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Assessing the Accuracy in Transcribing the International Phonetic Alphabet (IPA) of BSED-English Majors

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Abstract. Pronunciation is crucial as it plays a huge role in expressing ideas and avoiding communication misunderstandings. However, some students face challenges with pronunciation, especially in ESL (English as a second language), and several studies have noted that phonetics can help address pronunciation errors through the International Phonetic Alphabet (IPA). Considering that no prior research has explored the accuracy level of BSED-English majors in transcribing IPA, therefore, this study evaluates the accuracy of BSED-English majors in assessing their accuracy level in transcribing the International Phonetic Alphabet, given their exposure to the IPA symbols in one of their courses. The study used a quantitative descriptive research design, and it was conducted in a private educational institution in Pagadian City, Zamboanga Del Sur, with 39 participants from the BSED-English program. The validated instrument consisted of 41 words (consonants, vowels, and diphthongs) that they needed to transcribe into IPA symbols. The results revealed that transcription accuracy across all categories "did not meet expectations," with consonants (15.17%) higher than vowels (11.57%) and diphthongs (13.67%). Common transcription errors were identified, and the result shows a significant difference in the accuracy levels across the three categories using the one-way ANOVA, therefore rejecting the hypothesis. Thus, the findings can be effectively examined through the Perceptual Assimilation Model, in which learners assimilate unfamiliar sounds to sounds they already know in their native language, and the lack of familiarity and practice in IPA transcription, which explains why BSED-English majors face common errors when transcribing a word.

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INTRODUCTION

Linguists define linguistics as a scientific study of language (McGregor, 2024). It mentioned that linguistics is descriptive and that its primary goal is to describe languages in terms of what people say and how they are used, not what they should say or what they think they should say. Linguistics comprises various fields that aim to understand the complex workings of human language, and it investigates fundamental elements of language from its smallest units to its most complex (Tasheva, 2023). Its subfields include phonetics, phonology, morphology, syntax, semantics, and pragmatics.

Phonetics and phonology deal with the sounds of language. While the concern of phonetics is with the way speech sounds are produced and perceived, phonology, on the other hand, concerns the way sounds are patterned in a language. Morphology concerns how words are

structured and how they comprise smaller, meaningful parts. Syntax is concerned with how the words are related to one another. Semantics and pragmatics deal with the meaning of words. Semantics concerns the meaning of words, and pragmatics concerns how words are used in different contexts. Thus, linguistics is an academic discipline concerned with all aspects of language (McGregor, 2024) and how language changes and adapts over generations (Tasheva, 2023). The study by Tasheva (2023) stated that linguistics influences beyond academia and is crucial in education, helping educators tailor their teaching methods to accommodate diverse learners.

In this research, the key area of concern is phonetics and phonology. Various studies show that ESL (English as a second language) and EFL (English as a foreign language) learners experienced challenges with pronunciation in learning English. The World Englishes paradigm describes the spread of English in three concentric circles, which was introduced by the renowned linguist Kachru in 1985. This provides an understanding of the worldwide spread and use of English. The Inner Circle comprises nations where English is the native language, serves as their medium of communication, education, and various aspects of life, and has established a language standard that influences linguistic conventions globally. Meanwhile, the Outer Circle comprises nations where English has acquired the status of L2 and was introduced during the era of colonization, where English serves as both a means of communication and an educational tool, among other things. While the Expanding Circle comprises nations where English is a foreign language, this does not mean native or L2; rather, it is acquired for specific purposes, such as education, business, and more. This perspective fostered a deeper appreciation of World Englishes, recognizing that English is not a uniform language but rather a diverse set of varieties shaped by local cultures and contexts. (Bilal, Shahid, Iqbal &Asghar, 2023). This paradigm shows that English today takes many forms across different cultures and societies. This challenges the idea that "native" norms, such as BBC English pronunciation, are the only standards of correctness (Kachru, 1985). This argument is supported by recent studies by Gómez and Roothooft (2023), who found that English majors often experience heightened pronunciation anxiety when pressured to sound like native speakers, leading to lower fluency and increased self-consciousness. Similarly, Kilag et al. (2024) showed that Filipino senior high school students struggle with grammar, pronunciation, and comprehension. High expectations led this to meet outside standards of "correct English" rather than focusing on being understood. The study by Khoshmuratovna (2023) shows that EFL students lack English roles in society, which makes them more challenged, and that pronunciation is the leading cause of their communication problems due to a lack of practice. The study by Adeline (2020) also shows difficulties in pronouncing English words among 25 fourth-semester students in the English language Education program. It reveals that the problems faced by fourth-semester students include differences between the sound systems of their native and foreign languages, and the student's motivation to pronounce the /g/ sound correctly. The study by Uysal and Alhasnawi (n.d.) explains that, according to Lado's 1957 work, every language has its own specific structure, and the similarities between their L1 and L2 make it easier to learn L2, while differences make it more difficult. Based on Lado's suggestion as a pioneer who constructed a theoretical base for contrastive studies, he claimed that the main problem in second-language acquisition is the interference of the first language into the second language.

