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The interplay of segmental and suprasegmental features in ESL/EFL reading aloud performance

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Abstract - Effective spoken communication is influenced by intelligibility and comprehensibility, both of which are shaped by segmental and suprasegmental features of pronunciation. This study aims to examine how segmental and suprasegmental pronunciation features influence the intelligibility of Indonesian EFL learners during reading-aloud tasks. The study used a descriptive qualitative research method and involved 5 senior members of the Global English Community (GEC) at Mandalika University of Education (UNDIKMA) as participants. The data consisted of recorded speech produced during reading-aloud sessions and were collected through direct observation and expert rating by a native-speaker. The analysis focused on segmental features (vowel and consonant production, including monophthongs, diphthongs, and silent-letter words) and suprasegmental features (word stress and voice quality). The findings indicated that segmental inaccuracies particularly in English sounds not found in Indonesian caused the greatest reduction in intelligibility because they frequently altered word meaning. In contrast, suprasegmental issues such as misplaced stress and limited voice quality reduced naturalness and listener processing but did not affect meaning. These results indicated that pronunciation instruction for Indonesian EFL learners should prioritize segmental accuracy while still integrating suprasegmental training to support overall speech clarity.

Keywords: Intelligibility, Segmental Features, Suprasegmental Features

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1. Introduction

The clarity of a person's speech when speaking in English is highly influenced by the quality of their pronunciation. It is because Pronunciation is the initial and key aspect in the development of speaking skills (Poposka, 2017). However, good pronunciation does not mean that one must speak like a native speaker. Rather, it refers to the clarity of a person's voice when articulating words in English, ensuring that their speech is easily understood by listeners. This clarity, often referred to as intelligibility, is a crucial aspect of effective communication in English. According to Lochland (2020) English has established itself as the world's lingua franca, and intelligibility is considered by many to be the first level in understanding spoken text.

When discussing intelligibility, it is essential to consider two key aspects of pronunciation: segmental and suprasegmental features. Segmental features focus on individual sound units, or phonemes, which include vowels and consonants (Das, 2023). Vowels, such as /i/, /e/, /ɑ/, and /u/, and consonants, like /p/, /t/, /k/, and /s/, are essential components of speech. Additionally, diphthongs, which combine two vowel sounds within a single syllable (e.g., /aɪ/ in *time* and /eɪ/ in *face*), as well as contractions and sound reductions, such as "gonna" instead of "going to," contribute to natural speech patterns. On the other hand, suprasegmental features cover more than one sound in an utterance and include volume, pitch, juncture, and duration, all of which play a crucial role in distinguishing meaning, mood, and intention in speech (Tolibovna, 2023). These features influence how utterances are perceived and understood, going beyond individual phonemes. For instance, intonation affects the rise and fall of pitch, stress determines the emphasis on syllables or words, and rhythm shapes the pattern of long and short sounds in speech. Additionally, tempo, connected speech, and voice quality further contribute to intelligibility, making communication more natural and effective. This highlights the interconnected nature of suprasegmental elements in shaping pronunciation and comprehension.

To achieve clear pronunciation and intelligibility in English, learners must have a solid understanding of both segmental and suprasegmental features. It is not enough to simply master individual phonemes without considering other factors that affect clarity and meaning. Segmental and suprasegmental elements are interrelated and cannot be separated. However, English pronunciation poses significant challenges for English as a Foreign Language (EFL) and English as Second Language (ESL) learners, primarily due to differences between English and their native language. This difficulty arises because second language learners need to change the conceptual patterns they have internalized since childhood, which are shaped by their first language (Gilakjani & Ahmadi, 2011). Syam et al., (2024), cite several findings from previous research regarding differences between Indonesian and English. First, certain English consonants, such as /v/, /θ/, /ð/, /ʒ/, /dʒ/, and /tʃ/, do not exist in Indonesian, posing pronunciation challenges for Indonesian learners of English (Tiono & Yostanto, 2008). Additionally, Indonesian speakers tend to simplify consonant clusters, particularly in the final position, by either deleting sounds (e.g., saying 'san' instead of 'sand') or inserting an epenthetic vowel (e.g., 'sekerip' for 'script') (Yuliati, 2014). Second, vowel distinctions in Indonesian differ from those in English. While English differentiates between tense and lax vowels as separate phonemes, in Indonesian, lax vowels function as allophones of tense vowels, occurring only in specific syllabic environments (Andi-Pallawa & Alam, 2013; Wijana, 2003). Third, Indonesian has a simpler syllabic structure, with a predominance of CV syllables (Suyanto et al., 2016), whereas English allows for more complex consonant clusters, including both initial and final clusters that often pose difficulties for Indonesian learners. These linguistic differences contribute to intelligibility issues and highlight key areas where Indonesian learners of English may encounter pronunciation difficulties.

