

Enhancing Students' Pronunciation using Android Pronunciation Application

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ABSTRACT

The current study is a classroom action research aimed to investigate the implementation of pronunciation android applications—English Pronunciation, and English Phonetic Pronunciation and English Phonetics—to improve students' pronunciation. The participants in this study were 100 first semester students of English Education Department of Universitas Muhammadiyah Surakarta (UMS) who enrolled in Pronunciation and Phonetics course in academic year 2021/2022. The study consisted of 2 cycles. Each cycle consisted of 4 stages: planning, acting, observing, and reflecting. The techniques for collecting data were pre-test and post-test, observation, and questionnaire. The quantitative data were analysed by comparing the result from pretest and post test whereas the qualitative data were analysed by using constant comparative method. The study found that English Pronunciation, and English Phonetic Pronunciation and English Phonetics can improve the students' pronunciation.

Keywords: CAR, Pronunciation, Phonetics, android application, English Education, TPACK.

1. INTRODUCTION

Pronunciation has very crucial roles in communication. It is the basis on how the oral speech can bring meaningful message since it ensures the clarity of the speaker to be comprehended by the listener. Clarity in speech is required for a listener to allow him/her to make impression about the speaker and to establish mutual understanding between speaker and listener to achieve effective communication [13]. Despite its significance role in communication many English teacher tend to neglect the teaching of pronunciation because of insufficient phonetics understanding and practices (Lane, 2010). This situation leads to pronunciation incompetence among senior high school graduates despite the 6 years of receiving English as a compulsory subject in Junior and Senior High School. In general, the majority of students never been introduced phonetics by their senior high school teachers.

Based on the researcher observation as a lecturer of Pronunciation and Phonetics course students tend to have low motivation in learning pronunciation and show anxiety during their first month. In addition, currently, the pandemic of Covid-19 severely hits the globe that required the teaching and learning process be conducted online. During online learning the use of technology particularly mobile phone application become popular tools among students. Such condition has challenged the

researcher to improve the quality of Pronunciation and Phonetics course by utilizing android mobile application.

There are previous studies focused on investigating the effectiveness of mobile application to improve students' pronunciation. Haggag (2018) evaluated participants' satisfaction on the use of Mobile Assisted Language Learning (MALL) in a phonetic course[5]. There were 23 pre-service English language teachers at Hurgada Faculty of Education, South Valley University, Egypt participated in this study. To collect the data the study used the following instruments: an English Satisfaction scale, mobile-based phonetics module, and an English phonetics achievement Test scale. The study found that the participants had improvement in their production of segmental sounds: consonants and vowels. In addition, based on the results from the questionnaire the participants gave positive feedback and responses regarding the use of MALL.

Employing pre-experimental design Kayyis, Tristiana, Hardono (2019) examined the impact of English Pronunciation: Speak/ Pronounce English™ application on the EFL learners' pronunciation. The subjects in this study were 35 Nursing students of STIKes Aisyah Pringsewu, Indonesia. The pre-test and post-test as well as interviews were employed to gather the data. The findings from both tests and interview suggested that the application bring benefits for the students although

there was a need to modify the application that have features to adjust the speech rate, to display video, and to provide speech model accompanying phonetic transcription. Adopting CAR Astutik, Hidayat, Rosyida (2019) examined whether the use of Joox app can increase students' pronunciation achievement[1]. The participants of the research were 15 the first semester students of Wijaya Putra Surabaya University in the first semester. The techniques of collecting data in this study were interview, observation and test. The findings revealed that Joox had positive impact to enhance students' pronunciation.

Miqawati (2020) adopted a collaborative classroom action research to investigate whether the use of Tflat android application can improve students' pronunciation[12]. The subjects involved in the study were 30 students of English Department from Politeknik Negeri Jember, Indonesia. The data were obtained by means of questionnaire, observation, and test. The findings showed that the application can boost students' pronunciation and motivate the students to actively participate in classroom activities and observe their own improvement. Fouz-González (2020) conducted an experimental study to examine the use of the English File Pronunciation (EFP) app to enhance L2 learner's pronunciation[3]. The participants in the study were 52 Spanish EFL university students. The study collected the data by employing pre- and post-tests to evaluate the students' view and articulation (mimicking, structured, and unprompted) before and after treatment. During the two-week training the students utilized the English File Pronunciation (EFP) app for around 20 minutes per day. The results of study showed that the participants' who received training using EFP achieved significant progress in the students' view and articulation of the focus features while the gaps between experimental and control groups were not statistically significant for each phoneme or in each assignment.

