

Improving Second Language Speaking and Pronunciation Through Smartphones

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Abstract—The ability to speak English fluently and confidently plays a vital role in enhancing employment opportunities of graduate students of India. Though English has been a second language for over decades in the country, teaching speaking skills with intelligible pronunciation to the first generation of learners remains a major challenge. The limited number of classes allotted for English speaking and pronunciation and lack of resources make it more challenging. Previous research suggests that Mobile Assisted Language Learning (MALL) offers anywhere and anytime learning opportunities for second language learners. However, there is little research on how mobile learning enhances speaking skills and pronunciation of tertiary level students from rural areas who lack exposure to English outside the classroom. The present paper aims at studying the impact of MALL in improving a) speaking skills b) segmental and supra-segmental features of pronunciation and c) the viability of bring your own device (BYOD) approach. Mixed methods approach has been adopted for collecting the data from twenty-five (n=25) randomly selected students who underwent training with BYOD. The results showed a positive effect on the speaking skills and the overall intelligibility of the participants. The use of smartphones also resulted in improved learners' engagement in the language learning. Teachers at tertiary level could benefit from the study, adopt digital technologies in L2 teaching and learning and further extend the scope of the study with their experiences.

Keywords—Speaking, Pronunciation, Intelligibility, Mobile Assisted Language Learning.

1 Introduction

Teaching speaking and pronunciation involves a variety of challenges to teachers. Gilbert stated that drilling sounds repeatedly leads to a monotonous experience in the classroom, discouragement and may lead to total avoidance of learning altogether [1]. The teaching of English pronunciation has witnessed many changes in pedagogy to make learners active participants in the learning process [2]. Mobile learning offers unprecedented opportunities for language teaching and learning. It is a revolution in learning technologies providing learning at finger tips anywhere and anytime on the

planet with access to, usability of and the pedagogic application of hand-held devices at a substantially lower price than the conventional desktop computers [3].

Mobile learning offers immense opportunities for delivering quality education in underdeveloped and developing countries as mentioned in the UNESCO policy guidelines for mobile learning [4]. Though there have been many studies around the world on the use of mobile technologies for language learning, the use of smartphones for language learning and teaching is still in the nascent stages in India and there is little research in Mobile Assisted Language Learning (MALL). The present study aims at studying the role of MALL in the context of enhancing speaking competence and pronunciation.

2 Literature Review

New technologies increased accessibility to authentic learning materials making it one of the most important areas of research as stated in [5]. Mobile learning technologies and the use of social media with instant messaging and multi-modal communication and information sharing provide platforms for interaction with peers and collaborative learning to hone their L2 skills [6].

Listening to native speakers is an invaluable resource for learning second language speaking skills. Modeling native speakers enhances accuracy levels in pronunciation and reduces mother tongue influence. Reading aloud the conversation transcriptions after listening to the native speakers provides meaningful practice in improving pronunciation. Teaching pronunciation through mobile technologies had a positive impact as revealed in research studies [7].

Self-recording has proved immensely useful for learners to reflect on their speaking ability and know where improvisation is required. Research studies on self-recording and reflection have proved the usefulness of the method [8]. When the self-recordings are shared with the other learners and the teachers, learners will be benefited by peer review and guidelines from teachers. Collaborative learning using the mobile technologies has a positive effect on second language learning [9].

Smartphones offer many affordances and support language learners in noticing and recoding noticed features ‘on the spot’ and help them develop their second language system [10]. Bring your own device (BYOD) has gained acceptability as one of the cost-effective models in implementing many MALL projects as stated above in the UNESCO policy guidelines [4]. In addition, the device ownership makes a lot of difference in how learners use the device and BYOD (bring your own device) helps personalizing their learning [11]. However, there is little research on improving speaking and pronunciation of tertiary learners using BYOD approach.

3 Purpose of the Study

The purpose of the study is limited to studying the following research questions:

- **RQ1.** How does self-recording of reading aloud the transcriptions of native speakers’ conversations impact.

- a) Speaking performance
- b) Segmental and suprasegmental features of pronunciation
- **RQ2.** How does BYOD approach help improving listening and speaking skills practice in language lab?