ESL, or English as a second language, shows that phonetic ability, native language, prior exposure to English pronunciation, training, and motivation contributed to the student's pronunciation. One of its causes is the sound system difference between English and the mother tongue (Ahmad, Azam, Syedm, & Qayyum 2022). The study by Kamran, Khalid, Nafsi, and Nazeer

(2022) shows that the significant factors that cause anxiety among 14 English language undergraduates at the University of Sialkot, Pakistan, are mother tongue, age, practice, lack of exposure to the second language, and lack of motivation. In the Philippines, despite English's prominence as one of the official languages and as a medium of instruction in education, senior high school students face linguistic challenges in their English education. These challenges include grammar, pronunciation, vocabulary mastery, and comprehension skills (Kilag et al., 2024). In the study by Gómez and Roothooft (2023), they explored pronunciation views and learning actions in two differentiated English learner groups: English in an engineering degree and English as a major. It revealed that the English major group appeared to be more anxious about their pronunciation with different interlocutors such as teachers and peers and also suffer more frequently from the fear of being ridiculed by others because of their pronunciation in the classroom as it is more demanding for them as English major students when it comes to accurate pronunciation.

Therefore, addressing pronunciation challenges is important, as pronunciation plays a significant role in expressing our ideas, and every speaker must use proper pronunciation to avoid misunderstandings in communication (Kobilova, 2022). The study by Sharma (2021) states that good pronunciation leads to positive outcomes across various aspects of life, including increased self-confidence, while poor pronunciation leads to ineffective communication, reduced social interaction, and limited academic and career growth. Thus, improving pronunciation can change this and provide more opportunities that lead to overall personal development. Gavilanes (2024) noted in his study that pronunciation plays an important role and is a critical concern for English students who engage in daily conversation with their instructors and peers; accurate pronunciation influences their success in classroom spoken communication.

The study by Asrul and Husda (2022) states that phonetics can be used to address pronunciation errors in speech organs, manner, and place, as well as in transcription, using the IPA (International Phonetic Alphabet). Linguists consider the International Phonetic Alphabet (IPA) a solution for independent pronunciation learning (Jonathan, 2023). The International Phonetic Alphabet (IPA) is an alphabet based on the Latin script and is the standard representation of the spoken language, designed by the International Phonetic Association in the late 19th century (Yasminto, 2020). The International Phonetic Alphabet (IPA) is a group of symbols representing the world's language sounds. It has 44 symbols divided into three categories: vowels, diphthongs, and consonants (Gavilanes, 2024). Each symbol in the IPA represents a unique sound unit that allows the learners to pinpoint and replicate the pronunciation of words in any language, including English. Gavilanes (2024) also states that learning IPA enables learners to differentiate and pronounce words correctly and is an excellent tool for enhancing pronunciation, especially for those who are not native speakers of English and want to improve their English pronunciation.