In the empirical context of this study, these pronunciation issues are evident among members of the Global English Community (GEC) at UNDIKMA. Based on the observations, pronunciation and intelligibility issues appear due to linguistic differences. For example, several pronunciation challenges commonly encountered by members of GEC include mispronunciations of vowel sounds, such as "riding" pronounced as "reading", "fan" pronounced as "pen", and "quiet" pronounced as "kuit", as well as mispronunciations of consonant sounds, such as "island" pronounced as "islan", "night" pronounced as "naeg", and "laugh" pronounced as "laug". English pronunciation is markedly different from Indonesian language (Bahasa Indonesia), making it difficult for learners to produce accurate sounds and maintain intelligibility.

Despite growing attention to pronunciation in English education, there remains a gap in understanding how both segmental and suprasegmental features influence intelligibility in the context of Indonesian EFL learners. Most studies tend to focus on one feature at a time, causing limited

exploration of how these two dimensions jointly affect speech clarity. Therefore, this study aims to analyze how segmental and suprasegmental features influence the intelligibility of Indonesian EFL learners during reading-aloud sessions. Particularly, it seeks to answer the following research questions: (1) Which features, segmental or suprasegmental have a greater impact on the clarity and fluency of reading aloud? (2) What challenges do Indonesian EFL learners face in applying segmental and suprasegmental features during reading-aloud activities?

2. Method

This study was conducted under a descriptive qualitative approach. As noted by Creswell (2018), qualitative research is an approach for exploring and understanding the meaning individuals or groups ascribe to a social or human problem. Within the context of this study, researcher aimed to find out how EFL learners are facing challenge in English pronunciation due to insufficient knowledge about segmental and suprasegmental features. The subjects of this study subjects were 5 members of GEC selected according to the following criteria: They are active members are who regularly attended English class sessions provided by GEC. They are senior members of GEC for at least one year and attend class sessions 2–3 times a week. They have experience in English competitions.

The study included five participants. Subject 1 (female) had been a member of GEC for approximately three years, attending class sessions 2–3 times a week and participating in public speaking and speech contests. Subject 2 (female) was a dedicated member for four years, regularly attending classes and also enrolling in an external English course to further enhance her skills. Subject 3 (male) had been with GEC for four years, actively engaging in class sessions and competing in English competitions, particularly in public speaking and speech contests. Subject 4 (female) had been a member for three years, consistently attending English sessions and taking part in public speaking and speech contests. Finally, Subject 5 (male) was the most senior participant, having been involved with GEC for five years. He regularly attended English class sessions and actively competed in public speaking and speech contests.

Direct observation was conducted to gather data on the subject's pronunciation and intelligibility. An external rater, a native English speaker, was involved to ensure accuracy in the assessment. The rater, a 29-year-old hotel manager from the USA with a master's degree in hospitality management, evaluated the subjects as they read passages aloud. The evaluation was based on a structured assessment sheet designed to measure pronunciation and intelligibility. Furthermore, the analysis focused on segmental features (vowel and consonant production, including monophthongs, diphthongs, and silent-letter words) and suprasegmental features (word stress and voice quality).

The study procedure involved having the subjects read a passage titled *The Boy Who Cried Wolf*, which consisted of two paragraphs. The rater assessed their pronunciation using two main variables: suprasegmental features, which included stress and voice quality, and segmental features, which covered monophthongs, diphthongs, and silent letters. A total of 15 words from the passage were selected for analysis to determine the student's pronunciation and intelligibility levels. These words were categorized into three phonetic groups: monophthongs (sheep, saw, muttering, about, rushed, chase, wolf, laughed), diphthongs (graze, decided, cried, entire), and silent letters (could, fright, thought). In addition to evaluating the segmental features, the rater also assessed how the subjects applied stress to these words and their overall voice quality while reading. Below is the text being red by the subjects.

