7. Errors Analysis Students' Pronunciation Assessment through IPA Application

by Sesdia angela

Errors Analysis: Students' Pronunciation Assessment through IPA Application

Andi Idayani[1], Estika Satriani[2], Via Elmanisa[3] Betty Sailun[4]
[1]Universitas Islam Riau, Indonesia
email: andiidayani@edu.uir.ac.id
[2]Universitas Islam Riau, Indonesia
estikasatriani@edu.uir.ac.id
[3]Universitas Islam Riau, Indonesia
viaelmanisa.02@gmail.com
[4]Universitas Islam Riau, Indonesia
bettysailun@edu.uir.ac.id

Abstract:
Pronunciation is one of the most crucial sub-skills of English speaking. This study aims to determine students' pronunciation errors when pronouncing English short vowels in the fifth semester of English Language Education using the English Pronunciation IPA application and to determine the factors that influence their pronunciation errors. In this study, the researchers used a qualitative method design. The researchers collected data with two tools: pronunciation tests and interviews. Students can use the English Pronunciation IPA application as a help for taking short vowel pronunciation test. The researchers selected five students to serve as resource people for interviews. Based on the study results, the English Pronunciation IPA application was used to administer a pronunciation test to students. The results showed that, on average, students scored 15.57, with short vowels scoring 3.70 points. Pronouncing short vowels on the /ɒ/ and /æ/ sound are where students make the greatest mistakes. The students still confuse and difficult when pronouncing /ɒ/ and /æ/ sounds. Then, almost all the students who had been interviewed said familiar comments that they pronounced the word according to the written form. Furthermore, one of the students has a reason why it is difficult to pronounce English because they have influenced of their first language or mother tongue. Finally, interference and phonological knowledge are the factors that affect pupils' pronunciation issues in English. Hopefully, this research can provide information for teachers about students' pronunciation and can be as a reference in the preparation of the next research.

Keywords: Errors Analysis, pronunciation, IPA Application

1. INTRODUCTION

In this era there are many changes and advances in technology that can be beneficial to humans, especially in the field of education. There are many educational applications that have been made by humans and can be applied for educational purposes as well as to improve students' abilities. One example is an application to correct and check English pronunciation, for example, the English Pronunciation IPA (International Phonetic Alphabet) application. This application can be used on Android and iOS smartphones.

In this English Pronunciation IPA application, students can learn English pronunciation correctly with forty-four phoneme symbols, which are divided into vowels, diphthongs, and consonants. Each phoneme features interactive features to help users understand the sound.

The first feature shows the user how to pronounce the word, with instructions for mouth movements and sound reproduction as well as video tutorials on pronouncing each phoneme symbol from the BBC English Learning Channel YouTube. This includes speech recognition to provide feedback to users until they get it right. This application shows various activities for users to practice such as speaking practice, listening practice, choosing the different sound, fill suitable word, and choose word containing the sound.

Based on the exposure that has been explained, the researchers are interested in analyzing students' pronunciation errors in short and long vowel sounds. Previously, the researchers have been looking for an effective application to analyze students' vowel sounds. On this occasion, the researchers want to take advantage of technological advances in the form of the *English Pronunciation IPA* application. That is because the researchers want to investigate their pronunciation using the application because it has been equipped with features that can support the research process.

Pronunciation is the way someone pronounces words in English. According to (Pourhosein Gilakjani & Sabouri, 2016) the process of producing sounds that convey meaning is called pronunciation. By learning the pronunciation, it will be easy for learners to speak English. Furthermore, if learners mispronounce English words or sentences when having a conversation, then the meaning conveyed will also be wrong or different from what want to convey. (Fitria, 2022) stated that poor pronunciation makes it difficult to understand what other people want to say. This influences students' self-confidence when communicating in English.