The study by Dandee and Pornwiriyakit (2022) investigated improvements in students' English pronunciation through English phonetic alphabet drills among students in the English for International Communication major at the University of Technology Tawan-ok. The study shows that students' pronunciation of consonants and vowels improved after applying the drill. The study also examined Suryaleksana, Sari, Nadilia, and Bram (2022), who investigated the effects of the International Phonetic Alphabet (IPA) on 23 English education students at Sanata Dharma University. The results showed that IPA played a significant role in learning phonetics and improving pronunciation. In the Philippines, the study by Dumanggas, Guerva, Otero, and Bacatan (2024) aims to determine the effectiveness of IPA in improving the pronunciation skills of Grade 12 students using validated research-made questionnaires. It was found that grade 12 students

initially struggled with English pronunciation, and that there was a significant difference before and after using the IPA symbols.

The studies mentioned above revealed that EFL and ESL learners studying English face challenges along the way, including pronunciation difficulties. Several studies showed that International Phonetic Alphabet transcription enables them to pronounce English words correctly. However, no studies were found in BSED-English majors assessing their accuracy level in transcribing IPA. Therefore, the present study evaluates the accuracy of BSED-English majors in transcribing the International Phonetic Alphabet (IPA), as they have been taught the symbols and their transcription. This study aims to evaluate BSED-English majors' accuracy and to what level they demonstrate accuracy in transcribing IPA. Knowing how to transcribe IPA symbols enhances pronunciation, as stated in the study by Gómez and Roothooft (2023), which found that the English major group experiences the fear of being ridiculed by others more frequently because of their pronunciation.

Method

The researchers used a quantitative descriptive research design to assess the accuracy of BSED-English majors in transcribing the International Phonetic Alphabet (IPA). In addition, the researchers used a cross-sectional approach to collect data at a single point in time. The study was conducted in a private educational institution in Pagadian City, Zamboanga Del Sur, which offers a Bachelor of Secondary Education major in English. The population in this study consisted of all first- and second-year students, totaling 39 participants. They are chosen participants because they already know and have experience with transcribing IPA. In assessing the accuracy of BSED-English majors in transcribing the International Phonetic Alphabet (IPA), the researchers developed and validated the tool, ensuring its reliability and validity. The instrument comprised 41 words representing each symbol of the International Phonetic Alphabet in three categories (consonants, vowels, and diphthongs), which they needed to transcribe in IPA. In gathering the data, the researchers gave the instructions first and the time limit of 40 minutes to answer the test. The researchers used the ToPhonetics website to verify the gathered data, ensuring accuracy.

In the data analysis, the researchers used descriptive statistics to measure central tendency and frequency distributions to assess the accuracy of BSED-English majors in transcribing IPA. In the central tendency, the researchers only used the mean to calculate the BSED-English majors transcribing IPA scores. The researchers also used frequency distribution measures to identify the common errors made by the BSED-English majors in transcribing the International Phonetic Alphabet (IPA). The study's hypothesis was tested using the one-way analysis of variance (ANOVA) and a Tukey HSD Post Havoc Test to reveal the significant differences in the transcription accuracy.

RESULT AND DISCUSSION

1. Accuracy Level of BSED-English Majors in Transcribing IPA

This delved into the accuracy of BSED-English majors in transcribing the International Phonetic Alphabet (IPA) for consonants, vowels, and diphthongs, where accuracy is defined by Merriam-Webster. Thus, this refers to the BSED-English majors' correctness in transcribing IPA symbols. Assessing their accuracy with the following consonants, vowels, and diphthongs is crucial, as the results will show their ability to correctly identify the sounds they perceive and match them to the appropriate IPA symbols.