4 Purpose of the Study

4.1 Methodology

The study adopted a mixed method approach with a single group of twenty-five (n=25) participants spanning for a semester. BYOD approach was adopted and the participants brought their own devices to the English language lab.

4.2 Participants

The research study was undertaken at a reputed engineering college affiliated to Jawaharlal Nehru Technological University Kakinada, Andhra Pradesh. The participants (n=25) were the first-year students who were pursuing engineering undergraduate course in Electronics and Communication Engineering. They were from rural areas and small towns in the West Godavari District of Andhra Pradesh.

4.3 Materials

Participants used Android smartphones with their own personal data connection to access the learning resources online. The following resources were used during the period of the study.

Websites:

1. www.youtube.com
2. <http://www.bbc.co.uk/learningenglish/english/features/english-at-work>
3. www.testmoz.com

Apps:

1. Voice recorder
2. Video recording and editing apps
3. WhatsApp
4. English pronunciation (British Council)

4.4 Procedure

The participants were administered a pre-test and a post-test before and after the period of the study. Both the tests were conducted on the IELTS Speaking Test pattern.

In addition, semi-structured personal interviews were conducted to ascertain the perceptions and experiences of the participants.

The training programme included a) a daily listening task at home, b) reading aloud and recording the same modeling after the native speakers during the lab hours, c) listening to their recording for self-reflection and review and e) rerecording the conversation until they felt they had reached a satisfactory level. The final recorded version was shared with other participants and the teachers on *WhatsApp* group for their review and comments.

There were three periods in a week throughout the semester spanning for 15 weeks.

All the participants completed fifteen conversation transcriptions out of twenty provided to them. In addition, participants practiced pronunciation using the mobile apps at home during the training.

5 Results

The scores of pre and post-tests were analyzed using the paired t-test to ascertain if there is any significant difference in the performance of the participants before and after the training programme.

5.1 Research question 1

a) **Speaking Performance:** To study the impact of the training programme on speaking and pronunciation two hypotheses were made:

Null Hypothesis: $H_0: \mu_d = 0$ There is no significant difference in the performance of the participants in the pre-test and post-test

Alternate Hypothesis: $H_1: \mu_d \neq 0$ There is significant difference in the performance of the participants in the pre-test and post-test

Level of Significance: $\alpha = 0.05$

Critical region: here $n = 25$, degrees of freedom $\nu = n - 1 = 25 - 1 = 24$ dof

From tables $|t_{\alpha/2}| = \pm 2.064$, if $t_{cal} > t_{\alpha/2}$ reject null hypothesis

Test statistic: $t_{cal} = \frac{\bar{d} - \mu_d}{s / \sqrt{n}}$, here \bar{d} is the mean of the difference in values of Pre

and post-test entries and S is the standard deviation of the difference

$$s = \sqrt{\frac{\sum (d_i - \bar{d})^2}{n - 1}}, \quad \bar{d} = \frac{\sum d_i}{n}, i = 1, 2, 3 \dots 25, n = 25$$

$$S = 1.357694, \bar{d} = 7.52, n = 25, t_{cal} = \frac{7.52 - 0}{1.357694 / \sqrt{25}} = \mathbf{27.694}$$

The calculated value is greater than the table value. $t_{cal} > t_{\alpha/2}$. Hence, the null hypothesis is rejected and the alternative hypothesis is accepted indicating significant difference in the performance of the participants.

In one-on-one personal interviews 21 participants out of 25 have clearly showed difference by speaking confidently and intelligibly. A significant difference was observed in the reduction of repetitions and self-corrections after the training. Improvement in coherence and fluency was also noticed.