Therefore, students do feel not self-confident when speaking English because they feel their English pronunciation is still bad. However, in English pronunciation, there are some pronunciation errors made by students when learning English. The researchers found problems in pronunciation faced by the students. Self-confidence, is particularly important as far as speaking performance is concerned., in his socio-educational model, argues that there are three components; they are cognitive characteristics, attitude and motivation, and personality attributes (Sailan et al., 2017).

Firstly, students have low pronunciation skills in pronouncing words that are simple or familiar to them. When the researchers conducted a speaking practice in class, there were several mispronounces made by students when pronouncing English words. The lack of use of English in daily life makes it difficult for students to speak English, as well as the several errors made by students when pronouncing English words. For example, when students pronounce "Answer" (/æn.sɚ/) it becomes (/æn.swer/), "May" (/meɪ/) becomes (/maɪ/), and many more.

Secondly, students think that pronunciation is very confusing and difficult. Then, one contributing factor is the pronunciation difference between English and Indonesian. The student's pronunciation is still strongly influenced by the pronunciation of their mother tongue, namely Indonesian. In Indonesia, the pronunciation of the word is the same as the writing. However, in English the pronunciation of words is sometimes different from the writing. For example, in Indonesian "Buku" is pronounce as "Buku", but in English "Book" is pronounce as "/bʊk/".

However, in this era there are many changes and advances in technology that can be beneficial to humans, especially in the field of education. There are many educational applications that have been made by humans and can be applied for educational purposes as well as to improve students' abilities. One example is an application to correct and check English pronunciation, for example, the English Pronunciation IPA (International Phonetic Alphabet) application. This application can be used on Android and iOS smartphones. This

study focuses on analyzing and identifying the errors in pronunciation of short vowels produced by English Language Students of FKIP UIR.

a. Pronunciation Errors

Pronunciation is one of the important aspects of English that must be mastered by learners; pronunciation is the most important part of speaking ability. However, many difficulties are experienced by learners when learning English pronunciation, especially in Indonesia. This is because the phonetics of English and Indonesian are very different. (Maiza, 2020), states that in English pronunciation the vowel and consonant systems have many different sounds making it very difficult and confusing to learn. This problem greatly affects students so they make errors in English pronunciation.

According to (Idayani, 2019) errors are problems that occur when students are not successful in determining a new language or foreign language. In addition, (Eslami et al., 2014) states that pronunciation errors are words that are pronounced incorrectly. Learners who pronounce words well will be easy to understand even though their grammatical is still not perfect than learners who have neat grammar but often make errors in pronunciation, so the meaning of what they say is difficult to understand. When learners make mistakes they can self-correct, but when they make errors they cannot correct themselves (Rafael, 2019).

Errors in pronunciation can cause different meanings to be conveyed (Ambalegin, 2021). Pronunciation errors made by L1 (first language) are affected because all non-native English speakers bring accents like their mother tongue to English pronunciation (Ambalegin, 2021). Pronunciation errors often occur to students because they are still exposed to their mother tongue.

From the explanation it can be concluded, mispronunciation or pronunciation errors are something considered correct by students when pronouncing English words without realizing that what is pronounced still has errors. This is not easy for students to have good pronunciation because mother tongue factors affect the accent and the way students pronounce words. However, students also need to master a second language, especially English even though it takes a long time.

b. Factor the Influence of Students' Difficulties in Pronunciation

In the process of learning pronunciation, there are several factors that influence students' difficulties in pronouncing English. If students are taught a second language from a young age, it is very likely that they will be able to pronounce English words with the right and good accent. However, if students' study in the present, it is unlikely that they will be able to pronounce English words with a perfect accent. This is also influenced by the mother tongue which has been attached to someone who has never learned the pronunciation of a foreign language. Furthermore, there are several theories factors that influence pronunciation. The first is (Maiza, 2020) there are several factors that influencing pronunciation mastery as follows:

1) Interference.
   The interference of the first language makes pronouncing the sounds of the target language difficult. The students are familiar with their phonological system.
2) Phonological understanding.
   Students encountered difficulties with phonetic transcription. They forget the phonetic symbol because they have to pronounce the English words correctly based on their phonetic transcription. It could be argued that they replaced those sounds with sounds they are more familiar with.