The Boy Who Cried Wolf

In a village, lived a carefree boy with his father. The boy's father told him that he was old enough to watch over the sheep while they graze in the fields. Every day, he had to take the sheep to the grassy fields and watch them as they graze. However, the boy was unhappy and didn't want to take the sheep to the fields. He wanted to run and play, not watch the boring sheep graze in the field. So, he decided to have some fun. He cried, "Wolf! Wolf!" until the entire village came running with stones to chase away the wolf before it could eat any of the sheep. When the villagers saw that there was no wolf, they left muttering under their breath about how the boy had wasted their time. The next day, the boy cried once more, "Wolf! Wolf!" and, again, the villagers rushed there to chase the wolf away. The boy laughed at the fright he had caused. This time, the villagers left angrily. The third day, as the boy went up the small hill, he suddenly saw a wolf attacking his sheep. He cried as hard as he could, "Wolf! Wolf! Wolf!", but not a single villager came to help him. The villagers thought that he was

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trying to fool them again and did not come to rescue him or his sheep. The little boy lost many sheep that day, all because of his foolishness.

3. Results and Discussion

Result

This section begins by assessing student's pronunciation levels by observing their performance in reading and analysing suprasegmental features such as stress and voice quality, as well as segmental features such as monophthongs, diphthongs, and silent letters. It then continues to evaluate student's intelligibility, focusing on two aspects: word recognition and neighbourhood density.

Student's pronunciation

Table.1 Student's pronunciation

Research Subject	Suprasegmental		Segmental			Total Score (%)
	Stress (1-15)	Voice Quality (1-15)	Monopthong (1-8)	Diphthong (1-4)	Silent Letter (1-3)	
Subject 1 (female)	10	4	6	4	0	53,3%
Subject 2 (female)	12	3	6	4	1	57,7%
Subject 3 (male)	8	4	3	4	2	46,6%
Subject 4 (female)	13	8	6	4	2	73,3%
Subject 5 (male)	12	9	6	4	3	75,5%
Total	45	20	27	20	8	
Average Score	60%	26,6%	70%	100%	60%	

Subject 1 demonstrated varying accuracy in pronunciation across suprasegmental and segmental aspects. In the suprasegmental category, she correctly stressed 9 out of 15 words but struggled with words like *SAW, ABOUT, CHASE, WOLF, LAUGHED, ENTIRE, COULD, FRIGHT,* and *THOUGHT*, which were not only stressed incorrectly but also mispronounced, affecting voice quality. For instance, *SAW* was pronounced as /'saə/ [sao] instead of /'sɔ:/, while *ABOUT* was mispronounced as /ə'bʌv/ [ebov] instead of /ə'baʊt/. Similarly, *CHASE* was altered to /keɪs/ [keis] instead of /ʧeɪs/, and *WOLF* was unidentifiable. *LAUGHED* was pronounced as /lʌvd/ [lavd] instead of /læft/, while *ENTIRE* was mispronounced as /ʌn'taɪ/ [antai] instead of /ɪn'taɪə/. In addition, *COULD* was articulated as /'kʊld/ [culd] instead of /'kʊd/, *FRIGHT* as /'frai:k/ [fraik] instead of /'frai:t/, and *THOUGHT* as "tough," making it unrecognizable.

In terms of segmental accuracy, Subject 1 pronounced 9 out of 15 words correctly. Among the monophthongs, *SAW* was mispronounced as /'soʊ/ [sau] instead of /'sɔ:/, and *LAUGHED* was incorrectly produced as /lʌvd/ [lavd] instead of /læft/. However, she performed well in diphthong pronunciation, articulating all target words correctly. On the other hand, silent-letter words posed challenges, with *COULD* being mispronounced as /kʊld/ [kuld] instead of /kʊd/, *FRIGHT* as /'frai:g/ [fraeg] instead of /'frai:t/, and *THOUGHT* as /tʌf/ [taf] instead of /'θɔ:t/. Overall, BLJ exhibited difficulties in maintaining correct pronunciation in words where suprasegmental and segmental aspects overlapped, particularly affecting stress, voice quality, and phonetic accuracy.

Subject 2 exhibited strong performance in stress placement, correctly stressing 12 out of 15 words. She successfully stressed *Sheep, Saw, Muttering, Rushed, Wolf, Laughed, Graze, Decided, Cried, Entire, Could,* and *Fright.* However, she struggled with *About, Chase,* and *Thought.* In *About,* she did not apply stress to any syllable, making it sound unnatural. *Chase* was pronounced with insufficient stress as [chase] instead of ['chase]. *Thought* was mispronounced to the extent that it became unrecognizable.