Fatimah (2021) carried out a study that aimed to investigate whether (ELSA Speak) mobile application is successful in assisting Indonesian learners to practice and enhance their pronunciations, and to examine the learner's perception regarding the app[2]. There were 15 EFL learners participated in the study. The study collected the data using pre-test and post-test to assess the students' pronunciation achievement and a questionnaire to elicit the students' perception regarding the use of ELSA Speak app. The finding of the study indicated that the app was effective to train and improve the students' pronunciation achievement. In addition, the students perceived the app as a helpful and convenient pronunciation application.

From the review of the studies above it can be concluded that the android applications that previously used for teaching pronunciation were ELSA Speak, Tflat, EFP, Joox, and Speak/ Pronounce English™. In general

the applications used for teaching pronunciation in the previous studies have been considered effective for improving students' pronunciation and received positive feedback from the participants although some modifications are also recommended by the participants. Compared to previous studies the current study will use different android applications: English Pronunciation, and English Phonetic Pronunciation and English Phonetics. Departing from the review of studies above this study aims to answer the following research :questions

- a. Can pronunciation of the first semester students of English Education academic year 2021/2022 be improved by using Android Pronunciation Application?
- b. What are the perceptions the first semester students of English Education academic year 2021/2022 on the use Android Pronunciation Application for improving pronunciation?

2. LITERATURE REVIEW

2.1. Teaching Pronunciation

According to Otłowski (in [4]) ppronunciation is how a word is uttered in an accepted manner. The term of pronunciation is closely related to phonetics. In this regards, Laila, Adityarini, Amalia (2019) refer pronunciation as the practice whereas the phonetics is its theoretical basis[9]. To be precise. phonetics describe which human speech organs and muscles are required to articulate specific sounds [11]. If ones wish to teach pronunciation then they must be familiar with IPA, speech organs, and be able to describe how sounds are articulated. The International Phonetic Alphabet (IPA) is the notation system to describe a specific sound accurately.

In terms of techniques for teaching pronunciation, Wrembel (in [6]) divides the techniques into 4 categories:

1. basic awareness-raising activities (example: talks, surveys, metaphonetic trifles, controlled relaxation, and breathing exercises and sensitization)
2. articulatory control exercises (example: voice modulation practices, articulatory warm-ups)
3. common methods for popular pronunciation teaching (example: contrastive analysis, phonemic charts and tables, image of shape of the lip, tone contour, IPA symbol)
4. adoption of advanced technology (example: the use of the application of modern technology learning aids).

With regards to pronunciation attainment, Pennington & Rogerson-Revell (2019) elaborates the following influential factors: transfer from one's mother tongue,

age, amount and variety of input and output, education qualification, individual characteristics such as aptitude, personality, motivation, willingness to communicate, and learning strategies[13].

2.2. TPACK Framework

With the fast development of technology there is a need for a teacher to integrate the knowledge of technology. Later, in 2006 Koehler and Mishra introduced the concept of TPCK which stands for Technological Pedagogical Content Knowledge, however, to ease the pronunciation the acronym is changed to TPACK [14]. The framework of TPACK basically consists of 3 main knowledge: Content knowledge (concerns with subject-matter related knowledge), Pedagogical knowledge (related to teaching practices knowledge), and Technological knowledge (correlated with the utilization of technology in teaching). The representation of the relation among domains can be seen in Figure 2.6.

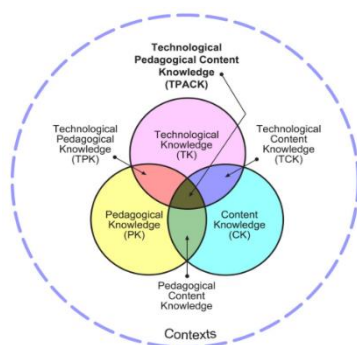


Figure 1. Representation of TPACK Framework (Koehler & Mishra 2009)

The relation among the major knowledge can be elaborated as follows:

- *Technological Content Knowledge (TCK)* concerns with knowledge of the mutual correlation between technology and content.
- *Pedagogical Content Knowledge (PCK)* deals with the knowledge of how the instruction can be arranged to suit the learner's need.
- *Technological Pedagogical Knowledge (TCK)* relates to knowledge of technology can be adopted to meet the instructional training.

• *Technological Pedagogical Content Knowledge (TPACK)* denotes knowledge of integrating the complex relations among technology, pedagogy, and content that allow teachers to employ suitable and feasible teaching methods. (Koehler, Mishra, Kereluik, Shin, & Graham 2014, p.102).