3) Motivation.
Although not all students lack motivation, the majority of students demonstrate a lack of eagerness to repeat or remember when they pronounce incorrectly.

c. English Short Vowels

A short vowel means a short sound. The pronunciation of a short vowel is shorter than the long vowel sound. Such as in the words; _mat' /mæt/, _pet' /pet/, /twin' /twɪn/, _not' /nɒt/ _cub' / kʌb/ (Mulyati, 2020). Short vowels have seven symbol; /ɪ/, /e/, /ə/, /ʌ/, /ʊ/, /æ/, /ɒ/.

There are several ways how to pronounce each symbol, as follows:

1) /ɪ/ (example words: _bit', _pin', _fish') This vowel is closer to the front, more open, and closer to the center. The lips are spread slightly.
2) /e/ (example words: _bet', _men', _yes') This is a front vowel. The lips are slightly spread.
3) /æ/ (example words: _bat', _man', _gas') This vowel is front and center, but not quite as open. The lips are spread slightly.
4) /ʌ/ (example words: _cut', _come', _rush') This is a central vowel, with a more open tongue height than the open-mid tongue height. The lips are in a neutral position.
5) /ɒ/ (example words: _pot', _gone', _cross') This vowel has a slightly frilly back and a tongue height that falls somewhere between open-mid and open. Lips are slightly rounded.
6) ʊ (example words: _put', _pull', _push') This vowel is more open and closer to the center. The lips are smooth.
7) /ə/ (example _about', _oppose', _perhaps') This central vowel, known as *schwa*, is a common sound in English.

According to Sari (2017), there is another important factor in vocal quality is the position of the lips. Although lips can have many different shapes and positions, we will only consider three at this time, as follows:

1) Rounded, with the corners of the lips brought together and the lips pushed forward. This is most noticeable in the cardinal vowels.
2) Spread, with the corners of the lips moving away from each other. This is most noticeable in the cardinal vowels.
3) Neutral, with lips that are not rounded or spread. When in doubt, most British people make a neutral lip position noise (pronounced 'er')

d. English Pronunciation IPA Application

Currently, there are many interactive applications available that can be used by teachers and students using mobile phones. In this era, students are more interested in finding information through their mobile phones. (Sawarkar et al., 2019) stated that students understand more about technology to seek and study modern anatomy. An application that can use and utilized by students and teachers is the English Pronunciation IPA application.

English Pronunciation IPA application is one of the mobile applications to improve English pronunciation which will be able to assist students in the process of improving their English pronunciation and teachers can use it as a guide in teaching English, especially in the field of pronunciation. In this application, there are 44 English phonemes which include vowels, vowel diphthongs, and consonants.
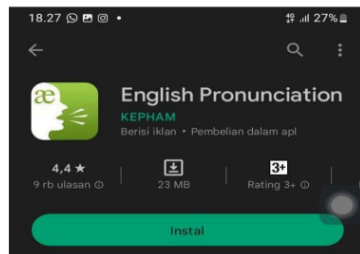
Figure 1. English Pronunciation IPA Application

This application was designed by Petter Scott for iOS and KEPHAM for Android. The first function shows the user how to pronounce words and gives instructions for mouth movements and expressions sound. Includes speech recognition to provide feedback until the user gets it right. This application displays various activities that users can practice.

Students can listen to the pronunciation of the alphabetic symbols spoken by native speakers and can see the phonetic symbols of the words that have been provided in the application. This application also provides YouTube video tutorials from the BBC Learning English Channel on how to pronounce the alphabet for each alphabet symbol. Then, students can click–practice to do the test.