Table 1. Level of Accuracy of the BSED-English Majors in Transcribing International Phonetic Alphabet (IPA)

Indicators	Mean	SD	MPS	Interpretation
Consonants	3.64	2.67	15.17%	Did Not Meet Expectations
Vowels	1.62	1.39	11.57%	Did Not Meet Expectations
Diphthongs	0.41	0.59	13.67%	Did Not Meet Expectations
Total	1.89	2.21	4.61%	Did Not Meet Expectations

Mean Percentage Score Scale: 96% – 100% – Outstanding; 86% – 95% – Very Satisfactory; 76% – 85% – Satisfactory; 66% – 75% – Fairly Satisfactory; Below 66% – Did Not Meet Expectations

Table 1 above presents the level of accuracy of BSED-English majors in transcribing the International Phonetic Alphabet (IPA) in terms of consonants, vowels, and diphthongs. The table displays the mean scores, standard deviations (SD), mean percentage scores (MPS), and their interpretation based on a predetermined scale. The results revealed that the BSED-English major's performance across all categories did not meet expectations. Specifically, the overall mean percentage score was a low 4.61%, with a standard deviation of 2.21. The consonants had the highest mean score of 3.64, with a standard deviation of 2.67, among the categories, although it was below the required standard. Vowels and diphthongs demonstrated even lower mean scores, at 1.62 (SD 1.39) and 0.41 (SD 0.59), further confirming the overall low performance. The MPS for each category—15.17% for consonants, 11.57% for vowels, and 13.67% for diphthongs—reinforces this interpretation. These findings suggest a significant challenge for BSED-English majors in accurately transcribing IPA.

The study by Naveed, Batool, Hameed, and Abid (2024) found that even if the students who are aware of English phonology and studied it as a course during their BS English program, the result still shows that the undergraduates still face pronunciation problems regarding diphthongs, triphthongs, and other English phonemes even after studying phonetics and phonology as a course. The study also highlighted several factors contributing to mispronunciation, such as a lack of practice, limited exposure to the target language, mother tongue interference, a lack of self-confidence and interest, and limited academic and social opportunities. The findings of the aforementioned study are consistent with the current study, which shows that even though BSED-English majors have taken the Introduction to Linguistics course, their performance across all IPA transcription categories remains low, despite IPA's potential to improve students' pronunciation (Suryaleksana et al., 2022). Several factors observed in the mentioned study are also evident in the current study, such as mother tongue interference, limited practice with IPA symbols, and reduced exposure to the target language. Furthermore, the study by Noviyenty and Putri (2021) noted that many studies on the influence of the mother tongue on second language learning found a negative effect, with errors mainly at the phonological and grammatical levels.

2. Common Transcription Errors of BSED-English Majors

This delved into the common transcription errors and their frequency among BSED-English majors in consonants, vowels, and diphthongs. Table 2 highlights the transcription errors of BSED-English majors in transcribing IPA in terms of consonants, while Table 3 tackles the common errors in terms of vowels, and Table 4 tackles the common errors in terms of diphthongs.

Knowing the common transcription errors made by BSED-English majors in the following categories can help address the need for reinforcement in improving their transcription accuracy.

Table 2. Common Transcription Errors of BSED-English Majors in Transcribing IPA in Terms of Consonants

Common Errors	Frequency
beige	8
chef	6
crutch	5
ease	9
edge	7
ink	21
sheep	11
shrub	10
stung	11
though	6
yawn	5
zest	8

Table 2 reveals the common transcription errors BSED-English majors faced regarding consonants. The data show that "ink" stands out as the word with the highest frequency of transcription errors, with 21. This shows that the students often transcribe the word "ink" as [ɪnk], where they transcribe /n/ instead of /ŋ/. It suggests a specific difficulty with the consonant IPA symbol /ŋ/. This error is likely from the combination of factors such as a lack of familiarity with the specific IPA symbols, and insufficient practice in transcribing the International Phonetic Alphabet (IPA).