2.3. Technologies for Teaching Pronunciation

Yoshida (2018) lists several criteria for selecting technology for teaching pronunciation[16]:

1. Relevance to learning goals
2. Value and precision
3. Feasibility of use
4. Expense

Furthermore Yoshida (2016) identifies the common pronunciation tasks used for teaching pronunciation that can be facilitated by technology tools[16]:

1. Offering a pronunciation model
2. Taping students' pronunciation exercise
3. Compiling and providing feedback for students' recorded practice
4. Supplying individual pronunciation practice

Based on the criteria proposed by Yoshida (2018) the study select 3 Pronunciation android applications: English Pronunciation, and English Phonetic Pronunciation and English Phonetics. All the applications are selected because they are compatible with the objective Pronunciation and Phonetics course, comprehensive, free, easy to be accessed from Playstore, user friendly and has good reviews. The feature of each will be explained in detail below.

2.3.1. English Pronunciation App Version 1.3

This app is developed by BkiT Software in 2017. It has several features: explanation text on each segmental features, organ speech picture where the sound is articulated, model of articulation and video of how to articulate the sound. In addition, the app provides practices consisting identifying the phonetic transcription of a word and the grapheme of phonetic transcription. The feature of the app is represented in the Figure 2

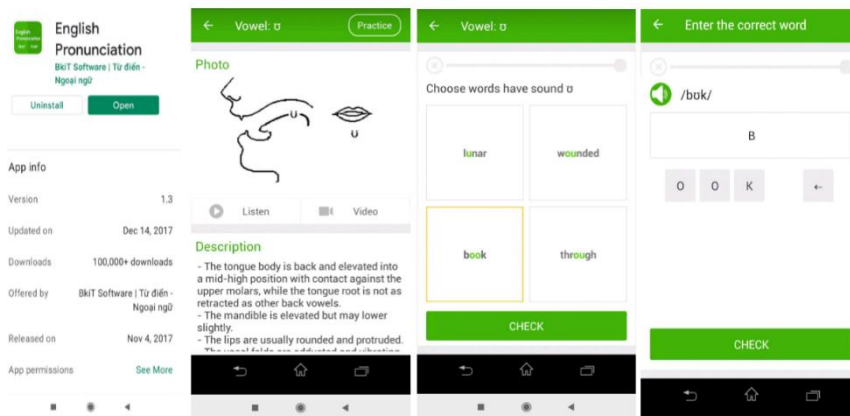


Figure 2 English Pronunciation version 1.3

2.3.2. English Phonetic Pronunciation, Listening Practice App Version 2.33

The second app is developed by Stavira VN in 2015 and updated in 2021. This app is completed with lessons

on how to articulate segmental sounds and many practices in which the learners can pronounce the words and receive immediate feedback from the app. The illustration of the app feature is in Figure 3

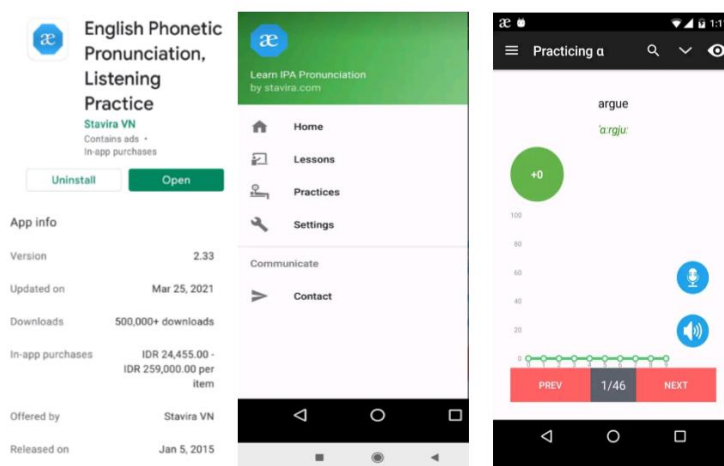


Figure 3. English Phonetic Pronunciation, Listening Practice App Version 2.33

3. METHOD

This study adopted classroom action research. The subjects in this research were 100 students of English Education Department, UMS, who enrolled in Pronunciation and Phonetics course in academic year 2021/2022. The students were distributed in 5 classes: C, D, E, F, J with 20 students in each class. The study was conducted in 2 cycles with each cycle consisted of planning, acting, observing and reflecting. The techniques of collecting data were pre-test and post-test, observation, and questionnaires. The quantitative data were analysed by comparing the scores from pretest and post test whereas the qualitative data were analysed by using constant comparative method.

