



An Analysis of Thailand Students: Perception of Difficulties in English Vowel Production

Elsa Amelia¹, Abdul Rohim², Nargis³
{elsa.amelia@umt.ac.id¹, abdulrohimi2013@yahoo.com², nargis@umt.ac.id³}

English Language Education, Universitas Muhammadiyah Tangerang, Indonesia¹²³

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Abstract. This study examines the challenges faced by upper secondary students at Phanowittayakom School, Thailand, in producing English vowels. Employing a qualitative descriptive design, the research involved 29 students from Grade 5 and Grade 6 who participated in a reading-aloud test based on a 158-word narrative text. The students' oral performances were recorded and analyzed to identify patterns of vowel production errors. The findings reveal persistent difficulties in distinguishing vowel quality and vowel length. Common error patterns include vowel substitution influenced by first language interference, simplification of diphthongs, and instability in maintaining long and short vowel contrasts. In addition, questionnaire data indicate that students perceive pronunciation as challenging due to prosodic complexity, cognitive demands, and affective factors such as low confidence. The study highlights that vowel production difficulties are multidimensional, involving linguistic and psychological aspects. These findings suggest the need for explicit phonological instruction, increased phonological awareness, and supportive speaking practice to improve vowel accuracy among EFL learners.

Keywords: English vowel production, Reading aloud, Pronunciation difficulties, EFL learners, First language interference

1. INTRODUCTION

English vowel production remains one of the most persistent challenges for learners of English as a Foreign Language (EFL). English vowel production by native Thai speakers faces particular challenges due to the phonological differences between the two languages. The research problem of this research Thai EFL students often experiences difficulties in producing English vowel sounds due to differences between the Thai and English vowel systems. Thai has a more significant vowel system than English, particularly in terms of vowel length and stress. This makes it difficult to distinguish and produce certain vowels in English. The English vowel system has more variation and contrast than many Asian languages, so students often have difficulty distinguishing and producing similar but dissimilar vowels, such as /t/ and /i:/ or /æ/ and /ʌ/ [1]. Students must acquire new phonemic boundaries that do not exist in their first language, and this often leads to perceptual confusion, inaccurate articulation, and reduced intelligibility [2]. This research focuses on analyzing Thai upper secondary students' perceptions of difficulties in English vowel production in an EFL learning environment. For Thai EFL learners, these challenges are intensified by the distinct phonetic structure of the Thai vowel system, which differs significantly from English in both vowel quality and length distinctions. A growing number of studies have examined English vowel perception and production among EFL learners across various linguistic backgrounds, consistently attributing difficulties to L1 transfer effects such as vowel inventory mismatches and assimilation patterns [3]. For instance, research has shown that the absence of certain English vowel sounds in the learners' native language often leads to articulation errors, with weakly pronounced voicing and incorrect articulations being common issues [4]-[6]. Based on the three theories, English vowel production is particularly challenging for Thai EFL learners due to fundamental differences between the Thai and English vowel systems. This research is grounded in Second Language Speech Learning Theory, Findings, and Problems [7]. Which explains that second language vowel production is closely related to learners' perception of phonetic differences between their first language (L1) and the target language (L2). Students often experience difficulty producing English vowels when they perceive L2 vowels as similar to those in their L1, leading to vowel assimilation and inaccurate articulation. In the context of Thai EFL learners, differences in vowel inventory, vowel length, and vowel quality between Thai and English result in perceptual confusion and difficulties in vowel

production. Therefore, learners' perceptions of vowel distinction, articulation, and L1 transfer play a crucial role in understanding difficulties in English vowel production.

The greater variation and subtle contrasts in English vowels require learners to acquire new phonemic boundaries that do not exist in their first language, leading to perceptual confusion and articulation errors. These difficulties are largely influenced by L1 transfer effects, including vowel inventory mismatches and assimilation patterns, which reduce the accuracy and intelligibility of English vowel production. This challenge is particularly pronounced for vowels, which are among the most difficult sounds for language learners to produce accurately, especially for EFL learners [8], [9]. Such difficulties extend to the accurate differentiation and production of specific English vowels, a hurdle observed across various proficiency levels, even among advanced learners [10]. This complexity is further compounded by factors such as limited exposure to the target language, perceptual biases, and time constraints, which collectively hinder the acquisition of accurate English vowel pronunciation [11]. If students are unsure or do not understand how to distinguish vowels, they tend to judge all English vowels as difficult to pronounce. Therefore, in this study, students' perceptions focused on challenges in English vowel production. Based on the description of aspects of students' difficulties, it can be concluded that they often simplify or map English vowels to the closest Thai vowel due to differences in the vowel system and subtle vowel variations. Vowel production is one of the important aspects that students must master in order to speak English well. This study aims to analyze Thai students' perceptions of difficulties in producing English vowels as a foreign language (EFL) at Phanoiwittayakom School Loei Thailand. Based on the theory of (Anggraini & Prawiro, 2023) and the empirical findings reported in the journal, it can be concluded that this theoretical framework directly addresses research question (1). This question is relevant because it examines the factors contributing to English vowel production difficulties, including linguistic factors such as L1 interference and vowel complexity, environmental factors such as language exposure, and pedagogical factors related to learning processes and phonological awareness, which have been theoretically and empirically identified as sources of difficulty for EFL learners.

