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Tertiary Level Learners' Perceptions Regarding The Effectiveness Of Digital Technology In Enhancing English Pronunciation

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Abstract

This study investigates the impact of digital technology on the improvement of English pronunciation skills among tertiary-level learners. With the growing integration of educational apps and platforms, learners increasingly engage with technology-based tools for speaking and listening. This quantitative study used a close-ended questionnaire distributed via Google Forms to 30 university students. Data were analyzed through descriptive statistics and tabulated interpretations. Findings reveal that learners perceive technology as beneficial for pronunciation improvement, offering greater accessibility, engagement, and self-paced learning. The results suggest that technology should be actively integrated into pronunciation instruction at the tertiary level.

Keywords: Pronunciation, Technology in Education, Linguistics, Digital Learning, Tertiary Learners, Quantitative Research.

Introduction

In the digital age, the integration of technology in language learning has reshaped traditional teaching and learning methods. Among various language skills, pronunciation often receives less attention in formal classroom settings due to limited class time, lack of trained instructors, or large class sizes. However, clear pronunciation is essential for effective communication and comprehensibility in English, especially for learners in academic and professional environments.Recent advancements in mobile-assisted language learning (MALL) have created new opportunities for learners to improve their pronunciation independently. Digital tools such as ELSA Speak, YouGlish, Forvo, and other AI-powered applications offer learners access to authentic pronunciation models, speech recognition feedback, and self paced practice environments. These tools simulate native like pronunciation experiences and provide instant corrective feedback, which is difficult to achieve in a conventional classroom without one-on-one instruction.Tertiary level learners, who are often preparing for careers requiring proficient English speaking skills, benefit significantly from these innovations. In regions like South Asia, where access to

native speaking environments is limited, technology can act as a bridge between learners and high quality language input. Despite the availability of such tools, the extent of their effect on learners' pronunciation development in tertiary education remains underexplored. This study aims to fill that gap by investigating how tertiary students perceive the role of digital technology in enhancing their English pronunciation skills. Using a quantitative approach, the research examines the frequency of technology use, learner satisfaction, and the perceived benefits of pronunciation focused digital tools.

Literature Review

Pronunciation, as a sub-skill of speaking, has long been underemphasized in language classrooms (Derwing & Munro, 2005). With the rise of mobile learning, numerous studies have highlighted the positive role of digital platforms in pronunciation development (Farrington, 2020; Ahn & Lee, 2016). Studies indicate that learners using speech based apps show greater improvements in phoneme recognition and pronunciation accuracy (Wang & Chen, 2020). However, research in South Asian tertiary contexts remains limited, particularly using quantitative designs focused solely on pronunciation.The role of pronunciation in second language (L2) acquisition has gained growing recognition in recent years, particularly with the emergence of technology enhanced language learning. Pronunciation plays a vital role in intelligibility and communication, yet it has traditionally been marginalized in many English language classrooms (Derwing & Munro, 2005). Teachers often prioritize grammar, vocabulary, and reading over speaking and pronunciation due to time constraints and a lack of training in phonetics and phonology. As a result, many learners reach advanced levels of grammatical and lexical competence but still struggle to communicate clearly due to poor pronunciation (Gilakjani & Sabouri, 2016).With the advent of Mobile Assisted Language Learning (MALL), new opportunities have emerged for integrating pronunciation training into learners' everyday lives. Mobile applications like ELSA Speak, Forvo, YouGlish, and Google Pronunciation offer users access to native speaker models, instant feedback, and targeted practice activities. These tools are often built using Automatic Speech Recognition (ASR) and Text-to-Speech (TTS) technologies, allowing for interactive

learning experiences. According to Wang and Chen (2020), ASR technology enhances learners' ability to receive immediate corrective feedback, thereby reinforcing proper articulation and prosodic features such as stress, rhythm, and intonation.A study conducted by Ahn and Lee (2016) investigated Korean EFL learners' experiences with a mobile speaking application and found significant improvements in learner autonomy and speaking confidence. Similarly, Mroz (2020) emphasized that digital pronunciation tools not only support skill development but also motivate learners by gamifying the learning process. Learners are more likely to engage in repetitive practice when they receive visual progress tracking and performance scores.

Research in South Asian contexts has also begun to highlight the usefulness of technology in pronunciation training. Ali, Zahid, and Rauf (2021) explored the impact of mobile apps on Pakistani EFL learners and reported positive perceptions regarding ease of use, flexibility, and learning effectiveness. However, many of these studies are qualitative in nature or mixed-method, with limited focus on fully quantitative investigations in tertiary settings.In terms of effectiveness, several meta analyses have demonstrated the positive effects of technology on pronunciation outcomes. Mahdi and Al Khateeb (2019) concluded that mobile apps significantly improve learners' pronunciation accuracy and listening discrimination skills. Their findings revealed that pronunciation focused mobile interventions are particularly effective when learners are allowed to practice independently and receive customized feedback. Moreover, a study by Burston (2014) showed that consistent use of pronunciation apps over four weeks led to a statistically significant improvement in learners' segmental and suprasegmental accuracy.

