

AN ERROR ANALYSIS OF ENGLISH MONOPHTHONG PRONUNCIATION AMONG FOURTH SEMESTER STUDENTS IN AN ENGLISH EDUCATION PROGRAM

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ABSTRACT

Pronunciation has a central place in oral communication because listeners do not only hear words, they also interpret meaning through the clarity of sounds. Many learners of English as a foreign language still find English vowels difficult to produce, especially monophthongs that are not clearly represented in the Indonesian vowel system. This study aimed to identify the types of errors found in students' pronunciation of English monophthongs, to determine the vowel sounds that were most frequently mispronounced, and to examine the possible sources of those errors. The study used a basic qualitative design supported by simple frequency counts. The participants were 15 fourth semester students in an English Language Education Program at a university in Karawang who had completed a Phonetics and Phonology course. Data were gathered through a pronunciation test and semi structured interviews. The pronunciation data were transcribed with the International Phonetic Alphabet and then classified by using the surface strategy taxonomy. The findings showed 144 pronunciation errors. Misformation, understood in this study as vowel substitution, appeared 143 times or 99.3 percent, while omission appeared only once or 0.7 percent. The monophthongs most often mispronounced were /ɔ:/ at 25.7%, /æ/ at 24.3%, /u:/ at 23.6%, and /i:/ at 11.8%. The interviews suggested that interlingual transfer and intralingual transfer were the most visible sources of error, while learning context and communication strategies also shaped the students' pronunciation in smaller ways. The study indicates that differences between Indonesian and English vowel systems, particularly vowel quality and vowel length, still create considerable difficulty for university EFL learners.

Keywords: error analysis, pronunciation, English monophthongs

ABSTRAK

Pengucapan memiliki peran penting dalam komunikasi lisan karena pendengar tidak hanya menangkap kata, tetapi juga menafsirkan makna melalui kejelasan bunyi. Banyak pembelajar bahasa Inggris sebagai bahasa asing masih mengalami kesulitan dalam memproduksi bunyi vokal bahasa Inggris, terutama monoftong yang tidak sepenuhnya terwakili dalam sistem vokal bahasa Indonesia. Penelitian ini bertujuan untuk mengidentifikasi jenis kesalahan pengucapan monoftong bahasa

Inggris, menentukan bunyi vokal yang paling sering salah diucapkan, serta mengkaji kemungkinan sumber kesalahan tersebut. Penelitian ini menggunakan desain kualitatif dasar yang didukung oleh penghitungan frekuensi sederhana. Partisipan penelitian terdiri atas 15 mahasiswa semester keempat Program Studi Pendidikan Bahasa Inggris di sebuah universitas di Karawang yang telah menempuh mata kuliah Fonetik dan Fonologi. Data dikumpulkan melalui tes pengucapan dan wawancara semi terstruktur. Data pengucapan ditranskripsi dengan International Phonetic Alphabet dan diklasifikasikan menggunakan taksonomi strategi permukaan. Hasil penelitian menunjukkan 144 kesalahan pengucapan. Misformation, yang dalam penelitian ini dipahami sebagai substitusi vokal, muncul sebanyak 143 kali atau 99,3 persen, sedangkan omission hanya muncul satu kali atau 0,7 persen. Bunyi monoftong yang paling sering salah diucapkan adalah /ɔ:/ sebesar 25,7%, /æ/ sebesar 24,3%, /u:/ sebesar 23,6%, dan /i:/ sebesar 11,8%. Hasil wawancara menunjukkan bahwa transfer antarbahasa dan transfer intrabahasa merupakan sumber kesalahan yang paling terlihat, sementara konteks pembelajaran dan strategi komunikasi juga ikut membentuk pengucapan mahasiswa dalam tingkat yang lebih kecil. Temuan ini memperlihatkan bahwa perbedaan sistem vokal bahasa Indonesia dan bahasa Inggris, terutama kualitas vokal dan durasi vokal, masih menjadi kesulitan nyata bagi pembelajar EFL di tingkat universitas.