Students can start practicing by click the microphone and pronounce the words that have been provided by the application. When students don't know how to pronounce it, this application has provided native speakers who will pronounce the word. After that, students can practice by pronouncing the words provided by the application. If students pronounce the word correctly according to the sound of the symbol phonemic, they will get a score three star points. However, if students pronounce the word incorrectly, they will get a point or a one-star score. To continue the next word, students can click –skip.

Furthermore, it can be concluded that the application of IPA English pronunciation is an educational application and is categorized in an e-book. In this application there are many lessons that focus on pronunciation theory such as IPA (International Phonetic Alphabet) and forty-four transcription phonetic symbols. Therefore, it can make it easier for users to practice improving their pronunciation with this application.

e. Advantages of the English Pronunciation IPA Application

There are several advantages of the application, such as:

1) Learners can now how to pronounce English correctly and checks learners' pronunciation (phonetics) to make sure they do it right.
2) Learners will learn some important topics about speaking English properly such as short vowels, long vowels, double vowel sounds, voiced consonants, voiceless consonants, another consonant, the position of the mouth and tongue when pronouncing sounds, voiced and unvoiced sounds, and how to pronounce with many rules in English.
3) Learners can hear the pronunciation and the others like phrases and sentences.
4) Learners can tap on the words in the practice area to hear the correct pronunciation of the word.

5) Learners can use free pronunciation videos with phonetic letters that help learners know the right way to pronounce words.
6) Learners can see their progress after speaking English.
7) Learners can earn points after making correct pronunciations.

The researchers discover several researchers or projects that are nearly the same in appearance but different in terms of data, as follow; Firstly, the research that have already done by Maiza (2020), this study discusses students' pronunciation errors in consonants. The results of the research data indicate that students experience difficulties in pronouncing /θ/, /ð/, /ʃ/, /ʒ/, /tʃ/, and /dʒ/. Secondly, David (2020), with the title "English Pronunciation IPA Mobile App in the English Pronunciation". This study aims to analyze the relationship between the English pronunciation mobile application and the English pronunciation of third grade students at the Language Center of CTT de Los Andes. The findings of this study indicate that the use of English pronunciation IPA mobile application can help students in the experimental group improve their pronunciation. Based on previous study, what distinguishes this research from relevant research is that this research has differences in collecting and analyzing data. This study uses the application "English Pronunciation IPA" as a tool to test students' English short vowel pronunciation. Then, this study analyzed the factors of difficulty in pronunciation in students with test results using the application and interview results. The researcher has not found relevant studies that use the "English Pronunciation IPA" application as a media or tool for analyzing English pronunciation errors on short vowels in this research. Therefore, this is one of the strengths of this research.

2. METHOD

In this study, the researchers used qualitative research methods. According to (Aspers & Corte, 2019) qualitative research is an iterative process for improving the scientific communities understanding by creating new and important distinctions that arise from approaching the phenomenon under study. Furthermore, the researchers uses a qualitative descriptive research design because the data processing must be described in this study and provide detailed analysis results.

There are some steps that the researchers must follow to collect the data as follows:
1. Pronunciation Test
    a) The researchers introduced the application of English Pronunciation IPA to students.
    b) The researchers gave instructions to students to download the English Pronunciation IPA application on their smartphones.
    c) The researchers explained the use every features and how to practice pronouncing short vowels in the application.
    d) The researchers called the name of students one by one to come to the front of the class according to the name in the absence to do a pronunciation test.
    e) The researchers gave each student three words for one each vowel symbol. In total there are 21 words for short vowels. However, each student got words that are different from other students according to the words that have been provided in the application for the student's pronunciation test.
    f) The researchers recorded smartphone screens to store data on students' pronunciation results.
    g) The researchers analyzed the students' pronunciation errors.

