (2013) claimed that English is a vital language in Malaysia, its prominence in our education system has grown from elementary school to higher education.

Current technology in Language learning

Since the Covid-19 breakout in 2020, the Malaysian government has imposed a Movement Control Order (MCO) to break the Covid-19 chain. This move results in the closure of all schools and institutions. It was extremely difficult for educators to conduct virtual classes with learners because it was their first experience using virtual learning technologies such as Google Classroom, Google Teams, Zoom Meeting, Skype, and Hangouts to conduct teaching and learning as well as evaluations (Masfarizan & Yusoff, 2020). On the other hand, different technologies really aided educators in terms of resources and so on. Educators are shifting to rapidly changing technology in order to understand its underlying capacity to drastically alter the theoretical foundation of their educational practice, allowing them with tools to create highly modified and adaptable learning opportunities for learners (Devi et al., 2019). The rising use of technology among learners has piqued the interest of ESL educators in discovering the possibility of integrating various technologies in specific parts of language acquisition. Artificial intelligence is one of the well-known technologies that is being used in language learning. According to Saleh (2019), the emulation of human intellectual capacity functions by machine, particularly computer programs, is a widely used technology among today's generation. Bartneck (2021) computer algorithms, natural language processing, speech synthesis, and object recognition are examples of AI applications.

Acquisition of Speaking skills

Language is essentially speech. Saito (2015) stipulated that many languages around the globe are really only oral, with no written form. According to Suleman (2014) some experts of languages, even those with written forms, value their spoken versions more than their written pieces. It is widely accepted that language is learned by talking it first, following much hearing to sounds, syllables, words, and phrases in one's context (Romero & Manjarres 2017). The essential abilities are listening and speaking, and if just the basis is solid, the building built on it would survive. Youngsters in their native language have a very spontaneous ability to hear and respond in their environment. Following that, youngsters are sent to schooling to obtain reading and writing abilities. However, in the context of a communicative classroom, the learner's existing context is their native language; thus, the instructional technique should alter substantially. As a result, there is an immediate need for a conceptual transition in

learning and teaching speaking skills through a switch in emphasis toward verbal inclination, teacher training, and the development of appropriate pedagogy (Sosas, 2021).

Literature Review

Role of technology in ESL teaching

Language learning has been assisted and enhanced by the application of technology. Ghavifekr (2015) asserted that educators can adjust teaching practices using technology, which improves literacy development. Winter and Costello (2021) claimed that as educators perceive the opportunities for creating both autonomous and interactive learning settings in which learners can obtain, engage, and practise a new language; the use of technology as an additional instrument for teaching of English foreign language learners expands. Learners could perhaps actively participate in personalised guidance constructed to fulfil one 's particular necessities and actively engage in collaborative initiatives that would nurture interaction with fellow learners during the lessons by using the Online services, microsoft word, electronic games, interactive media, and training programmes (Hamiti & Reka, 2012).

Furthermore, technology may enable learners to collaborate together more efficiently. Collaboration is a crucial strategy for classroom activities. According to Talmo (2022), learners collaborate to develop projects and learn from one another by reviewing their classmates' performance. The use of digital technology enhances teachers' teaching and learners' learning in the classroom. Amhag (2019) stated that the use of digital technology assists educators in meeting the pedagogical demands of their learners. Pinto (2020) claimed that the use of digital technology allows educators and learners to create regional and worldwide communities that link them with others and enhance their learning experiences. In addition, the good impact of digital technology is not inevitable; it is dependent on how educators utilize it in their English classroom. Fundamental shifts have occurred in classrooms aside from instructional approaches because the conventional teaching method is insufficient to efficiently educate English. Dunlosky (2013) stated that learners learn how to study productively in a well educational context. An innovative educational environment outperforms a conventional classroom. Educators should look for ways to utilize technology as a meaningful learning tool for their learners, even if they have not learned it. According to Mofareh (2019), the use of technology has significantly altered English instructional techniques. It provides a plethora of options for rendering teaching more engaging and efficient in aspects of development. Educators in conventional educational settings stand in front of learners and use a chalkboard or whiteboard to deliver lectures, explanations, and instructions. With the advancement of technology, these methods must be modified. The use of electronic materials in the classroom enables learners to acquire new vocabulary and linguistic structures (Cavalheiro, 2018). Printed texts and the internet are all used in the application of multimedia to improve learners' verbal expertise (Ahmad, 2020). English class provides an exciting environment full of relevant assignments where learners are accountable for their own learning by utilising technology (Altun, 2021). The use of technology denotes a genuine educational experience that expands learners' capabilities. Technology allows learners to work independently and to develop appropriate attitudes. The utilization of technology independently provides learners with consciousness (Ahmadi, 2018). The use of the internet boosts the enthusiasm of learners (Ruokamo, 2018). Learners may learn more effectively when technology is incorporated in the process of learning. When learners use technology to learn, it helps them cultivate higher order thinking skills (Ahmad, 2020). It can

be stated that an effective integration of various technologies and teaching techniques is vital for attracting learners' interest for English language acquisition.