In the vocal quality aspect of suprasegmental features, Subject 2 correctly pronounced only 3 out of 15 words: *Muttering, Wolf,* and *Cried.* She mispronounced *Sheep* as /'ʃip/ [shep] instead of

/’ʃi:p/, and *Saw* as /’səʊ/ [sou] instead of /’sɔ:/. *About* was not only unstressed but also mispronounced as /ə’bɒt/ [abot] instead of /ə’baʊt/. *Rushed* was altered to “rust,” rendering it unrecognizable. *Chase* lacked stress despite having correct segmental pronunciation. *Laughed* was pronounced as “love” and became unintelligible. *Graze* was articulated as /’greɪs/ [greis] instead of /’greɪz/, while *Decided* was truncated to “decide.” *Entire* was pronounced as /en’taɪə/ [entaer] instead of /ɪn’taɪə/, deviating from American English pronunciation. *Could* was mispronounced as /’kʊt/ [kut] instead of /’kʊd/, *Fright* as /’frai:k/ [fraek] instead of /’frai:t/, and *Thought* as /to:k/ [tok] instead of /’θɔ:t/. In the segmental category, EYS demonstrated good pronunciation accuracy, correctly articulating 11 out of 15 words. Among monophthongs, she pronounced the /i:/ sound in *Sheep*, the /ʌ/ sound in *Muttering* and *Rushed*, the /ə/ sound in *About*, the /eɪ/ sound in *Chase*, the /ʊ/ sound in *Wolf*, and the /æ/ sound in *Laughed* correctly. However, she mispronounced the /ɔ:/ sound in *Saw* as /’səʊ/ [sou] instead of /’sɔ:/.

For diphthongs, she correctly pronounced the /eɪ/ sound in *Graze* and *Decided* and the /aɪ/ sound in *Cried* and *Entire.* However, she struggled with silent-letter words. While she correctly pronounced the /d/ sound in *Could*, she mispronounced *Fright* as /’frai:k/ [fraek] instead of /’frai:t/ and *Thought* as /to:k/ [tok] instead of /’θɔ:t/. Overall, while she showed proficiency in stress placement and diphthong pronunciation, her challenges with suprasegmental features, especially vocal quality and silent letters, affected the clarity of her speech.

Subject 3 exhibited varying accuracy in stress, vocal quality, and segmental pronunciation. In the suprasegmental aspect of stress, he correctly stressed 8 out of 15 words. Words like *sheep, saw, rushed, wolf, decided, cried, and could* were stressed correctly. However, he mispronounced *muttering, chase, laughed, fright,* and *thought* to the extent that their stress patterns could not be identified. Additionally, *about, graze,* and *entire* were stressed incorrectly, with *graze* and *entire* lacking the expected emphasis.

In the vocal quality aspect of suprasegmentals, he pronounced only 4 out of 15 words correctly. While *sheep, about, wolf,* and *cried* were pronounced correctly, errors were noted in other words. For instance, *saw* was pronounced as [sou] instead of /’sɔ:/, *muttering* had an incorrect thick “r” sound, *rushed* was pronounced as [rast] instead of /rʌʃt/, and *chase* was mispronounced as [chiz] instead of /ʧeɪs/. Similarly, *laughed* sounded like [lavd] instead of /læft/, and *entire* was pronounced with a non-American English influence. Other errors included *decided* being shortened to “decide,” *fright* mispronounced as [freit] instead of /fraɪt/, and *thought* pronounced as [dhouk] instead of /θɔ:t/. For segmental features, Subject 3 pronounced 8 out of 15 words correctly. In monophthongs, he accurately pronounced the /i:/ sound in *sheep*, the /ə/ sound in *about*, the /eɪ/ sound in *chase*, and the /ʊ/ sound in *wolf*. However, errors included mispronouncing *saw* as [sou] instead of /’sɔ:/, *muttering* as [metering] instead of /mʌtərɪŋ/, *rushed* as [rast] instead of /rʌʃt/, and *laughed* as [lavd] instead of /læft/. In diphthongs, he correctly pronounced the /eɪ/ sound in *graze* and *decided*, as well as the /aɪ/ sound in *cried* and *entire*. Regarding silent letters, he correctly pronounced *could* and *fright* but mispronounced *thought*, pronouncing it as [dhouk] instead of /θɔ:t/.

Subject 4 demonstrated varying accuracy in pronunciation across suprasegmental and segmental aspects. In the suprasegmental category, she correctly stressed 13 out of 15 words (86.6%), although some words were mispronounced, affecting both stress and voice quality. Notably, “Saw,” “Laughed,” and “Could” were pronounced incorrectly, making them unidentifiable. In terms of voice quality, she correctly pronounced 8 out of 15 words (53.3%). While her accent followed American English patterns, she struggled particularly with monophthongs, such as pronouncing “Saw” as /’səʊ/ instead of /’sɔ:/ and “Laughed” as /lʌvd/ instead of /læft/. In the segmental aspect, she performed well, correctly pronouncing 12 out of 15 words (80%). Specifically, she achieved 80% accuracy in monophthongs, 100% in diphthongs, and 66.6% in silent-letter words. Despite her challenges in voice quality, her overall pronunciation was understandable.