Research Objectives

1. To investigate learners' perceptions and the role of digital tools in enhancing pronunciation.s
2. To determine the effectiveness of technology-based resources in supporting pronunciation practice for tertiary level learners.

Research Questions

1. How do tertiary level learners perceive the effectiveness of digital technology in improving their English pronunciation?

2. What is the extent of learner engagement with digital pronunciation tools?

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Research Methodology

Research Design

This study employed a quantitative descriptive research design. A close ended questionnaire was developed and distributed via Google Forms to gather responses from participants.

Population and Sample

The sample consisted of 30 tertiary level English learners from a university in Pakistan. All participants were actively enrolled in language courses and had access to mobile phones and internet resources.

Instrumentation

A structured close ended questionnaire was designed based on a 5-point Likert scale (Strongly Agree to Strongly Disagree). The questionnaire was adapted from existing instruments (Wang & Chen, 2020; Munro & Derwing, 2005) and contained 10 items focused on engagement, pronunciation support, confidence, application feedback, and learner motivation. The questionnaire was validated by two ELT experts for clarity and content reliability.

Data Collection Procedure

The questionnaire was created using Google Forms and shared via WhatsApp learning groups. Responses were collected over 7 days. All responses remained anonymous.

Data Analysis

Data were analyzed using descriptive statistics (percentages and frequencies) via Microsoft Excel. Each question was presented with a separate table and followed by a brief interpretation.

Results

Question 1: I Feel more Engaged when using Technology for Pronunciation Practice

Response	Frequency	Percentage
Strongly Agree (SA)	12	40%
Agree(A)	9	30%

Neutral(N)	5	17%
Disagree(DA)	3	10%
Agree(A)	2	3%

Interpretation: 70% of learners agreed that technology made pronunciation learning more engaging, suggesting strong learner motivation through tech tools.

Question 2: Mobile apps help me improve my English pronunciation.

Response	Frequency	Percentage
Strongly Agree	11	37%
Agree	10	33%
Neutral	6	20%
Disagree	2	7%
Agree	1	3%

Interpretation: 70% of respondents agreed that mobile apps support their pronunciation skills, showing a high level of satisfaction with MALL tools.

Question 3: I regularly use mobile applications for pronunciation practice.

Response	Frequency	Percentage
Strongly Agree	9	30%
Agree	12	40%
Neutral	5	17%
Disagree	3	10%
Strongly Disagree	1	3%

Interpretation: 70% of students regularly engage with mobile apps, suggesting technology has been effectively integrated into their personal learning routines.

Question 4: Technology helps me improve my pronunciation of difficult words.

Response	Rrequency	Percentage
Strongly Agree	13	43%
Agree	10	33%
Neutral	4	13%
Disagree	2	7%
Strongly Disagree	1	3%

Interpretation: 76% of students acknowledge technology's usefulness in practicing complex or unfamiliar pronunciation, showing tech tools target problem areas effectively.

Question 5: I Feel more Confident in Speaking English When I use Pronunciation Tools

Response	Frequency	Percentage
Strongly Agree	10	33%
Agree	11	37%
Neutral	5	17%
Disagree	3	10%
Strongly Disagree	1	3%

Interpretation: Over 70% of respondents report improved speaking confidence, suggesting that feedback mechanisms in apps reduce anxiety and boost self-assurance.

Question 6: Apps like ELSA Speak and YouGlish provide accurate pronunciation models.

Response	Frequency	Percentage
Strongly Agree	8	27%
Agree	13	43%
Neutral	5	17%
Disagree	3	5%
Strongly Disagree	1	3%

Interpretation: 70% of learners trust the accuracy of model pronunciations from popular apps, reinforcing the reliability of these tools for pronunciation training.

Question 7: Technology Helps me Understand Stress and Intonation Patterns in English

Response	Frequency	Percentage
Strongly Agree	9	30%
Agree	12	40%
Neutral	6	20%
Disagree	2	7%
Strongly Disagree	1	3%

Interpretation: 70% of students believe that technology supports not just word-level pronunciation, but prosody (intonation, rhythm), which is crucial for fluency.

Question 8: Using Mobile Apps is More Effective than Reading Aloud Without Tech Support

Response	Frequency	Percentage
Strongly Agree	10	33%
Agree	11	37%
Neutral	4	13%
Disagree	4	13%
Strongly Disagree	1	3%

Interpretation: 70% feel that apps provide a richer experience than traditional read-aloud methods, likely due to audio models and speech recognition features.

Question 9: I Receive Helpful Feedback from Pronunciation Apps.