The study by Mahfouz (2023) found that students' errors in transcribing English words involve consonants in particular. The sample revealed that the most common errors were substitutions, followed by omissions; replacing IPA symbols with their capital-letter counterparts was the most frequent error. The consonants most frequently replaced by other phonemes were /j/, /z/, /dʒ/, and /k/, and the consonants that were deleted the most were /n/, /l/, /r/ and /j/ and few in addition errors. The result is relevant to the current study, as the word with the highest number of common transcription errors is an example of substitution errors, where students transcribe /n/ instead of /ŋ/. Although the symbols are not found in the most frequently replaced by other phonemes, they still belong to the substitution errors. This shows that BSED-English majors are not familiar with the IPA symbols, and there is a need for more exposure to the IPA symbols.

Table 3. Common Transcription Errors of BSED-English Majors in Transcribing IPA in Terms of Vowels

Common Errors	Frequency
ahead	11
bake	12
beige	8
burn	4
chef	6
chip	6
craft	14
deign	9
edge	7
flaw	4

flour	10
growth	5
hinge	7
hub	9
lob	5
murk	12
nymph	11
ooze	17
pull	8
red	9
said	14
sheep	11
slay	8
slog	13
slot	13
sneak	12
though	6
tug	9
vile	15
wall	11
zest	8

Table 3 reveals the common transcription errors BSED-English majors faced regarding vowels. The data shows that "ooze" has the highest frequency error of 17. It suggests that the students struggled to transcribe the word where they transcribed it as [oz] instead of [uz].

The study of Bamigbade and Raji (2022) investigated the phonemic transcription errors of L2 learners of English. The findings of the study revealed that none of the participants were able to transcribe the triphthong sound, the three specific transcription rules, namely the rule of realizing strong vowel sound in function words as schwa /ə/ with a 22% of total errors, the rule of not realizing vowels as schwa in content words, and the rule of double slashes at the beginning and at the end of the transcribed sentence which none of them observed. The study also finds 60% of vowel errors, 40% of consonant errors, and only 9 consonants correct, indicating that the students have great difficulty with English vowel sounds. The study mentioned above is similar to the results in the table, where the students faced great difficulty transcribing the IPA vowel symbols, which resulted in more errors.

Furthermore, the study by Dewi and Astriyanti (2021) found that the dominant pronunciation errors made by the fourth-semester students were in English consonant sounds /s/ and /z/ with a pronunciation error of 91.7% and the dominant errors in pronunciation of minimal pair words by the participants in vowel sounds were /æ/ and /eɪ with a pronunciation error of 91.7%. The study mentioned relates to the results in common errors in terms of vowels as the mentioned study has dominant errors in pronunciation in the vowel sounds in which the pronunciation of a word has an impact in transcribing the word, and if pronounced wrong, the transcription of the word is also affected which seen in the results of the table.

Table 4. Common Transcription Errors of BSED-English Majors in Transcribing IPA in Terms of Diphthongs

Common Errors	**Frequency**
brow	16
flour	10
growth	5
sigh	9
spoil	8

Table 4 reveals the common transcription errors BSED-English majors faced regarding diphthongs. The data show that the word "brow" has the highest frequency of errors at 16, indicating a significant challenge for students in accurately transcribing it, as they often transcribe it as [bro] instead of [braʊ].

Aziz, Widodo, and Mudofir (2023) investigated the producing errors in pronouncing English diphthongs. The results revealed that the students commonly made diphthong errors such as /uə/ with a total percent of 19.3%, /eə/ with a total percent of 21.3%, /ei/ with a total percent of 20%, /aʊ/ with a total percent of 13.10%, and/ɪə/ with a total percent of 26.2%. The errors happened in the classifications of substitution with a percent of 46.9%, insertion with a percent of 13.8%, and omission with a percent of 39.3% as the participants' voice recorders were transcribed into phonetic symbols.