Students' perception refers to the way learners interpret and make sense of their experiences in the learning process. Students' perceptions of difficulties in English vowel production are a crucial area of research, especially in the context of EFL countries such as Thailand [12]. In the context of learning English as a foreign language (EFL), interference from the first language is often one of the main factors causing difficulties in sound production, because learners tend to use L1 phonological patterns when encountering sounds that do not exist in their own language. L1 phonological interference is the main cause of pronunciation errors among EFL learners who do not have equivalent sounds in their first language [13]. Other factors that influence these perceptions include linguistic awareness, previous learning experiences, as well as affective aspects such as motivation, self-confidence, and oral or written anxiety [10]-[12]. All three theories show that Thailand students' perceptions of difficulties in English vowel production are influenced by multiple factors. Interference from the first language is a major cause, as students tend to apply L1 phonological patterns when producing unfamiliar English vowels. In addition, linguistic awareness, previous learning experiences, and affective factors such as motivation, self-confidence, and speaking anxiety also shape how students perceive their pronunciation difficulties. These interacting factors explain why English vowel production is perceived as challenging in the EFL context of Thailand.

The social and cultural environment also plays an important role, students who are more frequently exposed to English through social interactions tend to have a more positive perception of vowel production. Understanding these students' perceptions can help educators design more effective teaching strategies to improve students' ability in English vowel production. Perception is the experience of objects, events, and relationships gained by inferring information and interpreting messages. Perception gives meaning to stimulus-response in passing on information and predicting messages that involve attention, expectations, motivation, and memory. Students' perception is grounded in constructivist learning theory, which views learners as active individuals who construct meaning based on their experiences, prior knowledge, and interaction with their learning environment [13]-[15]. From this perspective, students' perceptions are formed through cognitive processes involving attention, interpretation, motivation, and memory, which influence how learners understand and respond to learning experiences [19], [20]. Developing perception is the basis of action that allows individuals to adapt their activities to the world in which they live [18]-[22]. The perception of English vowels learners' perceptions are a crucial factor in understanding difficulties in English vowel production. Their theory emphasizes that EFL learners' problems in producing English vowels are closely related to how they perceive vowel contrasts that do not exist in their first language. Therefore, this theoretical perspective directly addresses research question (2) as it positions learners' perceptions as the main factor explaining difficulties in English vowel production within an EFL

learning. Here, students' perceptions can be described as opinions developed after having experiences that require adjustment. Therefore, in this study, students' perceptions are focused on students' participation, materials, task delivery, and pronunciation of English vowels, and it can be concluded from the description of the aspects in students' perceptions that they should pay attention to the difficulties in English vowel production. Vowel production is one of the aspects that students must learn in order to speak English well. This study aims to find out whether learning can improve students' difficulties in English vowel production.

However, the majority of previous studies, entitled Perception and Production of Five English Front Vowels by College Students, found that Taiwanese students found it easier to distinguish between the vowel pairs /i/-/ɪ/ than /e/-/ɛ/ and /ɛ/-/æ/[23]. Similarly, , in their study title A Study on Auditory Perception of Tense and Lax Vowels of English as a Foreign Language by Learners with Spanish as L1, found that English learners with Spanish as their first language tend to assimilate English vowels into the sound categories of their native language [24]. These studies demonstrate how learners' L1 phonological systems directly influence their vowel perception and production accuracy. However, less attention has been paid to learners' own awareness of their pronunciation challenges. [25], with the title Training Spanish Speakers in The Perception and Production of English Vowels, emphasized that effective vowel production is closely related to learners' perceptual awareness and training, and suggesting that learners' awareness of their pronunciation difficulties plays an important role in improving English vowel accuracy. The gap of this research provide valuable insights into vowel production across various linguistic backgrounds, previous research that specifically focuses on Thai EFL learners' perceptions of their own pronunciation difficulties is still limited. Therefore, this study seeks to fill this gap by analyzing Thai students' own perceptions of their difficulties in English vowel production. Unlike previous research such as [23]-[25], the novelty of this research lies learners' subjective awareness and self-perceived challenges. This focus provides a more comprehensive understanding of how Thai learners identify, interpret, and attempt to overcome their vowel production difficulties in an EFL learning.