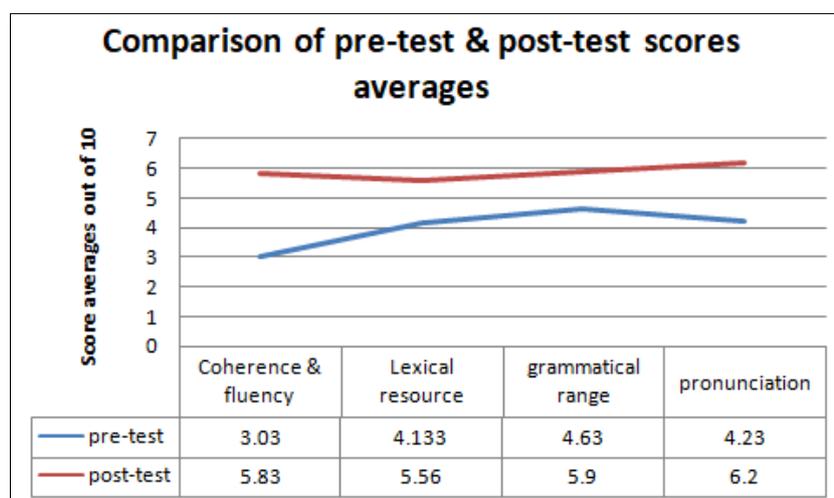


Fig. 1. Speaking pretest and posttest averages

- b) **Segmental and suprasegmental features:** To analyze the changes in the segmental and suprasegmental features of pronunciation four parameters were taken into account: a) word stress b) sentence stress c) linking and reducing and d) intonation. Assessment tests for ten points were administered for each segmental and suprasegmental feature separately.

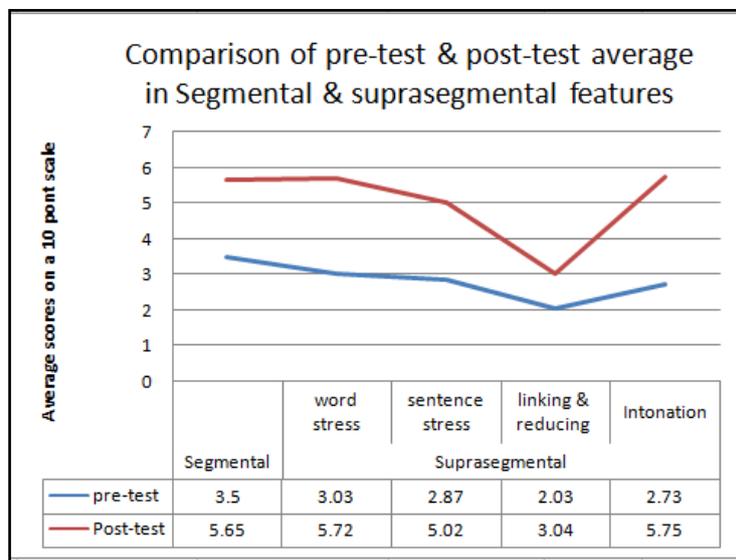


Fig. 2. Performance in segmental & suprasegmental features

Figure 2 indicates the overall improvement in all the suprasegmental features. Improvement was noticed in word stress, sentence stress and intonation. However, the change was marginal in linking and reducing features.

5.2 Research question 2

To study how BYOD approach helped the participants in improving their listening and speaking skills, and semi-structured interviews were conducted.

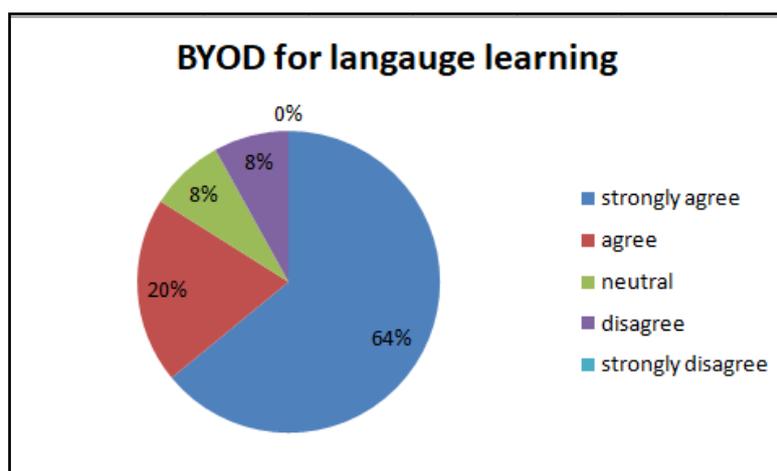


Fig. 3. Usefulness of BYOD for language learning

As shown in Figure 3, twenty one out of twenty-five participants felt BYOD was very useful and provided them with personalized learning experience for listening and speaking as they can save and download whatever they liked to learn on their own devices. Participants felt that mobile apps provided more flexibility in learning as they could carry their mobile devices wherever they went. On the other hand, it is not possible to personalize the desktop computers in the language lab.