Table 1. The Rubric of Pronunciation Test

Category	Score	Criteria
Very poor	1.00 – 1.50	Students cannot pronounce, unable to understand
Poor	1.51 – 2.50	Pronunciation was difficult to understand, unclear pronunciation.
Medium	2.51 – 3.50	Students rarely pronounced some characters, but generally it is fair.
Good	3.51 – 4.50	Pronunciation was good and Pronunciation was clear.
Excellent	4.51 – 5.00	The pronunciation was very clear and accurate, easy to understand.

(Wongsuriya, 2020)

The tabulation result will calculate using the following based on the formula by Idayani et al., (2023) as follows:

$$Score = \frac{Students\ Correct\ Answer}{The\ Total\ Number\ of\ Items}\ x\ 5$$

2. Interview
   a) The researchers gave directions to the six students who chosen as respondents.
   b) The researchers conducted interviews with students who were are selected as respondents about their difficulties in pronouncing English short vowels.
   c) The researchers recorded the voice of the students' answers using a smartphone recorder.
   d) The researchers analyzed the answers from respondents.

3. FINDINGS AND DISCUSSION

The researchers have collected research data in tabular form, there is a table that the researchers has made for short vowels. There are three columns in the table, in the first column there are the names of students, in the second column there are the number of correct student pronunciations, thethird column is the score obtained from the sum using the tabulation formula and the last column is the category of scores obtained by students.

Table 2. Students' Ability in Pronouncing Short Vowel

Name	Total Correct	Score	Category
Student 1	17	4.04	Good
Student 2	19	4.52	Excellent
Student 3	16	3.80	Good
Student 4	15	3.57	Good
Student 5	13	3.09	Medium
Student 6	15	3.57	Good
Student 7	15	3.57	Good
Student 8	19	4.52	Excellent
Student 9	16	3.80	Good
Student 10	18	4.28	Good
Student 11	15	3.57	Good
Student 12	14	3.33	Medium
Student 13	11	3.66	Good
Student 14	15	2.61	Medium
Average	**15.57**	**3.70**	**Good**

It can be seen that the students' ability in pronouncing short vowels is categorized as "good" category. In the table of students' short vowel pronunciation test results, only two students got the "excellent" category. The results of students' short vowel pronunciations have an average value of 15.57 with a score of 3.70 and are still in the good category. The researcher can conclude that students are good proficient in pronouncing short vowel.

The researcher observed that there were some errors in the students' pronunciation. First, in pronouncing the vowel sound /ɒ/, students pronounce the word "collar" as /ˈkʌl.ər/ instead of /ˈkɒl.ər/. This causes a difference in sound and can affect the understanding of the word. Then, in the vowel sound /æ/, the students experienced errors in pronouncing the words "narrow", "manner", and "stamp". They pronounce it as /nero/, /maner/, and "/stem/" instead of /nær.əʊ/, /ˈmæn.ər/, and /stæmp/. These errors can lead to differences in meaning and difficulties in communicating clearly.

On the other hand, students pronounce several short vowels correctly. The students accurately pronounced the vowel sounds /ɪ/, /ʊ/, /ʌ/, /ə/, and /e/. In pronouncing the vowel sound /ɪ/, students pronounce the words "middle", "sing", and "become" well, according to the correct pronunciation given. Then, student pronounces the vowel sound /ʌ/ which should be difficult to pronounce. The students pronounced correctly in the words "rubber", "among", and "rough". The Students are also able to pronounce the vowel sound /ʊ/, well in the words "push" and "butcher". After that, students also pronounce the vowel sound /ə/ in the words "possible", "apartment", and "freedom". Finally, student A is able to pronounce the vowel sound /e/ in the words "healthy", and "empty". Therefore, the students still confuse and difficult when pronouncing /ɒ/ and /æ/ sounds.