Kata Kunci: analisis kesalahan, pengucapan, monoftong bahasa Inggris

A. Introduction

Communication becomes meaningful when spoken language can be followed without unnecessary effort. In English oral communication, pronunciation does not stand apart from meaning, since unclear sound production may affect how accurately a listener understands a message. This point is especially important for students in an English education program because they are not only learning English for their own use. They are also being prepared to become future teachers who will model English pronunciation for their students. For that reason, pronunciation needs to be treated as part of professional language competence, not merely as an

additional speaking skill (Adinda & Ahmad, 2024, Yulianti et al., 2025).

Pronunciation involves the controlled production of speech sounds through the tongue, lips, teeth, palate, vocal folds, and other speech organs. A small difference in sound may change a word, disturb the listener's interpretation, or reduce intelligibility, even when the speaker has enough vocabulary and grammar to express the intended message. In many EFL classrooms, pronunciation receives less classroom time than grammar, vocabulary, or reading. This limited attention may partly explain why learners who have studied English for several years still hesitate, substitute sounds, or pronounce words by following spelling rather than

sound patterns (Adinda & Ahmad, 2024, Dandee & Pornwiriakit, 2022).

For Indonesian EFL learners, English vowels are among the most demanding segmental features. Indonesian has a more transparent and relatively smaller vowel system, while English contrasts vowel quality and, in many descriptions of British English, vowel length. In introductory phonetics courses, English vowels are commonly grouped into monophthongs, diphthongs, and triphthongs. A monophthong is produced with a relatively stable tongue and lip position from the beginning to the end of the vowel. The British English monophthongs usually introduced in phonetics classes are /i:/, /ɪ/, /e/, /æ/, /ɑ:/, /ɒ/, /ɔ:/, /ʊ/, /u:/, /ʌ/, /ɜ:/, and /ə/ (Roach, 2009). These symbols may look simple on a vowel chart, yet they often represent distinctions that learners do not automatically hear or produce.

Previous studies have repeatedly shown that EFL learners tend to replace unfamiliar English vowels with sounds that feel closer to the categories available in their first language. Pronunciation instruction seems to work better when learners are helped to notice the phonetic detail behind those sounds, for example through IPA practice, acoustic awareness, and technology assisted pronunciation learning. Dandee and Pornwiriakit (2022) reported that English phonetic alphabet drills can support EFL learners' pronunciation development, while Nurjannah et al. (2023) showed that PRAAT can help Indonesian EFL students understand

English monophthongs more concretely. In a more acoustic line of research, Yusuf et al. (2024) demonstrated that Indonesian English monophthongs show measurable variation in vowel quality across speakers. These studies suggest that pronunciation errors are not simply careless mistakes. They often reflect how learners perceive, categorize, and practise the sounds of English.

A similar pattern appears in research on Indonesian learners' phonological deviations. Andestopano and Datuk (2024) found that Indonesian EFL learners often moved away from target English pronunciation because the Indonesian and English sound systems offer different phonological resources. Sayogie and Adbaka (2022) also showed that interlingual influence may affect pronunciation performance, especially when learners deal with minimal contrasts that are not familiar in their first language. Recent studies by Silalahi et al. (2025), Yulianti et al. (2025), and Reskiawan et al. (2026) add an important point to this discussion. Pronunciation problems do not disappear only because students enter university or take English related courses. Segmental errors can remain visible among English education students, which means that vowel learning needs more careful attention in teacher education contexts.

This study uses the surface strategy taxonomy proposed by Dulay et al. (1982) to classify the pronunciation errors into omission, addition, misformation, and

misordering. In the context of vowel pronunciation, this taxonomy helps the analysis move beyond a general statement that students pronounce words incorrectly. It allows the researcher to see whether the students omit a sound, add an unnecessary sound, substitute the target sound with another sound, or place a sound in an unsuitable sequence. The possible sources of error are interpreted through Brown's (2007) discussion of interlingual transfer, intralingual transfer, context of learning, and communication strategies. Studies on orthographic influence are also useful here because English spelling can shape how learners imagine a word should sound, particularly when they rely on letters more than phonetic representations (Bassetti et al., 2022, Shepperd, 2024).