6 Discussion and Conclusion

The study explored the impact of using smartphones in improving speaking and pronunciation of the participants using BYOD approach. As stated in the previous research in the field, smartphones provide anytime and anywhere access to authentic learning materials making it easy for the learners. BYOD also allowed them to learn anytime and anywhere and they were not restricted to particular place and time as in the case of language lab. Moreover, the mobile pedagogical affordances have transformed the way of delivering lessons and facilitated student engagement in a variety of course contexts [13]. In addition, it enabled the teachers to understand the difficulties of individual learners and their particular language background as stated in [10].

The ubiquitous presence of mobile phones, greater number of affordances of mobile technologies and the ease of access to learning materials at their fingertips make mobile technologies more attractive and motivating for the second language learners. If English faculty members can adapt to mobile learning technologies in the right direction, it is possible to engage the tertiary students actively in the learning process as stated in [14], and the benefits outweigh the perceived disadvantages.

7 References

- [1] J. B Gilbert, *Teaching Pronunciation Using the Prosody Pyramid* (Book style). Cambridge, New York, 2008, pp. 123–135.
- [2] Morley, J. (1991). The pronunciation component in teaching English to speakers of other languages. *TESOL quarterly*, 25(3), 481-520. <https://doi.org/10.2307/3586981>
- [3] Kukulska-Hulme, A., & Traxler, J. (2005). Mobile learning. *Mobile Learning: A Handbook for Educators and Trainers*. Oxon: Routledge, 1-6. <https://doi.org/10.19173/irrodl.v8i2.437>
- [4] West, M., & Vosloo, S. (2013). UNESCO Policy Guidelines for Mobile Learning. In *United Nations Educational, Scientific and Cultural Organization*.
- [5] Goodwin-Jones, R. (2007). Digital video update: You Tube, Flash, High-Definition. *Language Learning & Technology* 11.1, 16-21.
- [6] Akkara, S., Anumula, V. S. S., & Mallampalli, M. S. (2020). Impact of WhatsApp Interaction on Improving L2 Speaking Skills. *International Journal of Emerging Technologies in Learning (IJET)*, 15(03), 250-259. <https://doi.org/10.3991/ijet.v15i03.11534>
- [7] Saran, M., Seferoglu, G., & Cagiltay, K. (2009). Mobile assisted language learning: English pronunciation at learners' fingertips. *Eurasian Journal of Educational Research (EJER)*, (34).
- [8] Kim, S. (2014). Developing autonomous learning for oral proficiency using digital storytelling. *Language Learning & Technology*, 18(2), 20-35.

- [9] Bhati, A., & Song, I. (2019). New Methods for Collaborative Experiential Learning to Provide Personalised Formative Assessment. *International Journal of Emerging Technologies in Learning (IJET)*, 14(07), pp. 179-195. doi: <https://doi.org/10.3991/ijet.v14i07.9173>
- [10] Kukulska-Hulme, A., & Bull, S. (2009). Theory-based Support for Mobile Language Learning: Noticing and Recording. *International Journal of Interactive Mobile Technologies (IJIM)*, 3(2), pp. 12-18. doi: <https://doi.org/10.3991/ijim.v3i2.740>
- [11] Kukulska-Hulme, A. (2009). Will mobile learning change language learning? ReCALL. *European Association for Computer Assisted Language Learning*, 21(2), 157–165. <https://doi.org/10.1017/s0958344009000202>
- [12] Afreen, R. (2014). Bring your own device (BYOD) in higher education: opportunities and challenges. *International Journal of Emerging Trends & Technology in Computer Science*, 3(1), 233-236.
- [13] Cochrane, T., & Bateman, R. (2010). Smartphones give you wings: Pedagogical affordances of mobile Web 2.0. *Australasian Journal of Educational Technology*, 26(1). <https://doi.org/10.14742/ajet.1098>
- [14] Ismail, I., Azizan, S., & Gunasegaran, T. (2016). Mobile Learning in Malaysian Universities: Are Students Ready? *International Journal of Interactive Mobile Technologies (IJIM)*, 10(3), pp. 17-23. doi: <https://doi.org/10.3991/ijim.v10i3.5316>

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