4. RESULT AND DISCUSSION

This study presents the findings from 2 cycles.

4.1. Cycle 1

Cycle 1 consisted of planning, acting, observing and reflecting.

4.1.1. Planning

At this stage the researcher and her team developed instrument, pre-test, post-test and observation check list. In addition, the researcher and team discussed the lesson

plan, how it was going to be delivered and how to monitor the students' progress in using android application.

4.1.2. Acting

At this stage the researcher provided overview of Pronunciation and Phonetics Course, the learning contract, the assignment, and the examination through zoom meeting. At the beginning of meeting the students were requested to do the pre-test. It consisted of 20 multiple choices in which students needed to identify the correct word or sound corresponding to the questions. The pre-test was developed using Gform and distributed students in zoom chatroom. There were 100 students took part in the pre-test. After 2 weeks doing the exercises in android app the students were given post-test distributed through Gform. At this stage the students were also requested to do the exercise in the android app (English

Pronunciation and English Phonetic Pronunciation apps) and to record the score of the exercise in app using the Gform. In addition, the students were asked to write their opinion regarding the app.

4.1.3. Observing

The researcher and her team monitor the students' score achievement each week by observing the students' responses of Gform provided in the previous stage.

4.1.4. Reflecting

Table 1 shows the average scores in the students' pre-test and post-test. The results of the pre-test and post-test showed that the average of the students' score increased, however, the average score in the post-test has not yet achieved the minimum average desirable score (75).

Table 1. Students' average pre-test- and post-test score in Cycle1

No	Class	Average Score in Cycle 1	
		Pre-test	Post-test
1	Class C	41	55
2	Class D	47	57
3	Class E	46	59
4	Class F	49	60
5	Class J	47	57

Table 2 shows the recapitulation of score exercises in English Pronunciation app and English Pronunciation Phonetics app. The students' score for English Pronunciation app has yielded good result since the students were able to achieve more than the targeted

minimum average score of 75 in week 2. On the contrary, the average scores for English Pronunciation and Phonetics in week 2 was still less than targeted minimum average score of 75.

Table 2. Students' average scores in Android application exercises in cycle 1

No	Class	Average Score Exercises in English Pronunciation app		Average Score Exercises in English Pronunciation Phonetics app	
		Week 1	Week 2	Week 1	Week 2
1	Class C	50	75	45	50
2	Class D	49	77	48	55
3	Class E	53	80	46	58
4	Class F	55	80	49	57
5	Class J	52	79	46	57

The students' favored toward English Pronunciation app can be observed from the results of the questionnaire. Table 3 displays the percentage of students who gave

negative responses on English Pronunciation Phonetics was higher than those who responded to English Pronunciation app.

Table 3. Students' responses in the questionnaire

No	Statement	Percentage of students' responses			
		Strongly Agree	Agree	Disagree	Strongly Disagree
1	I think English Pronunciation app is easy to use	27.3	61.9	14.3	0
2	I think English Pronunciation app can help me to understand Pronunciation and Phonetics course	38.1	57.1	4.8	0
3	I think English Pronunciation can motivate me to learn pronunciation	14.3	81	4.7	0
4	I think English Pronunciation is enjoyable to use	9.5	66.7	23.8	0
5	I think English Phonetic Pronunciation app is easy to use	9.5	61.9	23.8	4.8
6	I think English Phonetic Pronunciation app can help me to understand Pronunciation and Phonetics course	19	71.4	9.5	0
7	I think English Phonetic Pronunciation can motivate me to learn pronunciation	4.8	85.7	9.5	0
8	I think English Phonetic Pronunciation is enjoyable to use	4.8	57.1	33.3	4.8

The responses of the students on the open-ended questionnaire showed that the students perceived English Pronunciation app as 'good', 'easy to use', 'enjoyable', and 'helpful'. On the other hand, the English Pronunciation Phonetics app were perceived as 'difficult', 'annoying', and 'not sensitive to detect students' voice'.

Based on the pre-test, post-test, exercises score recapitulation from the Android app and the questionnaire it was decided that the students still needed further treatment in Cycle 2.

4.2. Cycle 2

Cycle2 consisted of planning, acting, observing and reflecting.

4.2.1. Planning

Referring to the results of in the reflecting stage in Cycle 1 it was found that the students have difficulties in using English Pronunciation Phonetics app. To overcome the problem faced by the students, the researcher and team developed exercises to replace the exercise in the English Pronunciation Phonetics. This exercise was called '*Iqra practice*'. In addition, the pre-test and post-test were also developed in this stage.