Based on the data acquired, students' short vowel pronunciation errors can be sorted from the highest to the lowest. The vowel sound /ɒ/ gets the highest score of 1.80, indicating

a relatively significant mispronunciation or categorized as poor pronunciation, followed by a vowel /æ/ with a score of 1.76, indicating a notable error as well. The vowel /ʌ/gets a score of 2.52, indicating medium category of pronunciation errors. The vowel /I/ received a score of 3.51 indicating a good category of pronunciation. The sounds /ʊ/ and /e/ both score 4.0, indicating relatively small errors. Finally, the vowel /ə/ received the lowest score of 0.7, indicating the less significant error.

From the explanation, it can be concluded that the students' pronunciation errors most commonly occur in the short vowel /ɒ/ sound. Then it is followed by errors in the sound /æ/, /ʌ/, /I/, /ʊ/, /e/ and /ə/. For good pronunciation the students found the sound /ə/ (schwa) with the highest number of scores, followed by good pronunciation of the sounds /ʊ/, /e/, /I/, /ʌ/, /æ/ and /ɒ/.

The Factors that Influenced the Difficulty of Pronunciation

The researchers also showed the results of interviews from each student who had been interviewed to get the students difficulty factors in pronunciation. The study findings were based on interviews based on indicators of factors influencing students' difficulty pronouncing English that were adapted from (Maiza, 2020). Interference, phonological understanding, and motivation are three indicators of factors that influence English pronunciation issues. Different outcomes are derived based on these three indicators, as follows:

Interference is the first indicator. The interference in the first language makes pronouncing the sounds of the target language difficult because students are familiar with their phonological system. Then, it can be concluded based onthe results of the interview questions that students are still often influenced by their mother tongue or first language in pronouncing English words. This can be seen from the results of the indicator questions that almost all students make pronunciation mistakes by speaking in their first language or mother tongue. One of the students answered that they had read the English word according to what they wrote.

"*I once read according to what was written, at that time my friend told me to say one word 'important' which should be read /ɪmˈpɔːtnt/ but I read /importen/ according to what was written*" (student 5)

Several other students also stated the same thing, that they had read English words according to the written version.

"*In the word "Lucky" I read "/lucki/*" (student 12)

"*Once, I often say the word in English according to the writing. I feel thatI am not used to English and am always confused about how to pronounce it, so I pronounce the English word by reading according to the writing as in Indonesian*". (student 14)

Then, almost all the students who had been interviewed said familiar words by reading according to their writing and were still influenced by their mother tongue. Furthermore, one of the students has a reason why it is difficult to pronounce English and this is included in interference.

"The difficulty is in the pronunciation, because it is different from everyday language. For example, in Indonesian is written and the way it ispronounced is the same, while in English the way it is written is different. That is what makes it hard for me" (student 8)

The second indicator is phonological understanding. Phonological understanding is a difficulty in phonetic transcription. Students forget phonetic symbols because they must accurately pronounce English words based on phonetic transcription. They probably substituted those voices with ones they were more familiar with. It was found that students' phonological understanding was still low. It can be seen from the results of student questions that most students will use online dictionary by using the voice feature from native speakers to find out pronunciations that they do not know. In addition, students will also ask the lecturer about the pronunciation of words they did not know before. Therefore, students often pronounce words according to the sounds they often hear.

"I will look at online dictionary using the native speaker's voice feature and I will listen to how to read it" (student 14)

"If I don't know how to pronounce it, I will just say the word according to the sound I've heard it" (student 7)

The last indicator is motivation. Although not all students lack of motivation, most students show a lack of desire to repeat or remember when they mispronounce. Based on questions from motivational indicators, students have motivation to improve their pronunciation. They even learn how to pronounce English words using websites such as the Cambridge Online Dictionary to improve their skills. Then, students have a strong curiosity so they will improve their English pronunciation by asking the teacher and learning through online dictionaries.

