

ENHANCING PRONUNCIATION SKILL IN ESL LEARNERS THROUGH *SPEECHLING*: AN EXPERIMENTAL STUDY USING CALL/MALL

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Abstract

Pronunciation plays a pivotal role in Second Language Acquisition (SLT) as SLT relies on it. Applications like Mobile-assisted Language Learning (MALL) or Computer-assisted Language Learning (CALL) made the daunting task of pronunciation easier for the learners through the advancement in technology. This study attempted to examine the effectiveness of Speechling application in helping Pakistani ESL students to enhance their pronunciation. To this effect, a total of 20 participants were selected from the National University of Technology (NUTECH) to conduct this study. The participants were divided into control and experimental groups, ten in each group. Learners were examined for four consecutive weeks while focusing on teaching pronunciation to the control group via traditional method and to the experimental group through the use of Speechling application. Mixed method approach is implied in the attempted study, collecting the data from the opted participants via pretests and post-tests. Significant improvements in pronunciation were found which were collected through tests and interviews from both the groups. The collected data and the learners' performance reflected that the Speechling application helped the learners of the experimental group a lot in enhancing pronunciation. To record and review the learners' speech feature in Speechling application was applauded by the participants and found it beneficial for further enhancing their pronunciation. Though some features like free coaching, feedback and practicing more words on daily basis needed to be free for the learners. However, overall the findings supported the use of the mobile Speechling application in improving pronunciation acquisition process, particularly in a distance learning context.

Keywords: Pronunciation, mobile-assisted language learning, computer assisted language learning, Speechling application, Second language learning (SLA)

1. Introduction

Pronunciation is generally regarded as a crucial element of spoken ability in the area of second language learning (SLA). Learners can be more clearly understood if they pronounce words properly, therefore decreasing the possibility of misunderstanding. According to Levis (2005), "Pronunciation is directly related to speech intelligibility, which is essential for good communication." Although it is vital, pronunciation frequently goes underplayed in language lessons, especially in situations whereby teachers give grammar and vocabulary top focus because of curriculum limits or exam requirements.

English as a Second Language (ESL) students often struggle with correct pronunciation. These difficulties result from a number of causes, including interference from their first language (L1), absence of phonemic awareness, and inadequate exposure to native models of speech. Many L1 speakers of Urdu or Punjabi, for instance, may find it difficult to distinguish between the English sounds /v/ and /w/ or /æ/ and /ε/, which are absent or used differently in their native phonological systems. Furthermore, limited corrective feedback and practice chances in classrooms cause pronunciation errors to be frequently fossilized. Learners could not speak because they were afraid of being mistaken, hence limiting their opportunities to grow.

When dealing with pronunciation in ESL classes, teachers run across problems too. Not every instructor has focused training in phonetics or pronunciation instruction, and time constraints

in course planning make it challenging to include ongoing practice of pronunciation. Moreover, conventional classroom environments usually do not permit tailored comments on speech production, which is vital for fixing particular articulation faults. Learners may thus still produce garbled or non-target-like pronunciation after years of study.

Recent digital technology developments have provided fresh opportunities for instructing and learning pronunciation. Tools and programs from Computer-Assisted Language Learning (CALL) and Mobile-Assisted Language Learning (MALL) have made language learning more approachable, engaging, and self-paced. These platforms provide interactive exercises, voice recording, and visual input to help students outside the classroom. Burston (2014), says that MALL is especially successful in fostering learner independence and language retention because of the portability and omnipresence of mobile devices.

CALL and MALL tools are particularly useful in pronunciation training because of the following three factors: first, these tools permit repetitive listening and production and comparison with native models; second, they allow real time corrective feedback. By using these devices, students are able to listen to model utterances, and to record their voices, and receive automatic assessments that are made with the aid of acoustic analysis. A number of studies have indicated that technological method of teaching pronunciation (Neri et al., 2008; Saito & Lyster, 2012, and others) has remarkably contributed to increased intelligibility and segmental accuracy of students.

Speechling is one of the multiple tools, though, which allow coaching pronunciation, as it is a platform designed specifically to improve speaking and pronunciation. *Speechling* is a nonprofit solution that helps people learn language with the help of artificial intelligence (AI) and human coaching. It is multilingual, supports such languages as English, and is available both in a web app and a mobile app. The key features of its structure are to listen to native speakers, repeat the target phrase, and receive feedback (either through automated speech recognition (ASR) or pronunciation coaches, who are the certified pronunciation coaches). This combination also ensures that students enjoy both human knowledge and technology assisted input.

