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Mother Tongue Phonological Interference in College Students' English Pronunciation: A Qualitative Analysis of Speaking Task Video

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ABSTRACT

This study aims to identify the patterns of mother-tongue phonological interference that appear in the English pronunciation of non–English major students through the analysis of speaking task videos. Using a descriptive qualitative approach, the research focuses on segmental and suprasegmental deviations, particularly changes in vowel and consonant sounds as well as word stress patterns influenced by the phonological system of the first language. Data were obtained from ten student videos and analyzed using phonological theory. The findings indicate that phonological interference occurs consistently in several major forms, namely: (1) the substitution of consonant sounds that do not exist in Indonesian, such as /v/→/f/, /ð/→/d/, and /θ/→/t/; (2) the failure to reduce schwa vowels, resulting in all vowels being pronounced fully; (3) the simplification of diphthongs into monophthongs, such as /oʊ/→/o/ and /aɪ/→/e/; (4) the deletion of final consonants and simplification of consonant clusters; and (5) stress shifts caused by the syllable-timed rhythmic pattern of Indonesian. These deviations demonstrate a strong influence of the mother tongue's phonology on the production of English utterances, affecting the naturalness and intelligibility of pronunciation. This study provides an important contribution to pronunciation teaching, particularly in developing learners' phonological awareness. By understanding the characteristics of the first language sound system and its differences from English, instructors can design more effective articulatory and prosodic training strategies to significantly improve students' pronunciation skills

Keywords: *Phonology, Pronunciation, Speaking*

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INTRODUCTION

Mother-tongue phonological interference in English pronunciation is a very common phenomenon in Indonesia. This is understandable because the Indonesian sound system does not contain several fricative phonemes such as /ʃ/ or /θ/, does not employ vowel reduction as in English, and uses a relatively simple syllable structure, typically consonant–vowel–consonant. These patterns not only make pronunciation sound less natural but can also create meaning ambiguity in everyday English communication.

This situation becomes increasingly relevant considering the development of speaking-assessment methods, which are now shifting toward the use of video media. The use of this technology not only follows current trends but also offers methodological advantages, as video-based speaking tasks allow researchers to capture more spontaneous speech production compared to formal oral examinations. In the context of phonological research, this is particularly valuable because it provides opportunities to observe how mother-tongue interference occurs in more natural communication settings. However, research focusing on phonological interference in video-based speaking tasks—especially among non–English majors—remains very limited. This gap reinforces the urgency for in-depth investigation.

This phenomenon has long been described in the language acquisition literature as the tendency of learners to transfer L1 phonological patterns into the target language. Phonological interference is not merely a matter of pronunciation variation but directly affects segmental and suprasegmental aspects, including sound production, stress placement, intonation patterns, and speech rhythm (Odlin, 1989;

Ellis, 2015). In the multilingual context of Indonesia, the challenge is even more complex because each local language, such as Sundanese, Javanese, and others, has distinct phonological characteristics, all of which differ from English. As a result of these fundamental differences, interference appears consistently and repeatedly in learners' speech (Rahmawati, 2020). Understanding these interference patterns is an essential first step in improving pronunciation accuracy.

Previous studies have shown various forms of interference commonly found among EFL university students, such as vowel substitution, consonant replacement, consonant-cluster simplification, and errors in word stress placement (Putri & Ardi, 2021). These findings align with research showing that phonological interference affects not only segmental sounds but also suprasegmental aspects such as stress and intonation. Inaccuracies in suprasegmental features have been proven to significantly reduce speech intelligibility (Munro & Derwing, 2011). Furthermore, this interference does not disappear automatically, even among advanced learners; without structured pronunciation instruction, these error patterns tend to persist (Zheng, 2018).

Nevertheless, most studies on phonological interference still rely on data obtained through reading tasks or highly controlled pronunciation tests. Although these approaches facilitate analysis, they do not reflect authentic communicative pronunciation. In contrast, speech production in video-based speaking tasks provides a more realistic picture of how phonological interference manifests in everyday communication (Saito, 2014). Therefore, video-based analysis is an appropriate method to understand pronunciation dynamics in natural contexts.

Based on these considerations, the present study titled *"Mother Tongue Phonological Interference in College Students' English Pronunciation: A Qualitative Analysis of Speaking Task Video"* was conducted to identify patterns of phonological interference emerging in students' speaking tasks. The study offers valuable contributions by providing empirical insight into recurring phonological deviations. These findings not only help evaluate student competence but also serve as a basis for improving English language teaching strategies, particularly pronunciation instruction. In addition, understanding interference patterns helps instructors design more targeted and needs-based pronunciation materials.