Subject 5 demonstrated strong pronunciation accuracy across suprasegmental and segmental aspects. In the suprasegmental category, he correctly stressed 12 out of 15 words (80%), although some words were mispronounced, affecting both stress and voice quality. Notably, “Saw” and “Rushed” were pronounced incorrectly, making them unidentifiable, while “Thought” had incorrect stress placement. In terms of voice quality, he pronounced 9 out of 15 words correctly (60%), showing a generally accurate American English accent but struggling particularly with monophthongs. For example, he pronounced “Saw” as /’aʊ/ instead of /’sɔ:/ and “Muttering” as /’meɪʤərɪŋ/ instead of /’mætərɪŋ/. In the segmental aspect, he performed well, correctly pronouncing 13 out of 15 words (86.6%). Specifically, he achieved 80% accuracy in monophthongs, 100% in diphthongs, and 100% in

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silent-letter words. Despite minor errors in monophthong pronunciation, his overall pronunciation was clear and understandable.

Student's Intelligibility

Table.2 Student's Intelligibility

Research Subject	Word Recognition (1-15)	Neighbourhood Density (1-15)	Total Score (%)
Subject 1 (female)	8	4	40%
Subject 2 (female)	8	5	43,3%
Subject 3 (male)	8	5	43,3%
Subject 4 (female)	10	10	66,6%
Subject 5 (male)	10	10	66,6%
Total Score	44	34	
Average Score	58,6%	45,3%	

Subject 1 demonstrated varying accuracy in pronunciation across both suprasegmental and segmental aspects, which impacted her performance in word recognition and neighborhood density. In the word recognition section, she correctly pronounced 8 out of 15 words (53.3%), indicating moderate intelligibility. Words like *sheep, muttering, wolf,* and *graze* were pronounced clearly, while *saw, laughed, decided,* and *cried* were pronounced with slight distortions but remained recognizable to the rater. However, words such as *about, rushed, chase, entire, could, fright,* and *thought* were mispronounced to the extent that they were perceived as different words. For example, *about* was pronounced as /ə'bʌv/ [ebov] instead of /ə'baʊt/, leading to a misunderstanding as *above*, while *chase* was pronounced as /keɪs/ [keis] instead of /ʧeɪs/, making it sound like *case*.

In the neighborhood density section, where words with many phonetic neighbors are more susceptible to confusion, Subject 1 significantly dropped with her intelligibility. She pronounced only 4 out of 15 words (26.6%) correctly. While *sheep, muttering, wolf,* and *graze* remained intelligible, words like *saw, laughed, decided,* and *cried* became ambiguous due to segmental errors. For instance, *saw* was pronounced as /'saə/ [sao] instead of /'sɔ:/, making it possible for listeners to misinterpret the word. Similarly, *decided* was pronounced as /dɪ'zaɪdɪd/ [dizaidid] instead of /dɪ'saɪdɪd/, which could be mistaken for another word with a similar structure. Meanwhile, words such as *about, rushed, chase, entire, could, fright,* and *thought* were completely misunderstood due to mispronunciations that altered their meanings.

Overall, Subject 1 performed better in word recognition (53.3%) than in neighborhood density (26.6%), with an average intelligibility score of 40%. Her pronunciation challenges were most apparent in words with silent letters and those requiring accurate vowel articulation. These difficulties stemmed from errors in both suprasegmental (stress and rhythm) and segmental (phonetic accuracy) features, affecting her intelligibility.

Subject 2 demonstrated moderate intelligibility in the word recognition section, correctly pronouncing 8 out of 15 words (53.3%). While some words were clear, several contained segmental errors that altered their pronunciation and affected comprehension. Words like *muttering*, *chase*, and *cried* were pronounced correctly, whereas *sheep* was mispronounced as [shep], making it sound like *ship*, and *laughed* was pronounced as [lav], resembling *love*. In the neighborhood density section, her performance declined, with only 5 out of 15 words (33.3%) correctly pronounced. Many mispronunciations led to semantic shifts, changing the meaning of words. For example, *graze* was mispronounced as [greis], making it sound like *grace*, and *thought* was altered to [tok], which significantly impacted comprehension. Some words, like *about* and *could*, were ambiguous but still recognizable. Overall, Subject 2 had an average intelligibility score of 43.3%, indicating that while some of her words were understandable, many mispronunciations affected clarity. Her word recognition skills were stronger than her neighborhood density performance, suggesting that her

pronunciation errors did not always make words unrecognizable, but they frequently led to changes in meaning. Her accent and phonetic distortions contributed to intelligibility challenges.