"I will learn to use an online dictionary, namely Cambridge Dictionary bylistening to the pronunciation" (student 11)

"I will learn again, keep watching videos on YouTube how to pronounce the word" (student 5)

"When I'm wrong, I will study again and ask the teacher to correct it" (student 12)

Based on the explanation of the indicators, the researchers can conclude that the student's difficulty in pronouncing English is caused by several factors, namely interference and phonological understanding. As for motivation, students have the motivation and determination to improve their pronunciation in various ways. Based on the three indicators, two indicators got negative results, but only one indicator got positive results, namely students' motivation to correct difficulties and improve their pronunciation. Most of the students said that they often said English words according to what they wrote like when reading Indonesian words. Then, students often pronounce the word according to the sound they have heard. On the other hand, based on one other indicator, the result is positive. Almost all students have good motivation and are interested in improving their English pronunciation.

Furthermore, there are several factors that affect students' English pronunciation difficulties. In accordance with the results of interviews with five students who have been selected as resource persons. From the questions thathave been given by the researcher

regarding the factors that influence their difficulty in pronouncing English, the researchers found that students were affectedby interference with their mother tongue or first language. Therefore, the students often say English words according to the text like Indonesian. Furthermore, students also did not understand phonological understanding so students stated that they only said English words according to the sounds they had heard. It can be concluded that the students' ability in pronouncing short vowels using the English Pronunciation IPA application is included in the good category.

Discussion

The researchers discover several researchers or projects that are nearly the same in appearance but different in terms of data, as follow; First, Masfa Maiza (2020) with the title "Analysis of Students' Pronunciation Errors". This study discusses students' pronunciation errors in consonants. In collecting data in this study, the researchers used pronunciation tests and interviews were used to collect data. The results of the research data indicate that students experience difficulties in pronouncing /θ/, /ð/, /ʃ/, /ʒ/, /tʃ/, and /dʒ/. Then, the factors that affect students' pronunciation are interference, phonological system, and motivation.

Second, Mike Nuñez David Morales (2020), with the title "English Pronunciation IPA Mobile App in the English Pronunciation". This study aims to analyze the relationship between the English pronunciation mobile application and the English pronunciation of third grade students at the Language Center of CTT de Los Andes. The researchers used a mixed approach methodology in research methods, with thirty students divided into two groups. The instruments used were questionnaire and speaking test. There is one experimental group that uses the strategy and one control group that not uses the strategy. For the pre-test and post-test, both groups were evaluated using the International English Language Testing System rubric. After the pre-test, students are given a phoneme introduction class. The experimental group was shown how to use mobile apps that help users with speech recognition, awareness and English production. The findings of this study indicate that the use of English pronunciation IPA mobile application can help students in the experimental group improve their pronunciation.

Based on previous study, what distinguishes this research from relevant research is that this research has differences in collecting and analyzing data. This study uses the application "English Pronunciation IPA" as a tool to test students' English short and long vowel pronunciation. Then, this study analyzed the factors of difficulty in pronunciation in students with test results using the application and interview results. The researcher has not found relevant studies that use the "English Pronunciation IPA" application as a media or tool for analyzing English pronunciation errors on short vowels in this research. Therefore, this is one of the strengths of this research.

4. CONCLUSION

Based on the result from the students' pronunciation test using the English Pronunciation IPA application, the researchers discovered that the average score of students' pronunciation was 15.57, with a ranging score of 3.70. Furthermore, students had the most errors in pronouncing short vowel sounds /ɒ/. However, students have good pronunciation of the sound /ə/ (schwa) with the highest number of scores, followed by good pronunciation of the sounds /ʊ/, /e/, /I/, /ʌ/,/æ/ and /ɒ/. Then, the factors that influence students' difficulties in English pronunciation are interference and phonological understanding. Based on the

description, the researcher concluded that the students' ability in pronouncing short vowels was in the good category. Students' pronunciation errors in short vowels were caused by the two factors previously described.

The researchers would like to give suggestions that the students should be able to learn actively how to pronounce the words, especially pronouncing short vowel sounds in English, because there are still many students who do not know about phonological understanding which makes it difficult to pronounce English words. The researcher suggests that students can learn pronunciation by using the English Pronunciation IPA application on their smartphones. Finally, the findings of this study are believed to improve the teaching and learning of pronunciation, particularly short vowels. Hopefully, further researchers will be able to expand on this research.