The theoretical foundation supporting this study includes analyses of segmental and suprasegmental phonology. Structural analysis of the English sound system positions the consonant and vowel inventories as key elements, accompanied by distinctive features such as place, manner, and voicing. Phonotactic rules, which determine sound combinations, strengthen understanding of how English sounds should be produced (Kharlamov, 2020; Ambalegin, 2021). This framework enables researchers to identify phoneme inventories, allophony, and distribution rules that underlie learners' phonological competence (Ambalegin, 2021; Yusni & Zulfakhri, 2025).

In the domain of consonants, the challenge is greater because English has various categories of sounds, ranging from plosives to fricatives and affricates, with allophonic variations across dialects. Articulatory analysis helps map common errors such as fricative substitution or cluster simplification (Yusni & Zulfakhri, 2025; Kamsinah, 2025; Al-Abdullah & Almutairi, 2024; Sabbu et al., 2025). These findings align with transfer theory, which shows that consonant errors are often L1-driven and affect intelligibility directly.

The English vowel system, consisting of monophthongs and diphthongs, presents similar challenges. Differences in vowel quality, vowel length, and diphthongization often lead learners to map English vowels onto Indonesian categories that are not entirely equivalent. Phonetic and phonological analyses show that these systemic differences are the root of many vowel errors (Ambalegin, 2021; Yusni & Zulfakhri, 2025; Sabbu et al., 2025).

Suprasegmental aspects such as stress, rhythm, and intonation also play a crucial role in intelligibility. As a stress-timed language, English requires learners to understand prominence and duration patterns. However, learners' L1 prosodic systems often influence their performance, leading to difficulties in accurately producing word stress and pitch accents (Nwokedi, 2023; Tymbay, 2024; Chen et al., 2024). Differences in prosodic typology also affect intonation use, with learners frequently relying on L1 prosodic cues (Tymbay, 2024; Chen et al., 2024).

Overall, a thorough understanding of segmental and suprasegmental phonology is essential for explaining how phonological interference forms and why certain error patterns recur. This

theoretical framework provides not only descriptive foundations but also strong linguistic arguments for interpreting interference mechanisms in EFL learners' English pronunciation

METHOD

This study employed a descriptive qualitative approach to identify and describe forms of mother-tongue phonological interference appearing in the English pronunciation of non–English major students. This approach was chosen because it enables in-depth analysis of pronunciation phenomena through verbal description. The analysis focused on segmental and suprasegmental deviations recorded in video-based speaking tasks.

The participants consisted of ten students from non–English degree programs who were enrolled in a general English course. Participants were selected using purposive sampling based on the following criteria (1) students were not from an English education program, (2) students had submitted speaking-task videos containing content relevant to their fields of study, and (3) videos provided sufficiently clear speech for phonological analysis.

The primary data source was a set of speaking-task video recordings collected through the assignment submission platform.

FINDING AND DISCUSSION

Finding

Based on the data obtained, it was found that mother-tongue interference significantly affects the English pronunciation patterns of non–English major students. The findings reveal deviations in both segmental and suprasegmental aspects. The following table presents the analysis of the data.

Category of Deviation	Words (Data)	Target Sounds (IPA)	Deviant Production	Place–Manner Analysis	Suprasegmental Aspects
Foreign Fricatives (/f/, /v/, /θ/, /ð/)	everyone, even, virus, five, view, faithful, that, think	/f/, /v/, /θ/, /ð/	/v/→/f/, /p/; /θ/→/t/; /ð/→/d/	Shift from labiodental/dental fricatives → alveolar/bilabial plosives; foreign fricatives replaced with easier sounds	Stress remains but rhythm becomes faster due to manner changes
Vowel Reduction & Schwa Replacement	today, organize, productive, procedure, emotion	/ə/, /ʌ/, /ɒ/	Schwa → full vowels (/a/, /o/, /u/); /ʌ/→/a/; /ɒ/→/o/	Central vowels replaced by peripheral vowels; loss of vowel reduction	Stress shifts; rhythm becomes syllable-timed
Diphthong Monophthongization	emotion, social, tired, reduce	/oʊ/, /aɪə/, /juː/	Diphthong → monophthong: /oʊ/→/o/, /aɪə/→/ai/, /juː/→/u/	Reduction of vocalic complexity; glide deletion	Flat intonation; reduced vocalic transitions
Final Consonant Deletion & Cluster Simplification	think, next, eyes, risk, tired, prevent	various final consonants	Deletion of /k/, /t/, /z/, /d/	Complex codas simplified; consonant-cluster reduction	Shortened rhythm; words sound truncated
Nasal and Affricate Simplification	young, fighting,	/ŋ/, /dʒ/, /ʃ/	/ŋ/→/n/ or /ng/;	Velar nasal → alveolar nasal;	Reduced duration and

	energy, detergent, knowledge		/dʒ/→/j/; /ʃ/→/s/	affricates/palatals → alveolars	weak final-syllable prominence
Errors in Stress, Rhythm, and Intonation	today, organize, prevent, behaviour, generation	lexical stress	Stress placed on initial syllables	Not following English stress-timed patterns	Flat intonation and low naturalness