Students in English education programs are expected to build pronunciation that is both accurate and intelligible. Fourth semester students have usually taken a Phonetics and Phonology course, so they may already know the symbols, terms, and basic concepts used to describe English sounds. Classroom knowledge, though, does not always become stable pronunciation practice. This study addresses that issue by examining English monophthong pronunciation errors among students who have already received formal phonetics instruction. The analysis also connects the error patterns with more recent work on EFL pronunciation, acoustic phonetics, orthographic influence, and

technology supported pronunciation learning.

B. Research Methodology

This study used a basic qualitative research design because the main purpose was to understand how pronunciation errors appeared in students' spoken production and how the students themselves explained the possible reasons behind those errors. The study did not try to test a treatment or measure the effectiveness of a teaching method. It focused on describing a pronunciation phenomenon in a specific group of learners, with the participants' test results and interview responses read together as complementary data. Simple frequency counts were used to support the qualitative interpretation by showing which error types and which monophthong sounds appeared most often (Merriam & Tisdell, 2016).

The participants were 15 fourth semester students in an English Language Education Program at a university in Karawang. They were selected through purposive sampling because they had completed a Phonetics and Phonology course and were expected to have basic knowledge of the English sound system. This criterion was important because the study did not examine beginners who had never encountered phonetic symbols. It examined students who had already received formal instruction but still showed difficulties when producing English monophthongs in actual pronunciation tasks.

The data were collected through a pronunciation test and semi structured interviews. In the pronunciation test, the participants pronounced a list of words representing twelve English monophthong sounds, namely /i:/, /ɪ/, /e/, /æ/, /ɑ:/, /ɒ/, /ɔ:/, /ʊ/, /u:/, /ʌ/, /ɜ:/, and /ə/. The target vowel inventory followed a British English oriented description, as shown by the use of /ɒ/ and length marked vowels such as /i:/, /ɔ:/, and /u:/. The students' pronunciations were recorded, transcribed with the International Phonetic Alphabet, and compared with the target forms. The interviews were conducted after the test so that the students could explain their experience with English pronunciation, their learning habits, and the strategies they used when they were unsure about a word.

The pronunciation errors were classified using the surface strategy taxonomy of Dulay et al. (1982). The frequency of each error type and each mispronounced vowel was calculated with the formula $P = F/N \times 100\%$, where P refers to the percentage of errors, F refers to the frequency of a specific error, and N refers to the total number of pronunciation errors. The interview data were then read to identify possible sources of error based on Brown's (2007) categories of interlingual transfer, intralingual transfer, context of learning, and communication strategies. The interpretation was kept close to the pronunciation data so that the interview findings did not stand as

separate opinions but helped explain the patterns found in the test.

C.Findings and Discussion

This section discusses the findings in three connected stages. The first stage presents the types of pronunciation errors found in the data. The second stage identifies which English monophthongs were most frequently mispronounced. The third stage relates the pronunciation test results to the interview data in order to interpret the possible sources of the errors. Reading the test and interview data together is important because a number alone cannot fully explain why a learner chooses one vowel instead of another.

Theoretical Interpretation of the Findings

The error patterns can be read through several perspectives in second language speech learning. The revised Speech Learning Model explains that L2 sounds are learned in relation to the learner's existing first language phonetic categories. When an English vowel is heard as similar to an Indonesian vowel, learners may not form a new category quickly, and their pronunciation may continue to move toward the more familiar sound (Flege & Bohn, 2021). This explanation is useful for the present data because /æ/, /ɔ:/, /u:/, and /i:/ were not merely pronounced inconsistently. They were often replaced by vowels that seemed closer to the students' existing phonological experience.

The Perceptual Assimilation Model of L2 speech learning adds

another useful explanation. It predicts that unfamiliar L2 contrasts may be assimilated to the nearest L1 categories, making the contrast less distinct for the learner (Best & Tyler, 2007). The Second Language Linguistic Perception model also sees L2 sound learning as a gradual reorganization of perception, production, lexical representation, and orthographic information (Escudero & Yazawa, 2024). In this sense, the substitutions found in this study should not be treated as random slips. They are better understood as systematic signs that the students were still negotiating English vowel categories through the lens of Indonesian sounds, English spelling, and their developing knowledge of English pronunciation.