This study addresses two specific research questions: (1) What are the difficulties of upper secondary students at Phanowittayakom School in Thailand regarding their English vowel production? (2) What factors and students perception contribute to the difficulties?. In other words, difficulties in English vowel production are strongly influenced by differences between learners' first language and English phonology. While previous studies have explored this issue among non-Thai learners, limited attention has been given to Thai EFL students. Considering the unique vowel system of the Thai language, this study aims to fill that gap by examining Thai students' perceptions of their pronunciation difficulties. By focusing on learners' self-awareness and reflections, this research provides new insights into the impact of first language interference and offers practical implications for improving English pronunciation teaching in Thailand. This approach is critical for developing more effective and targeted pedagogical interventions, particularly given the documented issues, such as the weak articulation of voiced vowel sounds and the general incorrectness of articulations that encountered by Thai learners [4]. Thai upper secondary students perceive English vowel production as difficult mainly due to differences between Thai and English vowel systems. First language interference and limited phonological awareness contribute significantly to these difficulties. This study highlights the importance of understanding students' perceptions to support more effective English pronunciation instruction in the Thai EFL context.

2. METHOD

This study use qualitative descriptive data. This research design aims to explore and understand the meanings that individuals or groups assign to a social or human problem [26]. Therefore, a naturalistic qualitative approach is appropriate for analyzing students' perceptions of difficulties in English vowel production within their learning context.

Research Setting and Participants Criteria

The research was conducted at Phanowittayakom School, located in Northern Thailand, from June to September 2025. This school was selected because it is one of the public schools that actively implements English as a Foreign Language (EFL) programs and provides regular pronunciation and phonology learning activities, making it relevant for investigating vowel production difficulties. Another reason is that the school has students with diverse English proficiency levels, which allows the researcher to obtain varied and representative data.

The participants were upper secondary (grade 5-6; Indonesia's grade 2-3 in high school). students who were studying English as a foreign language. The selection of participants was based on purposive sampling, focusing on students who had taken English phonology or speaking classes. These students were

chosen because they were considered capable of providing rich information about their learning experiences related to English vowel production.

Population and Sample

The population of this study consisted of students grades 5-6 of Phanowittayakom School who were enrolled in English language classes during the academic year 2025. The sample consisted of 29 upper secondary students selected through purposive sampling. Students who participated were those who: had been enrolled in English-speaking or phonology classes; had prior exposure to English vowel pronunciation materials; and voluntarily agreed to participate in the study.

Data Collection Technique

The data in this study were qualitative in nature, consisting of students' written responses, opinions, and pronunciation performances. To ensure systematic data collection, several instruments are used:

Primary data collected from the students:

Reading test, The primary data in this study were also collected through a reading test, in which students were given a short reading text and asked to read it aloud while being recorded. This technique was adapted from a study titled *An Analysis of Thai English Teachers' Self-Perception of Pronunciation Difficulties in English* by [27]. Which used oral reading to test students' pronunciation difficulties. The reading text was chosen to represent common English pronunciation features, and the recording was used to identify pronunciation errors and mispronunciations. The instrument was slightly modified to suit the context and purpose of this study. Closed questionnaire, The primary data of this study were collected through a closed-ended questionnaire adapted from a previous undergraduate thesis entitled *Students' Perception on Their Difficulties in English Pronunciation* [28]. The questionnaire consists of 20 closed-ended questions focusing on students' perceptions of their difficulties in English pronunciation, including aspects such as vowel and consonant sounds, stress, and intonation. The responses were measured using a descriptive to obtain structured and qualitative data. The instrument was slightly modified to suit the objectives and context of the present study while maintaining the main structure of the original questionnaire.

Secondary data collected from documents, Secondary data in this study were collected through documents. This documents included recordings of students' pronunciation, reading test transcripts, questionnaire results, and other relevant academic records related to the study. These documents were used to support and strengthen the analysis of students' pronunciation difficulties. Documented data helped researchers verify primary data and provided additional information to ensure the accuracy and reliability of the research findings.