Subject 3 demonstrated moderate intelligibility in the word recognition section, correctly pronouncing 8 out of 15 words (53.3%). Some words, such as *sheep*, *about*, *wolf*, *graze*, and *could*, were pronounced clearly. However, several words contained segmental errors that altered their pronunciation, making them difficult to recognize. For instance, *saw* was pronounced as [sou] instead of /'sɔ:/, *muttering* was pronounced as [metering] instead of /mʌtərɪŋ/, and *rushed* was pronounced as [rast] instead of /rʌʃt/. Other mispronunciations led to semantic shifts, changing the meaning of words. *Chase* was pronounced as [chiz], resembling *cheese*, and *laughed* was pronounced as [lavd], making it sound like *loved*. Words like *cried*, *entire*, and *fright* were pronounced with errors but remained somewhat recognizable. In the neighborhood density section, his performance declined, with only 5 out of 15 words (33.3%) correctly pronounced. Mispronounced words in this section often changed their meaning entirely, making comprehension more challenging. Despite some words being understandable, many errors affected clarity, and the subject's heavy accent and phonetic distortions further influenced intelligibility. His average intelligibility score was 43.3%, with stronger performance in word recognition than in neighborhood density.

Subject 4 demonstrated moderate intelligibility in both the word recognition and neighborhood density sections, with an intelligibility score of 66.6% in each. In the word recognition section, she pronounced 10 out of 15 words clearly and rather clearly. Words such as "sheep," "muttering," "about," "chase," "wolf," "graze," "decided," "cried," and "entire" were pronounced accurately, while mispronunciations occurred with words like "saw," "rushed," "laughed," "could," and "thought," where NN produced segmental errors that made the words difficult to recognize, such as pronouncing "saw" as [sou] instead of /'sɔ:/ or "rushed" as [rast] instead of /rʌʃt/. Similarly, in the neighborhood density section, she pronounced 10 out of 15 words clearly and rather clearly. While many words were intelligible, mispronunciations such as "saw" [sou] for /'sɔ:/ and "thought" [toud] for /'θɔ:t/ led to confusion, with the rater recognizing these words as others with different meanings. Despite the occasional mispronunciations, her overall performance indicates that most of her words were understandable, placing her at a level 3 of intelligibility. The analysis highlights that Subject 4 primarily faced pronunciation issues related to segmental aspects, especially vowel sounds and the articulation of words with similar phonetic neighbors. Nonetheless, the majority of her pronunciation was still comprehensible, demonstrating moderate overall intelligibility.

Subject 5 demonstrated moderate intelligibility, with a score of 66.6% in both the word recognition and neighborhood density sections. In the word recognition section, he correctly pronounced 10 out of 15 words clearly and rather clearly. Words like "sheep," "chase," "wolf," "laughed," "graze," "decided," "entire," and "could" were pronounced clearly, while some mispronunciations occurred with words like "saw," "muttering," "rushed," "cried," and "fright." For instance, he pronounced "saw" as [sau] instead of /'sɔ:/, and "muttering" as [mejoring] instead of /'mætərɪŋ/, which caused confusion and led the rater to recognize these words as different ones. Similarly, in the neighborhood density section, he mispronounced several words, but they still produced clear versions of "sheep," "chase," "wolf," "laughed," "graze," "decided," "entire," and "could." However, words like "saw," "muttering," "rushed," "cried," and "fright" were mispronounced to the point where they became unrecognizable, with "saw" being pronounced as [sau] instead of /'sɔ:/ and "fright" as [fraek] instead of /fraɪt/. Despite these mispronunciations, his intelligibility was still reasonable, with most words understandable to the listener, placing him at level 3 of intelligibility. The average intelligibility score across both sections was 66.6%, indicating that the majority of his pronunciations were comprehensible, with the main issues stemming from segmental errors affecting vowel sounds and the articulation of certain consonants.

3.2 Discussion

Student's Pronunciation

Based on the research findings, students demonstrated strong pronunciation skills in diphthongs, successfully pronouncing them. While previous studies have found that many EFL and ESL learners struggle with diphthong pronunciation, the subjects in this study found them relatively easy. Pratiwi & Indrayani, (2021) investigated pronunciation errors in nine diphthongs: [eɪ], [aɪ], [aʊ], [oʊ], [ɔɪ], [ɪə], [eə], [ʊə], and [ɔə]. Their findings showed that all four subjects mispronounced [eɪ], and three out of four mispronounced [aɪ]. In contrast, all subjects in this study correctly pronounced [eɪ] and [aɪ].