Discussion

The most dominant segmental deviations found in the data occur in the production of foreign fricatives such as /f/, /v/, /θ/, and /ð/. These sounds do not occur naturally in the Indonesian phonological system, leading speakers to replace them with more familiar sounds. For example, /θ/ in *think* is produced as /t/, and /ð/ in *that* becomes /d/. This shift shows that speakers employ easier articulations by changing dental or labiodental fricatives into alveolar or bilabial plosives. Such changes reflect a strong simplification process due to L1 interference, especially because foreign fricatives require articulatory coordination that is unfamiliar to beginning EFL learners.

Another prominent segmental deviation is the failure to produce vowel reduction, particularly the schwa /ə/. In *today*, which becomes *tuday*, or *organize*, realized as *organis*, learners replace the schwa with full vowels such as /a/ or /o/. This indicates that the stress-timed rhythm of English has not been mastered, as Indonesian is syllable-timed, giving equal duration to each syllable. The inability to maintain vowel reduction affects word stress placement and reduces overall naturalness of speech.

Another frequently observed phenomenon is diphthong monophthongization, such as *emotion* becoming *emosen* or *tired* becoming *taired*. Learners' difficulty in producing glides suggests a preference for simplified vowel structures. English diphthongs require longer, controlled transitions, whereas Indonesian diphthongs are more limited. As a result, the produced vowels sound tense and fail to show the quality transitions expected in English.

Syllable-structure simplification is also apparent in the deletion of final consonants and consonant-cluster simplification. For example, *next* becomes *neks* and *eyes* becomes *es*. This indicates that Indonesian speakers tend to avoid complex codas, as Indonesian generally favors open syllable structures. Final consonant deletion alters not only segmental forms but also disrupts speech rhythm, making words sound incomplete compared to their English targets.

Furthermore, several words experience nasal and affricate simplification. In *young*, the velar nasal /ŋ/ becomes the alveolar /n/, while the affricate /dʒ/ in *knowledge* becomes /j/. These shifts indicate learners' preference for front and easier articulations instead of velar or palatal ones that require more precise tongue movements. This simplification reduces final-syllable clarity and contributes to incomplete-sounding utterances.

At the suprasegmental level, errors in stress and intonation further demonstrate that learners transfer Indonesian rhythm into English. Words such as *organize*, *prevent*, or *generation* often receive stress on incorrect syllables. These changes create an overall speech rhythm that appears too flat and inconsistent with the stress-timed nature of English. Intonation patterns lacking natural pitch variations also make utterances sound monotonous, reducing intelligibility.

The results show that mother-tongue phonological interference significantly affects nearly all levels of phonology—both segmental and suprasegmental. Learners tend to simplify foreign sounds, avoid complex syllable structures, replace diphthongs with monophthongs, and maintain Indonesian rhythmic patterns when speaking English. This demonstrates that the mismatch between the Indonesian sound system and English has a substantial impact on learners' pronunciation quality. Therefore, targeted phonetic training focusing on articulatory differences, rhythm, and intonation is essential for helping learners produce more accurate and intelligible English speech.

CONCLUSIONS

Based on the analysis conducted, it is evident that the segmental and suprasegmental deviations found in learners' pronunciation are not random mistakes, but rather systematic patterns strongly rooted in mother-tongue phonological interference. Substitution patterns—such as /θ/ becoming /t/, /ð/ becoming /d/, or /v/ becoming /f/—demonstrate that learners tend to replace sounds that do not exist in Indonesian with those that are easier and more familiar. This indicates that the limited phonemic inventory of Indonesian directly affects learners' ability to produce distinct English sounds.

Additionally, learners' inability to maintain vowel reduction and proper stress placement reinforces the influence of a syllable-timed rhythm, which they transfer into English—a stress-timed language. As a result, their speech often sounds rigid, flat, and misaligned with the natural prosodic patterns of English, thereby reducing intelligibility. Phenomena such as diphthong monophthongization, final consonant deletion, and consonant-cluster simplification further illustrate how Indonesian phonotactic structures shape the way learners organize and produce syllables in English.

Thus, the main challenge for learners is not merely a lack of knowledge about English sounds, but rather the structural mismatch between two languages with vastly different phonological characteristics. Improving pronunciation quality requires more than memorizing rules; it demands explicit articulatory training, focused perceptual work, and consistent practice with rhythm and intonation. A comprehensive instructional approach is essential for developing stronger phonological awareness, enabling learners to produce English speech that is more natural, accurate, and intelligible

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