Data Instrument

To ensure systematic data collection, several instruments were used: reading test used to elicit students' pronunciation of specific English vowel sounds for analysis of production difficulties and a questionnaire, a structured set of closed-ended questions, designed to explore students' perceptions and experiences related to difficulties in English vowel production.

Data Collection Procedures

Data collection was carried out in three stages. First, students were asked to complete the questionnaire, which contained closed questionnaire about their perceptions and strategies related to English vowel production. Second, a reading test was administered, in which students were instructed to read selected English words and sentences containing target vowel sounds. Their performances were recorded and observed to identify specific pronunciation errors. Finally, documents.

Data Analysis

Data were analyzed using interactive model, which consists of data reduction, data presentation, and conclusion drawing, which are carried out continuously and interact with each other throughout the research process [29]. These three components operate interactively and continuously throughout the research process. Data reduction involves selecting, simplifying, and organizing relevant data. Data display presents the reduced data in an organized form to identify patterns, and conclusion drawing and verification interpret and confirm the findings through cross-checking. This model supports a systematic and iterative analysis of students' perceptions and difficulties in English vowel production; data reduction selecting, simplifying, and organizing raw data from questionnaires, reading test activities, and records; data display presenting

the reduced data in descriptive form to identify emerging patterns; and conclusion drawing and verification interpreting the meaning of the findings, and verifying them through cross-checking. Data reduction, selecting, simplifying, and organizing raw data from questionnaires, and reading test activities.

Data Validity

Data validity in this qualitative study refers to the trustworthiness and credibility of the data in representing students' perceptions and pronunciation difficulties. According to, validity in qualitative research can be strengthened through the use of multiple data sources in natural settings [26]. Therefore, this study employed interviews with English teachers and students' reading-aloud performance as complementary data sources, where teacher interviews provided professional judgments and the reading test offered direct evidence of students' actual vowel production, thus strengthening data validity.

1) Interview English Teacher

Data validity was ensured through interviews with English teachers, who emphasized the importance of teacher perspectives in validating students' pronunciation difficulties [28]. These interviews provided teachers' professional assessments of common pronunciation problems and were used to confirm consistency between identified pronunciation errors and teacher observations in the classroom.

2) Reading Test

Data validity was established through students' reading-aloud performance, who stated that oral reading is effective in identifying true pronunciation difficulties [27]. In this study, students were asked to read a short text aloud while being recorded, allowing researchers to directly observe pronunciation performance. The recordings were analyzed to identify pronunciation errors, thus strengthening the validity of the data.

3. FINDINGS

Vowel Production in Reading Test

This section presents the findings from the reading aloud test conducted with 29 students from Grade 5 and Grade 6 secondary schools. The students were asked to read 158 word narrative text entitled "The Thirsty Crow." Their pronunciation was recorded and analyzed to identify patterns of vowel production errors. The qualitative analysis of the recordings reveals that vowel production difficulties were consistently observed across participants. Many students showed substitution of English vowel sounds with sounds that are closer to those in their first language. For example, the word *came* /keɪm/ was frequently pronounced as /come/, indicating a shift from the diphthong /eɪ/ to a shorter and more familiar vowel sound. Similarly, *apple* /'eɪbəl/ was often pronounced as /eɪpəl/, reflecting confusion in vowel quality and syllable structure. Difficulties were also evident in words containing long vowels. The word *trees* /tri:z/ was commonly reduced to forms such as /te/ or /treat/, suggesting instability in producing the long vowel /i:/. In addition, *fields* /fi:ld/ was often pronounced as /feel/, indicating omission of final consonant sounds after long vowels. These patterns suggest that vowel length distinctions were not consistently maintained during oral production.

Another recurring pattern involved diphthongs. Words such as *crow* /krəʊ/ were frequently pronounced as *cow*, *cloud*, or *clow*, demonstrating difficulty in maintaining the correct diphthong quality. This indicates that students struggled with complex vowel combinations that require smooth gliding between two vowel positions. Short vowel contrasts were also problematic. For instance, *neck* /nek/ was sometimes pronounced as *next*, and *pot* /pɒt/ as *pond*, reflecting confusion between vowel quality and consonant structure. These examples suggest that students did not consistently differentiate between similar short vowel sounds in English. Vowel-related errors appeared more frequent and more varied in form. The qualitative evidence indicates that vowel substitution, vowel length confusion, and diphthong simplification were dominant patterns in students' reading performance.