Several factors may explain this difference. First, diphthongs may be easier to recognize due to fewer variations in sound compared to monophthongs, making them less confusing. Second, students in this study were in higher semesters and actively participated in an English club, potentially giving them more exposure to English pronunciation. Additionally, while Pratiwi and Indrayani analyzed multiple diphthongs, this study focused only on [eɪ] and [aɪ], which may have influenced the results.

On the other hand, monophthong seems to be more challenging for the students to pronounce. Scoring 6 out of 8 is considered a fairly good level of pronunciation, however, there is one student pronounced only three words consisting monophthong. This indicates that monophthong has significant challenge for the students. According to Demirezen, (2020), diphthongs involve gliding from one vowel to another, where the second component is weaker and less distinct. This process makes diphthongs sound like a single, elongated vowel, reducing pronunciation complexity. In contrast, monophthongs require consistent articulation without gliding, making them more challenging for learners to master. In addition, many words containing monophthongs are pronounced similarly, making it particularly challenging to differentiate between long and short vowels. A study by Tahang et al., (2024) found that many students struggle with this distinction. For example, the word *sit* was often pronounced with a long vowel when it should have a short vowel, while the word *sea* was mistakenly pronounced with a short /ɪ/ sound instead of the correct long /i:/ sound.

Finally, in the segmental aspect, silent letters posed the greatest challenge for most students in this study. Two students scored 2 out of 3, one student scored 1 out of 3, one student failed, and one student achieved a perfect score. Despite the limited number of test words, students still exhibited frequent errors in word stress and pronunciation. This suggests that if a larger set of words were tested, the error rate would likely be even higher, highlighting the need for targeted instruction in silent letter pronunciation. Numerous studies have investigated pronunciation errors related to silent letters, consistently demonstrating that students face difficulties in pronouncing them correctly. One primary cause of these difficulties is the phonetic difference between English and Indonesian. Unlike English, the Indonesian language does not include silent letters (Pusfarani et al., 2021), for instance, in English, words ending with the letter clusters *[lp]* and *[ps]*, such as *scalp, pulp*, and *help*, are pronounced differently from their Indonesian equivalents. In Indonesian, similar clusters are separated into distinct syllables, such as *al-pa, pul-pen*, and *tel-pon*, which leads Indonesian speakers to pronounce them incorrectly by inserting a schwa sound *[ə]* between *[l]* and *[p]*. Similarly, the English *ps-* cluster, as found in *psychology*, is pronounced with a silent *p*, whereas in Indonesian *psikologi*, both *p* and *s* are fully articulated. These phonological differences contribute to pronunciation errors among Indonesian learners of English. In their study, Pusfarani et al. (2021) identified 897 pronunciation errors out of 1,560 data points, highlighting the persistent challenge of silent letter pronunciation. This finding suggests that the mastery of silent letters remains far from perfect. Additionally, they also attribute errors in silent letter pronunciation to various factors, including diverse language accents, limited vocabulary comprehension, and inconsistencies in English pronunciation rules. Although certain patterns serve as useful guidelines for pronouncing silent letters in English, they often do not follow consistent phonetic rules. As a result, learners must rely on memorization and repeated exposure to improve their pronunciation accuracy. According to Strausser and Panizza (2007), as cited in Rosemarie & Veniranda (2022), there are no universal rules for silent letters; instead, learners must become familiar with common spelling patterns through frequent usage. This highlights the importance of explicit instruction and regular practice in mastering silent letter pronunciation. This emphasizes the importance of direct instruction and regular practice in mastering silent letter pronunciation. In a pedagogical perspective, it is potentially beneficial for teachers to incorporate exercises that specifically target silent letter patterns and exceptions, such as minimal pair drills and focusing on words with silent letters. This method would help learners to develop a stronger phonetic awareness.

In the aspect of suprasegmental features, such as voice quality and word stress, voice quality appears to be the biggest challenge. Scoring a maximum of 9 out of 15 is considered low and far from perfect, with some students scoring as low as 3 or 4. Several possible reasons for this include a lack of awareness of English intonation and rhythm, making their speech sound monotonous or unnatural, low confidence in speaking, which leads to unclear or weak pronunciation, and insufficient articulation practice, affecting the clarity and naturalness of their speech. Interestingly, in terms of word stress, most students demonstrate a fairly good understanding of syllable stress. This finding aligns with previous research by Lasi (2020) which concluded that students were categorized at an 'average' level in mastering Basic English Pronunciation (BEP). The study found that students still faced difficulties in speaking performance, particularly in the suprasegmental aspect of voice quality. The data analysis