Speechling gives a systematic path to pronunciation practice. The platform offers thousands of hand-picked phrases to native speakers. To students they are advised to video themselves speaking these statements. The recording is then transferred to coaches to be examined; at this point, they give a verbal or audible feedback. This role addresses a great gap experienced in traditional classrooms as pupils receive only limited, generic feedback regarding pronunciation.

Audio usage and flashcard usage are two of the primary components that *Speechling* has that puts the vocabulary flashcards to shame. These flashcards are based on oral communication and listening such as reading and writing. After the presentation of a native model they are expected to repeat and write down their version. The system encourages repetitive methods and also offers reviewing sessions so that the correct pronunciation takes root. *Speechling* Flashcards enhance recognition and the producer of the correct sound because they contain spaced repetition, which is a method that has been proven to aid long-term retention (Cepeda et al., 2006).

Consequently, this study aims to investigate how *Speechling* affects ESL students' pronunciation abilities using an experimental approach anchored on CALL and MALL techniques. It aims to determine the improvement in learner motivation and segmental pronunciation accuracy following constant *Speechling* usage over a set length. This study will offer knowledge into how mobile and internet-based technologies can aid pronunciation growth in second language contexts by concentrating on the efficacy of *Speechling*'s flashcardbased listening and speaking activities.

1.1 Research Questions

- How the use of CALL/MALL application leads to significant improvement in pronunciation as compared to traditional methods?
- In what ways does the *Speechling* application enhance EFL learners' pronunciation and what challenges and attitudes do they experience while using the app?

1.2 Research Objectives

- To evaluate how effective CALL/MALL works for teaching and learning pronunciation.
- To examine students' driving attitudes towards CALL/MALL and challenges faced by them while using *Speechling* app.

2. Literature Review

Recently, technology has evolved and plays a significant role in language learning, especially English pronunciation. Computer-assisted language learning (CALL) and mobile-assisted language learning (MALL) are two of the primary approaches. From 2010 to 2024, many studies have been done to examine how well advanced instruments help to improve pronunciation.

Previous research focused on CALL, where computers were used in carefully arranged classroom contexts. One study by Rahnavard and Mashhadi (2016) tested web-based CALL lessons with Iranian EFL students. The results showed that the group employing CALL spoke better as compared to the group taught through traditional methods. Another study by Hong and Yang said that "Developing a Pronunciation Computer Program for the Acquisition of English Phonemes and Word Stress" (2015) created a computer application to assist students in practising English phonemes and word stress. Learners reported greater interest and comprehension. Focusing more on being clear than sounding like a native speaker, a theoretical review in 2010 also clarified how CALL tools aid teachers in providing feedback, correcting faults, and enhancing speech clarity (Hong).

Over the time mobile technology had become more common, and different researchers had started using mobiles to learn better pronunciation. MALL enabled students to work on their speech anytime, anywhere. Different research revealed that mobile phones helped learners to improve their pronunciation, particularly when they used video and voice communications. A study conducted by Ahmad Zamzuri Mohamad Ali & Kogilathah Segaran in 2013 used a 3D talking-head mobile app presented spoken and written text, therefore assisting students in pronouncing words more correctly than would just listening or reading alone. (Ahmed Zamzuri)

Between 2017 and 2019, MALL research became more popular. A study at Najran University KSA by Mariam Yousef Mohammed Abduh revealed that students instructed in conventional classrooms had worse pronunciation scores than those who employed mobile apps. MALL gave kids more chances to practise and greater control (Abduh). At the same time, these advancements have certain issues, including technological failures and slow internet connections. In Pakistan, a study was conducted in 2017 by Perveen Akhter Farhat¹ & Hisham Dzakiria² and found that CALL technologies supported students with sound generation and stress in pronunciation (Dzakiria). Another study in Pakistan, Zahoor and Kausar (2018) examined the influence of cultural identity on pronunciation acquisition. It discovered that even if they highly identified with their own culture, learners were ready to acquire native-like pronunciation (Kausar).

In 2019, Nadia Ghounane conducted a study in Algeria on an application called "Sounds: The Pronunciation App" and discovered that students viewed mobile learning more favourably. Their capacity to hear and articulate English sounds got better. (Ghounane). In another Iranian

study, the “Tflat app” helped in pronunciation enhancement more than those in a conventional setting. The TFlat app involves both vowels and consonants in chat that help to improve pronunciation by providing different audio examples from native speakers and offering voice recognition to compare your speech. It also allows users to practise repeating words and sentences for better accent and fluency. In Indonesia, this app enabled students to learn more and become more engaged in class.