4.2.2. Acting

In this stage, the students participated in '*Iqra practice*'. In the practice, the students were given a set of phonetic transcriptions adopted from English Pronunciation Phonetics app exercise which they are required to read aloud during Zoom meeting. The students were immediately informed their score once their reading completed. The students were also given pre-test and post-test on different week. Both pre-test and post-test were distributed to students using Gform. The students were also asked to complete online questionnaire to give their feedback on the '*Iqra practice*'.

4.2.3. Observing

Similar to Cycle 1, in the observing stage in Cycle 2 the researcher and team monitor the students' progress in '*Iqra practice*' in Zoom meeting. The researcher and team also monitored the students' progress in doing exercises in English Pronunciation app through the responses in the Gform and the responses in the students' questionnaire.

4.2.4. Reflecting

Table 4 shows the results of the average scores in the students' pre-test and post-test. The results of the pre-test and post-test showed the average of the students' score increased and has surpassed the minimum average desirable score (75).

Table 4. Students' average pre-test- and post-test score in Cycle 2

No	Class	Average Score in Cycle 2	
		Pre-test	Post-test
1	Class C	69	79
2	Class D	70	80
3	Class E	73	79
4	Class F	75	82
5	Class J	75	81

Table 5 shows the recapitulation of score exercises in English Pronunciation app and English Pronunciation Phonetics app combined with '*Iqra* practice'. The students' score for English Pronunciation app has yielded good result since the students were able to achieve more

than the targeted minimum average score of 75 in week 4. Similarly, the average scores for English Pronunciation and Phonetics in week 4 was above the targeted minimum average score of 75.

Table 5. Students' average scores in Android application exercises in cycle 2

No	Class	Average Score Exercises in English Pronunciation app		Average Score Exercises in English Pronunciation Phonetics app combined with ' <i>Iqra</i> practice'	
		Week 3	Week 4	Week 3	Week 4
1	Class C	76	80	75	80
2	Class D	75	78	70	76
3	Class E	78	82	76	80
4	Class F	79	83	79	82
5	Class J	77	80	76	80

The students' positive responses on '*Iqra* practice' can be found in the responses of open-ended questionnaire. According to the students '*Iqra* practice' was perceived as 'fun', 'exciting', 'enjoyful', 'friendly' and 'happy' activity. In addition, some students wrote advantages of '*Iqra* practice', among others were 'it can improve their pronunciation', 'it can add their knowledge about phonetics', and 'it can build their self-confidence'.

If the average score of post-test in Cycle 1 and Cycle 2 are compared, it is found that there is an increase of score in cycle 2. In addition, in cycle 2 the majority of students gave their positive responses on the use of android application apps.

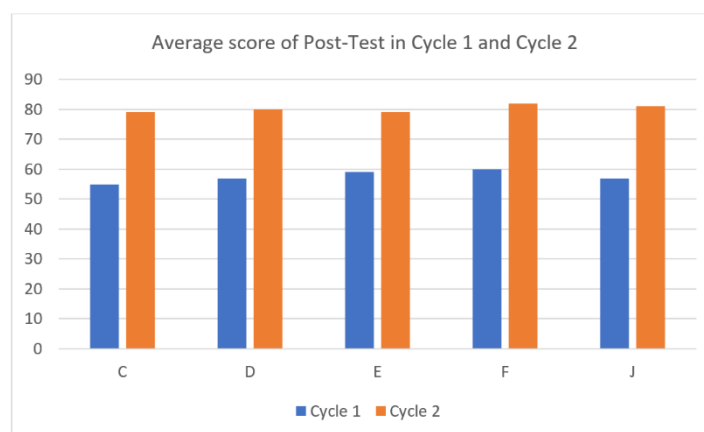


Figure 4. Comparison of average score of post-test in Cycle 1 and Cycle 2

The results of this study are similar with the previous studies in which the mobile application can boost students' pronunciation [1][3][5][12]. Furthermore, the students in this study felt the benefits of the mobile application for enhancing their pronunciation. These findings echoed the previous studies that found the students expressed the advantages of mobile application (Kayyis, Tristiana, Hardono, 2019). Among the benefits gained by the students in this study and in the previous study was 'helpful' and 'convenient' [4].

5. CONCLUSION

After analyzing the data, the study concluded that the use of English Pronunciation app and English Pronunciation Phonetics app can enhance the students' pronunciation. However, with the latter app there is a need to modify with 'Iqra practise' since the students in this study felt difficulties to make the app recognize their articulations.

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