Furthermore, the study by Sari, Indrawati, and Aryawibawa (2024) found that while the majority of students can correctly produce diphthong sounds, 22% of them made pronunciation errors where the most frequently mispronounced diphthongs were/ɪə/with 75% errors, /ɑʊ/with 59% errors, and/eə/with 25% errors. Although the studies mentioned above focused on students' pronunciation errors in diphthongs, this is still relevant to the current study shown in Table 4, since students' perceptions of sounds affect their IPA transcription. The current study shows the common diphthong errors of /aʊ/ which exhibits the highest frequency errors of 16 as shown in Table 4 and total percent of 13.10% and 59% in the mentioned related studies. The word "brow" was commonly transcribed as /o/ instead of /aʊ/, implying a phonological interference from their native L1 to the target L2.

3. Significance Difference in the Accuracy Among the Three Categories (consonants, vowels, and diphthongs)

This section delved into whether there is a significant difference in the accuracy in the three categories (consonants, vowels, and diphthongs) of BSED-English majors. Table 5 highlights the ANOVA results on the accuracy level of BSED-English majors in transcribing IPA, and Table 6 highlights the comparison accuracy level of BSED-English majors. Knowing both tables' results will help improve the overall IPA proficiency among BSED-English majors.

Table 5. ANOVA Results on Accuracy Level of the BSED-English Majors in Transcribing International Phonetic Alphabet (IPA)

Accuracy Skills	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	207.915	2	103.957	33.137	0.000
Within Groups	357.641	114	3.137		
Total	565.556	116			

**. The mean difference is significant at the 0.05 level.*

Table 5 shows that the ANOVA results indicated a significant difference in the accuracy levels of BSED-English majors in transcribing IPA consonants, vowels, and diphthong symbols ($F=33.137$, $p < 0.001$). Therefore, the researchers reject the null hypothesis as the p-value is less than 0.05, confirming that the transcription accuracy across the three categories varies significantly. The large F-value (33.137) suggests a strong effect; at least one category differs significantly from the others. This result implies that certain phonetic elements (likely vowels or diphthongs) present more significant challenges for students, potentially due to interference, insufficient training, or phonetic complexity. Thus, these findings highlight the importance of enhanced phonetic instruction, including targeted practice and reinforcement in the most challenging areas.

Mallaband's study (2024) highlighted that vowels and consonants may differ in agreement rates because they are characterized by distinct phonetic distinctions in the International Phonetic Alphabet (IPA). The results of the study revealed that consonants were more agreed than vowels with the agreement scores of 62.8% and 48.6% respectively wherein the average classic agreement score was 56.3% which nine participants of the study used diacritics and eight participants transcribe non-native IPA symbols where they calculate the agreement scores from a group of English-speaking SLTs who transcribed disordered speech samples in an authentic setting. The study's findings show greater agreement for consonants than for vowels, supporting the current study's finding that transcription accuracy varies and that there was a significant difference across categories. Thus, the agreement scores of 56.3 highlights the need for SLTs to be more cautious in interpreting vowels than consonants.

4. Multiple Comparison of Accuracy Level of the BSED-English Majors in Transcribing International Phonetic Alphabet (IPA)

Table 6. Tukey HSD Post Havoc Test Results

Accuracy Skills		Mean Difference	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Consonants	Diphthongs	2.02564	0.40110	0.000	1.0731	2.9781
	Vowels	3.23077	0.40110	0.000	2.2783	4.1833
Diphthongs	Consonants	-2.02564	0.40110	0.000	-2.9781	-1.0731
	Vowels	1.20513	0.40110	0.000	0.2526	2.1576
Vowels	Consonants	-3.23077	0.40110	0.000	-4.1833	-2.2783
	Diphthongs	-1.20513	0.40110	0.000	-2.1576	-0.2526

**. The mean difference is significant at the 0.05 level.*

The Tukey HSD post-hoc test results reveal significant differences in transcription accuracy among consonants, vowels, and diphthongs ($p < 0.05$ in all comparisons). The result shows that the consonants have the highest accuracy and significantly outperforms both diphthongs and vowels as the mean difference between consonants and diphthongs (2.02564) and (3.23077) between consonants and vowels. In the same way, the difference between diphthongs and vowels (1.20513) implies that diphthongs are transcribed more accurately than vowels, though still less accurately than consonants. The following findings confirm that vowels are the most challenging to transcribe, probably a result of their phonetic variability and influence from the student's native language. This implies a need for reinforced training and phonetic drills, particularly on vowel transcription, to improve overall IPA proficiency among BSED-English majors.