An Indian study called “Improving Second Language Speaking and Pronunciation Through Smartphones By Akkara Sherine (2020)” employed the BYOD (Bring Your Own Device) approach in which students recorded themselves speaking and then matched their voices to those of native speakers using their cellphones (Akkara Sherine). Students became more fluent and confident thanks to this approach. Most students said it made learning more personal and flexible and helped them practice outside the classroom.

More study in recent years has concentrated on how to create whole MALL courses and comprehend student experiences. Although MALL is quite well-known today, CALL is still used in several schools. A 2023 study called “Enhancing Pronunciation Skills of Intermediate Students Through Computer Assisted Language Learning (CALL)” conducted in Multan, Pakistan, using CALL with female students showed that it helped them improve their pronunciation and motivation. However, power outages and weak computer skills presented obstacles. In Indonesia, a study concentrating on young children revealed that a nicely created MALL tool sped up improvement in spoken skills (Muhammad Nazir).

In conclusion, over time, the use of CALL and MALL in pronunciation instruction has increased its value. Earlier CALL was helpful, especially in a lab setting, and later on, MALL provided more flexibility and better access for learners. In apps, the combination of audio, video, and feedback boosts confidence, pronunciation, and motivation among learners. Although there are some obstacles, but still technology has made it more simplified and more pleasurable for learners to develop their spoken English skills. Future research can investigate how to ensure these advanced technological tools are even more effective and accessible to all.

3. Research Methodology

The study deals with the mixed method approach, both qualitative and quantitative, to investigate the effectiveness of the *Speechling* application in enhancing English pronunciation among Pakistani ESL students enrolled in the Department of Tourism and Hospitality at a university (NUTECH). The research aims to investigate not only the improvement in pronunciation, but the personal experiences and views of the learners regarding the app.

Participants were deliberately selected based on their willingness to participate and for comparable degrees of spoken English ability. The total participants were 20. They were divided into an experimental group and a control group, by using quasi-experimental design (10 participants in each group). None of the participants had experience with the *Speechling* application before.

The researchers developed a test, which contributed to the assessment of the initial pronunciation skills of both groups prior to the beginning of the intervention. The experimental group was then educated on using *Speechling* application on the proper usage of the features through training. The students can do self-assessment of their pronunciation, comparing their voice with that of the original model by recording their voices and comparing them with voice of native speakers present in the recordings. It requires students to take care of their monitoring and growth by not giving automatic responses or correction.

The experimental group used the app to complete their tasks of pronunciations at their personal terms within four weeks. During this time, they were told to speak after the native models provided in the app most of the time, do the same activity, and monitor their progress.

In contrast, the control group went on with their pronunciation practice at the usual classroom setting and had no access to the app. At the end of four weeks, the researchers also presented the two groups with a post-test to determine the progress and compare the results.

After the post-test, the interviews took place to examine the learning parts and the perception of the experimental group. The purpose of these interviews was to find out: how students used the app, what difficulties do students face during this process, and how did they feel about their experience using *Speechling* to improve their pronunciation.

At last, the data gathered from interviews (qualitative) and tests (quantitative) were analyzed to determine the effectiveness of *Speechling* application and learners' overall response to the self directed use of speech technology.

4. Findings and Discussion

With two groups, a control group and an experimental group, each consisting of 10 participants (N=20), a small-scale experiment was conducted to assess the effectiveness of mobile-assisted pronunciation learning. All participants were given a pretest to evaluate their first pronunciation efficiency.

Over four weeks, the control group received pronunciation instruction through traditional method of teaching. By contrast, the experimental group used the *Speechling* application. A post-test followed the intervention. The data showed a significant difference between the two groups. The experimental group exhibited remarkable improvement with individual increases varying from a minimum of 13% to a maximum of 60%, the average improvement in this group was 37.2%. The control group, meanwhile, showed only slight improvement. Average progress noted was 6%. Four people within this group showed modest gains, three participants' performance fell in comparison to the pretest, and the other three maintained their earlier scores without any improvement.

Overall, the findings reveal that the experimental group showed greater progress in pronunciation accuracy than the control group. This means that the *Speechling* application resulted in more significant change over the four weeks than the traditional approach used by the control group.