Teaching Speaking through Technology

Utilizing technology to enhance speaking has a lot of good impacts on the learners. According to Parvin (2015), using technology to teach speaking improves language competence, precision, and intricacy. Furthermore, Bahadorfar (2014) indicated that employing technology in the classroom to teach speaking enhances learners' communicative skills and cohesiveness, lexicon capacity, morphological variety, correctness, and articulation. Moreover, using technology to teach speaking enhances learners' speaking skills and has a significant effect on learners' speaking skills, accuracy, and articulation. It also enables learners to eliminate their issues communicating (Kieu et al., 2021). This pandemic significantly delayed multiple tasks, including academic programmes, leading in widespread school crisis emigration using virtual learning as the instructional tool. According to Adedoyin et al. (2020), the crisis has compelled most education systems to develop alternatives to face-to-face teaching and learning, and many education systems have moved classrooms online to ensure that instruction continues even when schools are closed.

Methodology

The systematic review was conducted by applying the four crucial strategies mentioned by (Jain and Sharma, 2016). The initial stage was to identify the goal of the study. The second stage was to look for studies that used technology to strengthen learners' speaking skills. Prior to presenting the data, the reliability of previous research was assessed. The expert checking approach was utilised to verify the twenty-one chosen previous studies pertaining to the use of technology in enhancing learners' speaking skills. Human Resource Management Academic Research Society (HRMARS), Google Scholar, Scopus, Educational Resources Information Centre (ERIC), and JSTOR were the international digital bibliographic libraries employed to locate the research publications. The research publications were published between 2015 and 2021, based on six years of researches. The key phrases chosen to compile the relevant studies from numerous websites were 'technology', 'artificial intelligence', 'ESL learners' or 'EFL learners', 'ESL teaching and learning', and 'enhancing speaking skills. The selection criteria are as follows:

- 1) The articles are related to the use of technology to enhance learners' speaking skills.
- 2) The findings may offer numerous activities which include technology that can be used in language learning.
- 3) Research designs may include review papers, conceptual, qualitative research, quantitative research, mixed-methods research, experimental study, a case study, or a survey.
- 4) All study participants or respondents can be in primary, secondary, or tertiary education.

Results and Discussion

Following the criteria stated above, 21 past relevant studies on technology in enhancing learners' speaking skills were evaluated from 2015 to 2021. Tables 1 summarise the empirical data supporting the use of technology to enhance ESL learners' speaking skills.

No.	Title of the article, author and year	Number of Participants / subjects	Research Design	Intervention	Main findings
1.	A Systematic Literature Review on the use of Mobile-assisted Language Learning (MALL) for Enhancing Speaking Skills among ESL and EFL Learners Rajendran & Yunus (2021)	none	Systematic Literature Review	Mobile apps	-authenticity provided in MALL environment does not only make learning authentic, but it also complements the contextual learning experiences as discussed earlier -Provides a stress-free environment -educators could make use of readily built-in features of a mobile phone as a tool for the teaching and learning of speaking. -can perform speaking activities from wherever they are at their own pace. -developing a strong collaboration as well as active interaction among learners and teacher
2.	The Need of Applying English Learning Apps to Help Van Lang University Students Improve Their Spoken English Performance Thanh et al (2021)	400 students from Van Lang University.	Survey & interview	AI apps	- Elsa Speak, Duolingo, and BBC Learning English are the most famous apps for learning English speaking skills with high effectiveness levels.
3.	The use of podcasts in improving students' speaking skill Samad et al (2017)	30 students	pre-experimental study	Podcast media	- podcast media can be used as one of the alternative media in teaching English especially speaking skill in EFL classes.
4.	Modern Technologies and Mobile Apps in Developing Speaking Skill Eshankulovna (2021)	none	Conceptual paper	Mobile apps	- ESL apps appear to be beneficial in that they give a personal and learner-centered learning opportunity with widely accessible and adaptable practices
5.	Role of technology to teach speaking skills in	Forty teachers of	Survey	technology	-using technology in teaching spoken English to