Response	Frequency	Percentage
Strongly Agree	8	27%
Agree	13	43%
Neutral	6	20%
Disagree	2	7%
Strongly Disagree	1	3%

Interpretation: 70% of respondents positively rate feedback from apps, supporting previous findings that real-time correction enhances pronunciation learning.

Question 10: Technology makes Pronunciation Practice more Enjoyable

Response	Frequency	Percentage
Strongly Agree	12	40%
Agree	10	33%
Neutral	4	13%
Disagree	3	10%
Strongly Disagree	1	3%

Interpretation: A strong 73% feel more motivated and interested in pronunciation learning when using digital tools, emphasizing their value in increasing learner engagement.

Summary of All Interpretations

Learners generally favor technology for its role in engagement, confidence, accuracy, and feedback.Between 70–76% of respondents consistently reported positive perceptions across all 10 items.The lowest agreement (still above 67%) was for apps helping with stress/intonation, possibly indicating an area for improvement in app design.

Discussion

The primary aim of this study was to explore tertiary level learners' perceptions regarding the effectiveness of digital technology in enhancing English pronunciation skills. Based on the questionnaire responses of 30 participants, the results consistently demonstrated a positive inclination toward the use of mobile assisted pronunciation tools such as ELSA Speak, YouGlish, and other pronunciation focused applications. Approximately 70–76% of the learners agreed or strongly agreed with statements suggesting that digital tools improved their pronunciation, increased their confidence, and made learning more enjoyable. This indicates a general consensus that pronunciation practice becomes more engaging and effective when integrated with technology. These results align with previous research by Wang and Chen (2020), who noted that mobile-assisted pronunciation training tools provide real-time feedback and individualized support, leading to improved phonological accuracy and learner autonomy. One of the most significant findings of this study was that learners felt more engaged (70%) and confident (70%) when using technology for pronunciation practice. These results reinforce the arguments made by Ahn and Lee (2016) that speech recognition enabled apps foster a more motivating and interactive environment than traditional classroom instruction. Engagement and motivation are critical in language learning, especially for pronunciation, which often requires repetitive practice that learners may avoid in traditional formats.Furthermore, 70% of learners reported using such tools regularly, indicating not only interest but also the accessibility and ease of use of these resources. This is consistent with Mahdi and Al Khateeb (2019), who found that learners were more likely to engage with mobile tools that provided autonomy, mobility, and instant feedback. These features appear to resonate strongly with tertiary students who manage complex academic schedules and benefit from flexible learning methods.The study also revealed that learners trust the

feedback and pronunciation models provided by applications like ELSA Speak and YouGlish. This supports the claims made in Mroz (2020), who emphasized the reliability of ASR based (Automatic Speech Recognition) apps in providing corrective feedback. Additionally, the findings suggest that these tools are helpful in teaching suprasegmental features such as intonation and stress patterns, which are often neglected in classroom teaching due to time constraints or teacher expertise. The consistency of positive responses across multiple aspects engagement, feedback, confidence, and frequency of use indicates that learners not only use these tools but also derive tangible benefits from them. However, it is also worth noting that around 17–20% of students responded neutrally, possibly indicating limited exposure or varying levels of digital literacy. This suggests that while the potential of digital tools is high, institutional support and training may still be needed to ensure that all learners can access and benefit from such technology. Finally, this study adds to the limited body of quantitative research in South Asian contexts regarding pronunciation learning through technology. Most previous studies have been qualitative or mixed-method, making this study a valuable contribution to understanding learners' perceptions using measurable data.

Conclusion and Recommendations

This quantitative study confirms that digital tools play a significant role in enhancing English pronunciation among tertiary learners. Mobile apps, when properly integrated, can boost learner confidence and engagement. Educational institutions should incorporate technology into pronunciation instruction and offer training for students to use these resources effectively. Further studies could explore long-term effects and compare outcomes with other language sub-skills.

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Appendix

Instructions: Please mark your level of agreement with the following statements regarding the use of technology (apps/websites) for English pronunciation practice.

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Scale:

SA = Strongly Agree

A = Agree

N = Neutral

D = Disagree

SD = Strongly Disagree

No.	Statment	SD -1	D- 2	N- 3	A- 4	SA- 5
01	I feel more engaged when using technology for pronunciation practice.					
02	Mobile apps help me improve my English pronunciation.					
03	I regularly use mobile applications for pronunciation practice.					
04	Technology helps me improve my pronunciation of difficult words.					
05	I feel more confident in speaking English when I use pronunciation tools.					
06	Apps like ELSA Speak and YouGlish provide accurate pronunciation models.					
07	Technology helps me understand stress and intonation patterns in English.					
08	Using mobile apps is more effective than reading aloud without tech support.					
09	I receive helpful feedback from pronunciation apps.					
10	Technology makes pronunciation practice more enjoyable.					

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