➤ View of Learner's on Mobile assisted Pronunciation training Application; *Speechling*

Every participant stated that the application was really simple to handle. Finding it easy to download, they noted that its functions were not complicated but well organized, therefore simplifying navigation. Using the app was pleasant and stress-free since they could quickly explore several options without any trouble. Many pointed out that the app's design and features were quite appropriate for beginners who might otherwise feel overwhelmed by complicated tools.

Participants also noted that the native pronunciation models were quite clear and simple to follow and use. Furthermore, participants noted that the app has a feature of supporting multiple languages, which is a remarkable addition for a free app. Moreover, learners especially appreciated how the app plainly enunciated difficult words, thereby enabling them to confidently and accurately approach challenging sounds.

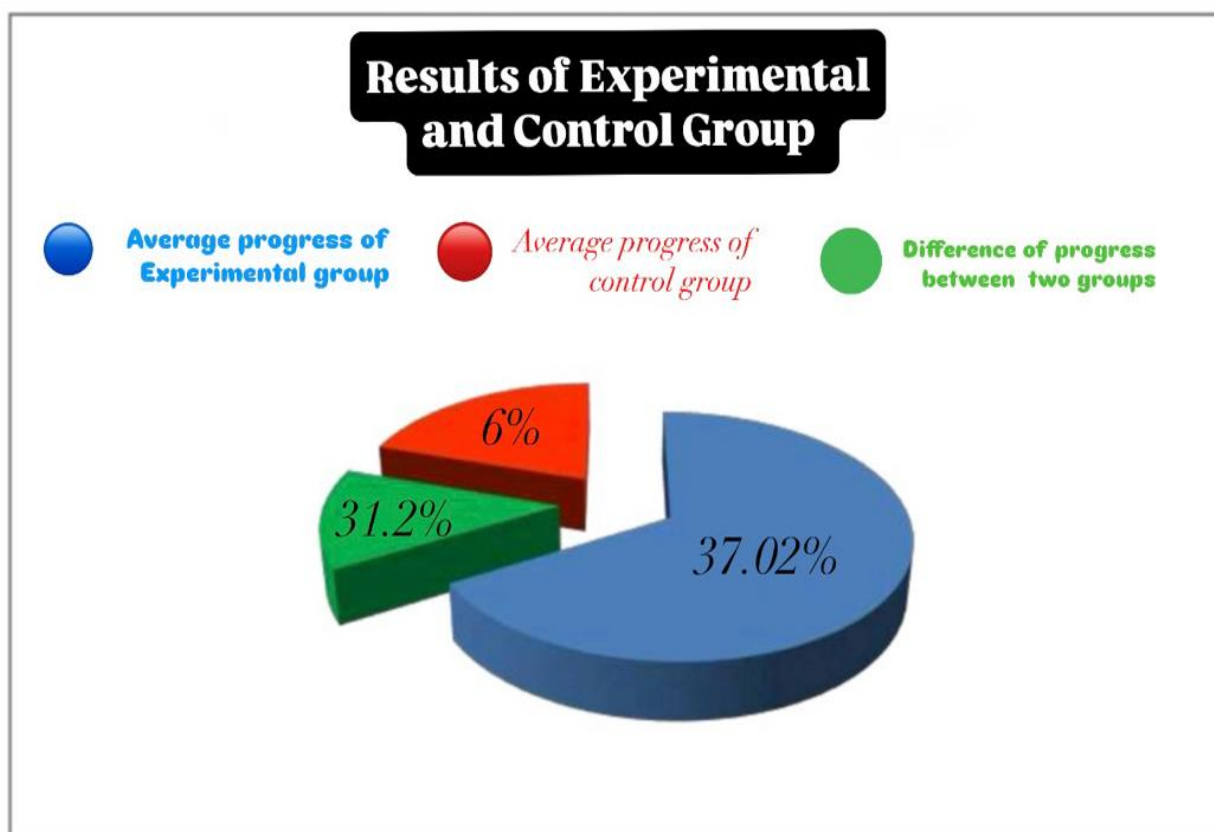
➤ Shortcomings of Application

Although the application was found to be quite helpful by the users, some significant flaws were brought to light. One major limitation is that learners have to pay in order get the direct feedback from the coach, which is not possible for everyone. Although the app provides several levels of pronunciation training such as intermediate, advanced, and expert—it is limited to the

particular pronunciation models already installed. Users so cannot look up and rehearse words of their own choice. Participants also thought that the app's pronunciation aid would be bettered by incorporating animations or visual aids to help students advance further.