Orthographic input gives another layer to the interpretation. Bassetti (2024) shows that L2 spelling can shape phonological representation and processing, including the way learners add, omit, or substitute sounds. This point fits the interview data because several students admitted that they pronounced unfamiliar English words by looking at their spelling. Such a strategy feels practical in the moment, but it can mislead learners when the written form does not transparently represent the sound, as often happens in English vowel pronunciation.

The pedagogical implication should also be read through the intelligibility principle. Levis (2018) argues that pronunciation teaching needs to prioritize features that influence understanding rather than

pursue native like accent as the main goal. In the present study, vowel substitutions such as /bæt/ becoming /bet/ are important because they can change lexical meaning and make the listener process the word differently. Nagle and Baese-Berk (2022) also remind pronunciation researchers that perception and production should not be assumed to develop in the same way. A learner may be able to identify a vowel in listening but still fail to produce it accurately. Recent systematic work by Yağız et al. (2024) supports explicit and sustained pronunciation instruction, while also showing that research design, treatment length, and assessment procedures need careful attention.

Types of Pronunciation Errors

Based on the results of a pronunciation test conducted on 15 students in their fourth semester of the English Language Education Program, 144 errors in the pronunciation of English monophthongs were identified. These errors were analyzed using the Surface Strategy Taxonomy proposed by Dulay et al. (1982).

Table 1 Types of Pronunciation Error

Error Type	Frequency	Percentage
Misformation	143	99,3%
Omission	1	0,7%
Addition	0	0
Misordering	0	0
Total	144	100%

Table 1 shows a very clear pattern. Misformation was the dominant error type, with 143 cases out of 144 errors or 99.3 percent. In

this study, misformation refers to the substitution of a target vowel with another vowel, as seen when /bæt/ was pronounced as /bet/ and /mu:n/ was pronounced as /mʊn/. Omission appeared only once or 0.7 percent, while addition and misordering did not appear in the data. The distribution suggests that the students' main difficulty was not deleting vowels or changing the sequence of sounds. Their difficulty lay in selecting and maintaining the appropriate vowel quality or vowel length.

The dominance of substitution is important because it points to a phonological choice, not simply a failure to produce any vowel at all. The students seemed to choose sounds that were easier, more familiar, or closer to the categories they already knew. This pattern is consistent with Dulay et al.'s (1982) explanation of misformation, where learners use an incorrect form in place of the expected form. It also fits the findings of Aziz et al. (2021) and Silalahi et al. (2025), who reported that substitution commonly appears in EFL learners' pronunciation errors. In practical terms, the data suggest that classroom pronunciation work should focus on contrastive vowel awareness rather than only asking students to repeat isolated words.

Frequency of Monophthong Errors

The second part of the analysis focused on the monophthongs that created the greatest difficulty for the students. The corrected frequency distribution is presented in Table 2, which includes the number of errors,

the percentage of total errors, and the most common substitutions found in the pronunciation test.

Table 2 The Most Frequently Mispronounced English Monophthongs

Vowel	(F)	(P)	Common Mispronunciation
/ɔ:/	37	25.7%	/ɒ/, /ɑ:/, /æ/
/æ/	35	24.3%	/e/
/u:/	34	23.6%	/ʊ/, /ɒ/
/i:/	17	11.8%	/ɪ/
/ʊ/	5	3.5%	/u:/, /yu:/
/ʌ/	4	2.8%	/e/
/ɒ/	4	2.8%	/ɑ:/, /ɔ:/
/ɜ:/	3	2.1%	/ʊ/, /ɪ/
/ə/	3	2.1%	/e/, omission
/ɪ/	2	1.4%	/i:/
/e/	-	-	-
/ɑ:/	-	-	-
Total	144	100%	

Table 2 shows that /ɔ:/ was the most frequently mispronounced monophthong, with 37 errors or 25.7 percent of the total. The next most frequent errors involved /æ/, with 35 errors or 24.3 percent, followed by /u:/ with 34 errors or 23.6 percent and /i:/ with 17 errors or 11.8 percent. The other vowels occurred less often in the error data. The sound /ʊ/ appeared in 5 errors, /ʌ/ and /ɒ/ each appeared in 4 errors, /ɜ:/ and /ə/ each appeared in 3 errors, and /ɪ/ appeared in 2 errors. No errors were found for /e/ and /ɑ:/ in the analyzed data.