REFERENCES

Ambalegin, A. (2021). Phonological Analysis of English Vowel Pronunciation. *KnE Social Sciences*, *2021*, 28–45. https://doi.org/10.18502/kss.v5i4.8665

Aspers, P., & Corte, U. (2019). What is Qualitative in Qualitative Research. *Qualitative Sociology*, *42*(2), 139–160. https://doi.org/10.1007/s11133-019-9413-7

David Nuñez Morales Mike. (2020). *English Pronunciation IPA Mobile App In The English Language*.

Eslami, M., Estaji, A., & Elyasi, M. (2014). The Spelling Error Analysis of the Written Persian Essays of Russian Adult Learners of Persian. *Asian Journal of Humanities and Social Sciences (AJHSS)*, *2*(1), 1–8. http://m.ajhss.org/pdfs/Vol2Issue1/The%0ASpelling%0AAnalysis...pdf%0Ahttp://m.a jhss.org/pdfs/Vol2Issue1/The Spelling Error Analysis...pdf

Fitria, T. N. (2022). Utilizing Text-to-Speech Technology: Natural Reader in Teaching Pronunciation. *JETLEE : Journal of English Language Teaching, Linguistics, and Literature*, *2*(2), 70–78. https://doi.org/10.47766/jetlee.v2i2.312

Idayani, A. (2019). the Effectiveness of Digital Storytelling on Students' Speaking Ability. *Lectura : Jurnal Pendidikan*, *10*(1), 33–46. https://doi.org/10.31849/lectura.v10i1.2409

Idayani, A., Sailun, B., & Kunci, K. (2023). Students' Ability in Pronuncing English Pricative Consonants at English Language Education of FKIP UIR. *7*(1).

Maiza, M. (2020). An Analysis of Students' Pronunciation Errors. *JOEEL: Journal of English Education and Literature*, *1*(1), 18–23. https://doi.org/10.38114/joeel.v1i1.27

Mulyati, S. (2020). *Long And Short Vowels Sound In A Song Lyric by Ed Sheeran*. *12*(2).

Pourhosein Gilakjani, A., & Sabouri, N. B. (2016). Why Is English Pronunciation Ignored by EFL Teachers in Their Classes? *International Journal of English Linguistics*, *6*(6), 195. https://doi.org/10.5539/ijel.v6n6p195

Rafael, A. M. D. (2019). An Analysis on Pronunciation Errors Made By First Semester Students of English Department STKIP CBN. *Loquen: English Studies Journal*, *12*(1), 1. https://doi.org/10.32678/loquen.v12i1.1676

Sailan, Z., ARG, Y., & Normawati, N. (2017). The correlation Between Motivation and Self-Confidence on Students' Speaking Performance at Islamic Religion Education Study Program Faculty of Tarbiyah IAIN *ELT-Lectura*, *2*. http://journal.unilak.ac.id/index.php/ELT-Lectura/article/view/484%0Ahttps://journal.unilak.ac.id/index.php/ELT-Lectura/article/download/484/351

Sawarkar, G., Desai, P., & Sawarkar, P. (2019). Effectiveness of mobile app as a teaching and learning tool. *Journal of Indian System of Medicine*, *7*(2), 104. https://doi.org/10.4103/jism.jism_36_19

Talino, P. (2020). An Analysis of Students' Pronunciation Errors Masfa Maiza. In *Journal of English Education and Literature* (Vol. 1, Issue 1).

Wongsuriya, P. (2020). Improving the Thai students' ability in English pronunciation through mobile application. *Academic Journal*, *15*(4), 175–185. https://doi.org/10.5897/ERR2020.3904

7. Errors Analysis Students' Pronunciation Assessment through IPA Application