Table 1
Pre-test and Post-Test Scores

No.	Participants	Pre-test Score	Post-test Score	Progress
1.	A	4	10	40%
2.	B	6	9	20%
3.	C	5	12	47%
4.	D	6	8	13%
5.	E	6	14	53%
6.	F	9	14	33%
7.	G	3	12	60%
8.	H	9	13	26%
9.	I	7	13	46%
10.	J	7	12	34%
11.	K	9	8	-7%
12.	L	8	10	13%
13.	M	10	10	Zero
14.	N	6	7	6%
15.	O	10	8	-13%
16.	P	9	6	20%
17.	Q	08	9	7%
18.	R	7	7	Zero
19.	S	7	4	-20%
20.	T	5	5	Zero



Learner's Thoughts on *Speechling* App Pronunciation

Participants	Comments
A	It is perfect app for learning of pronunciation.
B	It's a wonderful experience to use this app because it is informative for English pronunciation learning.
C	It's a great platform for those who wanna learn pronunciation and be fluent in English.
D	It's a free and accessible platform for those who are looking to enhance their pronunciation skills.
E	Nice experience with the app. It helped me a lot in enhancing my pronunciation skill.
F	Speechling app is very helpful for providing pronunciation practice.
G	Speechling app is very good pronunciation practice. I had a good experience with its.
H	Absolutely wonderful and ad free app.
I	I had a great experience with this app and learned a lot from it.
J	Speechling app is easy to use and helpful in learning pronunciation.

5. Conclusion and Future Recommendation

This research shows that learners' pronunciation abilities clearly improved via the use of *Speechling* application in contrast with conventional/traditional method(s). With an average progress of 37.2%, the experimental group, which used the application, displayed considerable improvement, whereas the control group showed only minor gains. Learners also said that the application is simple in downloading and using, its features are well organized and it provides clear pronunciation models, which are especially useful for beginners. The learners appreciated it as it was free and the application also had the ability to articulate difficult words which were beneficial for the learners. But some weaknesses were also pointed out i.e the paid need for coach feedback, the inability to search for and practice words of the students' own choice and the necessity for extra elements like animations to help pronunciation practice.

Developers are advised to include a function allowing users to search and practice chosen words, include animated or visual pronunciation guides and investigate methods to offer some degree of coach input free of cost. This study was delimited to those studying tourism and hospitality; future research could include students from other departments or fields to check if same findings were noted across several academic backgrounds. Studies of this kind might provide more general understanding of how well mobile-assisted pronunciation learning is doing and how it can be useful and beneficial for the learners.

References

- Abduh, Mariam Yousef Mohammad. "The Effect of Impleting MALL Applications on learning pronunciation of English by EFL learners at Najran University." *Marcthink Institute* (2019): 13. online.
- Ahmed Zamzuri, Mohammad Ali and Kogilathah Segaran. "3D taking-head mobile app: A conceptual framework for english pronunciation learning among non-native speakers." *ccsent* (2013): 66-76. online.
- Akkara Sherine, Mallampi Mallikarhuna Sastry, Anumula V S =urya Seshagiri. "Improving Second Languge speaking and Pronunciation through Smartphones." *Research gate* (2020): 280-287. Online.
- Dzakiria, Perveen Akther Farhat and Hisham. "Pronunciation Barriers and Computer Assisted Languge Learning : coping the demands of 21st Century in Second Language Learning classroom in Pakistan." *Internation Journal of Research in English Education* (2017): 10. online.
- Ghounane, Nadia. "The Attitudes od Seconf year ESL Learners at Dr Moulary Tahar University rowards Learning English Pronunciation through Mobile Assisted Lanuage." *Arab World English Journal* (2019): 110-123. online.
- Hong, Jhao-Nan. "Developing a pronunciation computer program for the acquisition of english phonesmes and word stress." *research in language* (2015): 325-352. online.
- Kausar, Mehwish Zahoor and Dr. Ghazala. "LEARNING NATIVE-LIKE ENGLISH PRONOUNCIATION AND CULTURAL IDENTITY OF PAKISTAN ESL LEARNERS." *New Horizon* (2018): 19-32. online.
- Muhammad Nazir, Fehima Nazar, Muhammad Kamran Abbas. "Enhancing Pronounciatin skills on Intermediate students through computer assisted language learning (CALL)." *AI-Qantara* (2023): 19. online.