The patterns behind these numbers are more revealing than the numbers alone. The vowel /æ/ was generally replaced by /e/ in words such as bat, map, and sad. The vowel /u:/ was often shortened or moved toward /ʊ/ in words such as moon, food, and boot. The vowel /i:/ was

frequently replaced by /ɪ/ in words such as beat, seat, and sheep. The vowel /ɔ:/ was commonly replaced by /ɒ/ or /ɑ:/, as seen in words such as call and port. These examples show that the students struggled with vowel quality and vowel length at the same time. They could often produce an English like vowel, but not always the vowel required by the word.

These findings sit well with previous studies on EFL vowel pronunciation. The difficulty with /æ/ supports the idea that learners often replace unfamiliar English vowel categories with sounds that are closer to the vowel inventory of their first language (Andestopano & Datuk, 2024, Sayogie & Adbaka, 2022). The errors involving /u:/ and /i:/ also show limited control of vowel length and tenseness, a pattern that has been noted in studies of EFL vowel production (Al Abdely, 2023, Yusuf et al., 2024). Recent studies in the Indonesian context report similar difficulties among English education students and other university level learners (Reskiawan et al., 2026, Silalahi et al., 2025, Yulianti et al., 2025). The present findings add to that discussion by showing that even students who have studied phonetics may still need more guided practice in hearing and producing fine vowel contrasts.

Sources of Error

The interview data and pronunciation test results suggest four possible sources of error. These sources are interlingual transfer, intralingual transfer, context of

learning, and communication strategies. They are discussed separately for clarity, although in actual pronunciation practice they may overlap. A student may be influenced by Indonesian vowel categories, English spelling, previous classroom exposure, and immediate speaking strategies at the same time.

Interlingual Transfer

Interlingual transfer was one of the strongest sources of error. It was most visible in the substitution of /æ/ with /e/. In the word bat, ten students pronounced /bæt/ as /bet/. The same tendency appeared in map and sad, with 12 and 13 errors. These substitutions suggest that the students approximated English vowels through sound categories that were already familiar from Indonesian. The pattern is understandable because /æ/ does not function in Indonesian in the same way it does in English, and learners may move toward a vowel that feels easier to locate in their existing sound system.

The interview data make this interpretation more grounded. One participant stated, "I think this has a significant impact, because since childhood we have been accustomed to using vowel sounds in Indonesian. So sometimes, without realizing it, our English pronunciation is still influenced by an Indonesian accent" (P1). Another participant explained, "In English, there are some sounds that do not exist in Indonesian, so sometimes I still follow the pronunciation patterns I am used to in Indonesian" (P2). These comments

show that the students were not completely unaware of L1 influence. They recognized that Indonesian pronunciation habits could enter their English speech, particularly when they encountered sounds that felt unfamiliar.

This finding is consistent with Andestopano and Datuk (2024), who reported that Indonesian EFL learners often transfer Indonesian phonological patterns into English. Al-Shalabi (2021) also found that first language interference can become a major source of phonological errors among EFL learners. In the present study, interlingual transfer did not appear as a vague background factor. It appeared in concrete vowel substitutions, especially when the target vowel had no close and stable counterpart in the learners' Indonesian sound system.

Intralingual Transfer

Intralingual transfer also contributed to the students' errors, but the mechanism was different from interlingual transfer. Here, the source of difficulty came from the learners' developing knowledge of English itself. Several errors showed that students relied on spelling or overgeneralized what they already knew about English pronunciation. The contrast between long and short vowels was especially problematic. The vowel /u:/ was often pronounced as /ʊ/ in moon, boot, and food, while /i:/ was often pronounced as /ɪ/ in beat and seat. These errors suggest that students had not yet fully controlled the relationship between English

spelling, vowel quality, and vowel duration.

The interview data confirmed this tendency. P1 stated, "If I do not know how to pronounce it, I usually just read it as it is spelled." P2 also stated, "Sometimes I read it directly based on what I see without checking the correct pronunciation first." These statements show how spelling can become both a support and a trap. It helps learners make a quick pronunciation decision, but it may also lead them away from the target vowel when written English does not match spoken English. This explains why orthographic influence became an important part of the error pattern, especially for vowels whose pronunciation is not easily predicted from the letters.