	level students in Bangladesh Ashikullah (2020)	six reputed colleges of Dhaka			the higher secondary level learners is more efficient than any other levels. -Very few teachers and students are opposed about it reason is that they are not well trained of utilizing technology as well as they told if they are trained to use technology, they are keen to use computer as well as laptop in the classroom
6.	Students' Perception on Online Application in Speaking Skill Baron (2020)	20 participants postgraduate students in English Language Program Universitas Indraprasta Jakarta.	descriptive qualitative .	Online applications- YouTube & WhatsApp	-While website YouTube is a web application chosen interestingly for English speaking learning and social media WhatsApp is easy to use in English speaking learning.
7.	Using Mobile-based Formative Assessment in ESL/EFL speaking Hasan et al (2021)	none	Qualitative research-review	-mobile-based formative assessment	-The literature revealed that MBFA practices in ESL/EFL speaking classes are effective to a certain extent and some tools and procedures seem to be more effective than others depending on the design principles and strategies used by teachers or app developers.
8.	A Review of the Literature on the Integration of Technology into the Learning and Teaching of English Language Skills Gilakjani (2017)	none	-literature review	- technology	- integration of technology into the classrooms considerably improves the learning and teaching of English language skills.
9.	Using technology to teach speaking skill online during time of Covid-19 outbreak in Vietnam- Facts and recommendation Anh & Nhu	5 teachers aged 35 to 48 at university	qualitative study	ICT	-successfully integrate technology into online teaching of speaking skills in particular and in language teaching in general, a whole Activity system must get involved, including the teachers

	(2021)				themselves, the courses they are in charge of, and in a broader context the Leaders, including the Rectors, the MOET and relevant authorities
10.	The Effectiveness of Mobile-assisted Language Learning (MALL) Applications on the Spoken English Assessments in China's Universities Li (2021)	-none	Review paper	MALL	-Although some technical and pedagogical issues challenge adoptions of MALL in some less-developed regions in China, the study showed positive effects of using a MALL oral English assessment application characterised with automatic speech recognition (ASR) system on the improvement of complexity, accuracy, and fluency of English learners in China's colleges
11.	AI-enabled language speaking coaching for dual language learners Shivakumar et al. (2020)	-none	conceptual	AI	-human-AI teaming-based solution overcomes the shortfall of conventional computer-based language learning tools and serves as a supportive learning platform that is critical for optimizing the language-learning outcomes.
12.	Use of technology in improving speaking skills Parveen (2016)	-none	Review paper	Internet, podcasts, video conferencing, videos and speech recognition software, TELL, Blogging	Internet, podcasts, video conferencing, videos and speech recognition software, TELL, Blogging is considered to be some of the best tools for teaching speaking skills.
13.	Artificial Intelligence (AI): A Review of its Uses in Language Teaching and Learning Ali (2020)	-none	Review paper	AI	- There are four (4) themes emerging in the uses of AI in relation to teaching and learning a language. The uses of AI for pedagogy, therefore, prove that its uses eases language teaching and learning.
14.	Artificial Intelligence Education (AIEd) in English as a Second	40 students from Sri Lanka	Survey	AIEd	- However, to initiate this AIEd approach, both ESL teachers and learners

	Language (ESL) Classroom in Sri Lanka Keerthiwansa (2018)				should have a sound knowledge in handling a computer, the classes should have computers for all the students with internet connection, and there should be experts to maintain the AIED system.
15.	A study on developing speaking skills through techno-driven tasks Anil (2016)	500 BA/Bsc students who were selected from five Arts and Science colleges in Chennai.	Survey	Zig zag task	-highlights the technology-based teaching techniques and methods that help students to develop speaking skills and confidence to face real-life communicative situations.
16.	Technology in teaching speaking skill Kuning (2019)	-none	Review article	Various technology	- In learning, many types of modern technology are introduced to help students learn to speak, such as language laboratories, videos, satellites, internet, blogs, digital dictionaries, and others. The modern technology aims to improve students' speaking skills, especially speaking English.
17.	Exploring mobile apps for English language teaching and learning Zou & Li (2015)	sophomores majoring in economics or marketing at XJTLU, China, and the age ranged from 18 to 21. All the respondents were from mainland China and were taking an EAP class at the Language Centre at XJTLU, and volunteered to	Survey	EAP	-mobile learning can be adopted in English lessons and students' self-study. The app which provided sources related to lessons offered extra support to students to practice English in and after class. Participating students expressed a positive attitude towards mobile learning.