The study by Whitworth (2025) states that, in comparison, vowels are universally considered more challenging to classify, analyze, and transcribe. Some commonly cited reasons are a lack of fixed points of reference regarding articulation, greater articulatory variability, and reduced distinctiveness between perceptual categories. This was shown in the results in the current study where the findings confirm that vowels are the most challenging to transcribe which was also similarly shown in the study of Bamigbade and Raji (2022) were the vowels found to be the most errors with a percent 60% contrasting to the percent of consonants errors of 40%.

The Perceptual Assimilation Model is a theoretical model that perceives the speech sounds of a non-native language based on similarities and differences with their native language. This theory explains how the students listen to a sound and must explicitly choose one of their native phonemes as a label. PAM also asserts that, if pairs of unfamiliar sounds are mapped to very

different native sounds, students can quickly tell the sounds apart. However, if pairs of unfamiliar sounds are mapped to similar native sounds, students will have difficulty telling them apart. Thus, this process of comparing sounds to students' native language affects how students can distinguish unfamiliar sounds (Millet, Chitoran, & Dunbar 2022). In this study, the common errors in consonants, vowels, and diphthongs can be directly related to this model. For example, in terms of the word "ink" as the word with the common transcription errors in consonants, the word "ooze" as the word with the common transcription errors in vowels, the word "brow" as the word with the common transcription errors in diphthongs demonstrates challenges to the BSED-English majors in differentiating the correct sounds of the words as they assimilate non-native speech sounds to their native implying that there was an interference in their phonological from their native L1 to the target L2 and therefore limits their ability to accurately produce and transcribe these sounds correctly and thus explains their transcription errors. However, it is also worth noting that another factor in their transcription errors was their lack of familiarity with IPA symbols, as evidenced by a common error: the word "ink" in consonants.

While this study offers valuable insights into improving the pronunciation of BSED-English majors by assessing their accuracy in transcribing IPA, several limitations should be considered, as these influence the interpretation of the results and impact the generalizability of the findings. One limitation of this study is its relatively small sample size of 39 participants, all of whom are first- and second-year students, which limits the representativeness and scope of the findings for the broader English-major population. Another limitation is the incomplete dataset, as some participants left some items blank or unanswered, potentially because of factors such as a lack of familiarity with IPA symbols, which cannot transcribe certain words. These missing items limit the completeness of the data and thereby constrain the researcher's capacity to pinpoint the words with the fewest errors made by the participants, thereby focusing their analysis on the completed items. Future research should address these limitations by using a larger sample size, including representatives from each academic year of the BSED-English program, to enhance the reliability of the findings, and by implementing a set of rules or directions for participants to ensure a complete dataset.

CONCLUSION

Overall, the study revealed that the BSED-English major's performance across all categories was below the expected standard, especially regarding vowels, which were the most challenging to transcribe. These results provide valuable data that can inform and raise awareness to improve IPA instruction and assessment, enhancing the transcription skills of BSED-English majors and improving their pronunciation. Therefore, to enhance the accuracy of BSED-English majors in transcribing IPA, educators should regularly incorporate phonetic transcription exercises to build students' familiarity. In addition, educators can use formative assessments with immediate feedback and pair drills for the most challenging vowel sounds. Furthermore, using phonetics software and apps with transcription tools provides students with additional practice, and incorporating specific visual and auditory aids helps them differentiate difficult phonemes.

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