Context of Learning

All participants reported that they had studied pronunciation in a Phonetics and Phonology course. They also mentioned additional resources such as Cambridge Dictionary, Google Translate, Elsa Speak, Duolingo, YouTube, and English language films. One participant stated, "The instructor provided corrections and explained the correct pronunciation methods based on existing phonetic symbols" (P3). These responses suggest that the students had access to pronunciation input and feedback, at least at a general level. The issue was not the complete absence of instruction, but the extent to which that instruction became repeated, guided, and stable practice.

The pronunciation test still showed frequent errors in /ɔ:/, /æ/, /u:/, and /i:/. This means that exposure to pronunciation materials is useful, but not enough by itself. Learners need repeated practice that helps them notice the difference between similar vowels, compare their own production with a target model, and receive feedback that is specific enough to guide improvement. Recent pronunciation studies recommend support such as IPA drills (Dandee & Pornwiryakit, 2022, Riza & Kawakib, 2021), acoustic visualization through PRAAT (Nurjannah et al., 2023), and high variability phonetic training that exposes learners to different speakers and phonetic contexts (Almusharraf et al., 2024, Lee & Ahn, 2025, Mahdi & Mohsen, 2024).

Communication Strategies

Communication strategies appeared when the students were unsure how to pronounce a word and then chose a sound that felt easier or more familiar. P1 stated, "I usually start with the sound I am most familiar with." P2 added, "I usually pronounce it based on the spelling or the sound that most closely matches what I remember." These responses show that the students tried to keep speaking even when they were uncertain. In that sense, the errors were also connected to real time decision making during pronunciation.

This strategy was visible in pronunciation patterns such as /bu:t/ being pronounced as /bɒt/ and /kɔ:l/ being pronounced as /kæɪ/. Compared with interlingual and intralingual

transfer, communication strategies seemed less dominant, but they still helped explain why some substitutions happened when students were not sure of the target sound. The students' errors were mainly linked to first language influence and incomplete mastery of English vowel contrasts. Even so, their choice of a familiar sound in moments of uncertainty shows that pronunciation is not only a matter of phonetic knowledge. It is also shaped by the speaker's attempt to continue communication with the resources available at that moment.

D. Conclusion

This study showed that fourth semester students in an English Language Education Program still experienced difficulties in pronouncing English monophthongs after completing a Phonetics and Phonology course. From 144 errors identified in the pronunciation test, misformation was by far the dominant error type, with 143 occurrences or 99.3 percent. Omission occurred only once or 0.7 percent, while addition and misordering did not appear in the data. The pattern shows that the students usually did not leave vowels out or rearrange sounds. They replaced the target vowel with another vowel that sounded easier, more familiar, or closer to what they already knew.

The monophthongs most frequently mispronounced were /ɔ:/, /æ/, /u:/, and /i:/. These errors suggest that the students still had difficulty distinguishing English vowel quality and vowel length. Interlingual transfer was visible when students used

Indonesian like vowel categories to approximate English sounds, while intralingual transfer appeared in their reliance on spelling and their incomplete mastery of long and short vowel contrasts. Context of learning and communication strategies also contributed to the errors, though they were not as dominant as the two transfer-based sources. Taken together, the findings show that pronunciation problems among university EFL learners are not only caused by lack of exposure. They also come from the interaction between first language habits, developing English phonological knowledge, classroom practice, and the strategies students use when they are uncertain.

The pedagogical implication is clear. Pronunciation instruction needs to provide explicit and sustained practice in distinguishing vowel quality and vowel length. Teachers may combine IPA transcription, minimal pair practice, auditory discrimination tasks, and acoustic visualization to help students notice contrasts such as /æ/ and /e/, /i:/ and /ɪ/, and /u:/ and /ʊ/. This study is limited by the relatively small number of participants, the use of descriptive frequency counts, and the absence of acoustic measurement or reported inter rater reliability for IPA transcription. Future studies may involve larger samples, use PRAAT based formant and duration analysis, include both perception and production tasks, and apply inter rater checking to strengthen the reliability of phonetic transcription.

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