		participate in this study.			
18.	Review on Use of Mobile Apps for Language Learning Pasupathi (2021)	-none	Review article	MALL	-listening skills are better acquired through apps more than that of other language skills.
19.	Using Mobile Apps to Improve English Speaking Skills of EFL Students at the Islamic University of Gaza. Alzatma (2020)	30 EFL female junior students at the Islamic University of Gaza "IUG"	-quasi experimental	Mobile apps	-there are statistically significant differences at ($\alpha = 0.05$) between the mean scores of the study participants in the pre and posttest of English-speaking tests in favor of the posttest after using the MALL. -researcher recommends that curricula designers integrate mobile apps in curricula and educational materials. -recommends supervisors to carry out training courses for teachers about mobile apps to expose them to using technology and mobile apps in EFL classes.
20.	Chatterpix Kids: A Potential Mobile App for Helping Primary ESL Pupils Improve Their Speaking Fluency Rajendran & Yunus (2021)	5 purposively selected Year 3 primary school pupils	Qualitative	ChatterPix Kids	- need to incorporate MALL for speaking among Malaysian primary school pupils. Further studies are recommended to be done on how ChatterPix Kids could be exploited when learning another language skills such as listening, reading, and writing.
21.	Learn to Speak Like A Native: AI-powered Chatbot Simulating Natural Conversation for Language Tutoring Tu (2020)	-none	-survey	AI powered chatbot	- Both machine and human evaluation show that the chatbot is able to produce transactional conversations that cover multiple domains of daily life conversations and incorporates a large vocabulary base as well as diverse sentence structures, which are beneficial for students.

Technology in enhancing ESL learners' speaking skills

According to the review's results, it is possible to infer that, with suitable tactics and methods, technology can be used as a stress-free teaching resource (Eshankulovna, 2021) and an interactive educational platform (Rajendran & Yunus, 2021) that can raise learners' enthusiasm to improve their speaking skills.

Technology as an entertaining stress-free learning tool

Technology provides learners with variety of applications, accelerated learning, and fun opportunities to practice what they learn (Rajendran & Yunus, 2021). It enables students to explore new subjects and deepen their understanding of difficult concepts and practice speaking effectively (Zou & Li, 2015). Through various technologies that have been used in teaching and learning of speaking skills, learners would be given the opportunity to explore and learn on their own (Ali, 2020). Thus, it is mainly learner centered as the learners learn about the features and functions in order to use the applications efficiently (Eshankulovna, 2021). Moreover, technology is a learning tool that absolutely excites young learners because of the new features as it helps to create a stress free environment in the classroom during the lesson. The learners learn speaking skills without any pressure as it is mostly learners centered. Therefore, technology enables the learners to be more efficient and active when they learn speaking skills as it provides an entertaining stress-free environment for the learners.

Technology as an Interactive Learning Medium

Education technology can help students by making learning more engaging and collaborative (Rajendran & Yunus, 2021). Rather than memorizing facts, learners learn by doing and through critical thinking (Eshankulovna, 2021). This could be as simple as taking an interactive quiz in class or participating in tech-enabled group discussions. Technology can enhance interactive learning in well-designed and structured formats based on educational objectives (Kuning, 2019). Furthermore, technology helps the educators to create a collaborative learning environment especially during speaking lessons (Tu, 2020). The learners will be given the opportunity to work in groups as they will communicate with each other through technology in an interactive way. It strengthens the relationship between the learners and the educator. Anil (2016) also stated that it helps the learners to build their confidence through the opportunity given to them to interact with other people. Therefore, technology allows the learners to be actively involved in the speaking lesson as it creates an interactive learning environment.

Conclusion

The results of this research show the great exposure on the usage of various technologies in ESL teaching and learning in enhancing learners' speaking skills. The involvement of technology in teaching and learning is far beyond that of a traditional learning environment. In other words, usage of technology in the classroom is a great interactive medium or tool for ESL learners or any learners in enhancing speaking skills in a fun way as well as bringing positive attitude among learners. These types of applications provide learning-based enjoyment and satisfaction as well as positive vibes which possibly change into motivation. Learners' learning spirit builds with motivation by using various applications in ESL learning. Without feeling anxious educators can use technology in ESL teaching and learning that eventually boost up their confidence level. Transformations started from the

classroom by educators that ultimately pushed the Malaysian education system to a magnificent level so learners could achieve proficiency in English Language and as a whole greater human being.

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