revealed that 61.5% of students performed at an "enough" level in stress, 65.3% in intonation, 50.0% in voice quality, and 61.5% in gestures (as part of the segmental element). Among these, voice quality had the lowest score, indicating that students struggled the most in this area. One possible reason for this difficulty is that students were not paying enough attention to their voice when pronouncing basic words. Their slow, deep, and low voices suggested hesitation and a lack of confidence in uttering certain words. To address this, focusing on developing voice quality through imitation and mimicry exercises seems to be the right classroom activities. Teachers may use audio and video resources to expose students to natural, authentic speech and motivate them to practice varying their pitch, tone, and projection.

Student's Intelligibility

Student's intelligibility was assessed based on two categories, such as word recognition, referring to their ability to produce words accurately as recognized by the rater, and neighbourhood density, which measured how mispronunciations led to other meaningful words. A consistent pattern of pronunciation errors emerged across the subjects, primarily due to segmental deviations, where incorrect vowel or consonant sounds altered word meanings. Common errors included vowel substitution such as, /ʌ/ to /u/, as in word could mispronounced as "kut". Consonant misarticulation such as, /ʃ/ to /s/, as in word rushed pronounced as "rust", and final consonant deviations /d/ to /t/, as in word cried pronounced as "kraet". These mispronunciations often resulted in word substitutions, making certain words difficult to understand and affecting overall intelligibility. The findings suggest that phonemic awareness and segmental phonology play a crucial role in pronunciation clarity among English learners.

The subject's performance in pronunciation accuracy showed slight variations, but similar trends emerged across participants. On average, they correctly pronounced 66.6% of words in both word recognition and neighborhood density tasks. However, mispronounced words often resulted in different words with new meanings, leading to phonological confusion. The most frequent errors involved vowel and consonant misarticulating, which significantly affected speech clarity. While some subjects excelled in certain words, others struggled with the same sounds, emphasizing the role of individual phonetic perception and articulation ability in pronunciation learning. Furthermore, the study highlights a critical issue in second-language pronunciation: when mispronunciations produce real words with different meanings, communication breakdowns can occur. For example, substitutions such as "rushed" becoming "rust" ([rʌʃt] → [rʌst]), "laughed" becoming "loved" ([læft] → [lʌvd]), and "saw" becoming "so" ([sɔ:] → [sou]) can lead to misunderstandings in real-life conversations. These findings underscore the importance of phonological awareness in effective communication.

Based on the findings, intelligibility particularly in word production is closely linked to a speaker's awareness of segmental features, such as vowels and consonants. Many previous studies have shown that intelligibility has a narrower scope in communication, primarily focusing on word meaning. In this context, enhancing segmental accuracy alone can improve intelligibility. For example, s study by Yenkimaleki & Heuven (2021), found that teaching segmental contrasts, combined with production-focused practice, significantly improved the intelligibility of EFL learner's speech. On the other hand, suprasegmental features play a crucial role in overall comprehensibility. A lack of awareness of elements such as intonation, word stress, and rhythm can affect not only word intelligibility but also how the entire message is perceived. For instance, in English, differences in word stress can change meaning, as in record (noun) versus record (verb). Likewise, incorrect intonation can lead to ambiguity, such as distinguishing between a statement and a question. Furthermore, research by Gordon and Darcy, (2022) found that explicit instruction in suprasegmentals was more effective in improving learner's comprehensibility than instruction focusing solely on segmental.

4. Conclusion

The findings of this study indicate that intelligibility is more likely influenced by segmental features rather than suprasegmental features. Errors in vowel and consonant articulation frequently lead to mispronunciations that change word meaning, directly affecting intelligibility. In contrast, suprasegmental features, such as stress, rhythm, and intonation, play a more significant role in overall comprehensibility, as they cover broader aspects of communication. While both segmental and suprasegmental features contribute to spoken communication, the results suggest that accurate

pronunciation at the phonemic level is crucial for ensuring intelligibility, whereas suprasegmental accuracy enhances the listener's ability to process speech more fluently. These findings highlight the need for pronunciation instruction that prioritizes segmental precision to improve intelligibility while also incorporating suprasegmental training to refine comprehensibility in broader communicative contexts. However, this study is limited by the relatively small sample size and its dependence on a single qualitative assessment method. Future research could broaden the data set by involving larger and more diverse learner groups with varied proficiency levels and employing a mixed-methods or quantitative approach to offer a more comprehensive understanding of pronunciation and intelligibility among EFL learners.

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