When comparing Grade 5 and Grade 6 students, similar error patterns were observed in both groups. Students from Grade 6, despite having one additional year of English instruction, displayed vowel production difficulties comparable to those of Grade 5 students. This similarity suggests that vowel pronunciation challenges persist across grade levels and may not significantly improve without focused pronunciation intervention. Overall, the reading aloud test demonstrates that students experience substantial difficulty in producing English vowels accurately. The errors observed indicate challenges in vowel quality, vowel length distinction, and diphthong production. These findings confirm that English vowel production remains a central pronunciation difficulty among secondary school learners.

Students' Perceived Difficulties in English Pronunciation

This study analyzes students' perceptions of pronunciation difficulties through a 20-item closed-ended questionnaire administered to 29 upper secondary students from Grade 5 and Grade 6. The questionnaire used four response categories: Strongly Agree (SA), Agree (A), Disagree (D), and Strongly Disagree (SD). The analysis focuses on identifying general response patterns. The findings are interpreted descriptively to understand how students perceive their challenges in English pronunciation, particularly vowel production. Overall, responses show a strong tendency toward agreement, indicating that pronunciation difficulties are widely experienced among students in both grade levels. The dominance of SA and A responses suggests that students perceive English pronunciation as demanding, involving not only individual sounds but also rhythm, stress, fluency, and confidence.

Based on thematic grouping of the items, four main areas of difficulty emerged: prosodic features, segmental aspects (especially vowel production), cognitive factors, and affective factors. Prosodic features appear particularly challenging, as many students agreed that they struggle with word stress, multisyllabic words, rhythm, and intonation. These findings suggest that suprasegmental aspects are complex and difficult to control consistently in speech. Segmental difficulties were also evident, especially in relation to English vowel sounds and distinguishing similar-sounding words. Students' agreement with these items indicates that vowel contrasts, particularly differences in length and quality, are perceived as problematic. Differences between English and the students' first language may contribute to this difficulty. Although consonant clusters were also perceived as challenging, vowel-related issues remain central to this study.

Cognitive factors were reflected in students' agreement with items related to memorizing pronunciation and maintaining fluency. Many students perceive pronunciation learning as mentally demanding, particularly when speaking spontaneously. This suggests limited automatization of phonological knowledge. In addition, affective factors emerged, as students indicated that pronunciation difficulties reduce their confidence and increase hesitation when speaking. This shows that pronunciation challenges are not only linguistic but also psychological. Overall, the findings demonstrate that students' difficulties in English vowel production are influenced by multiple interconnected factors, including prosodic complexity, segmental challenges, cognitive demands, and affective barriers. These perceptions highlight the need for instructional approaches and confidence development in speaking.

4. DISCUSSION

The findings of this study reveal that English vowel production remains a significant challenge for upper secondary students at Phanowittayakom School. The reading aloud test clearly demonstrates persistent difficulties in vowel quality, vowel length distinction, and diphthong articulation. These recurring error patterns indicate that students have not yet fully internalized the English vowel system, particularly in distinguishing subtle phonemic contrasts. These findings can be interpreted through the theoretical framework, which emphasizes that English vowel production difficulties among EFL learners are influenced by linguistic, environmental, and pedagogical factors [30]. Linguistically, the frequent substitution of diphthongs such as /eɪ/ and /əʊ/ and the instability in producing long vowels suggest strong first language (L1) interference. Students appear to approximate unfamiliar English vowel contrasts using the closest equivalents available in their native phonological system. This aligns with the theory that vowel complexity and cross-linguistic differences contribute significantly to pronunciation errors.

Furthermore, the instability in vowel length distinction observed in the reading test reflects limited phonological awareness. Pedagogical factors such as insufficient explicit instruction in phonological contrasts can reinforce persistent pronunciation errors [30]. The similarity of error patterns across Grade 5 and Grade 6 students strengthens this interpretation. Despite additional exposure to English instruction, Grade 6 students displayed comparable vowel production difficulties. This suggests that increased exposure alone does not automatically lead to improved vowel accuracy without systematic pronunciation-focused intervention. Environmental factors, such as limited authentic language exposure, may also contribute to these persistent difficulties. If students are not frequently exposed to accurate English vowel models in meaningful communicative contexts, opportunities for developing stable vowel representations may remain restricted. Thus, the reading test findings directly address Research Question (1), as they identify the specific forms and underlying contributing dimensions of vowel production difficulties.

In addition to linguistic evidence from the reading test, the questionnaire findings provide insight into students' perceptions of their pronunciation challenges. This dimension can be explained through the theoretical perspective of, who argue that learners' perception of vowel contrasts plays a crucial role in understanding and explaining production difficulties[31]. Their theory positions perception as a central factor in second language vowel acquisition, particularly when vowel contrasts do not exist in the learners' first language. The strong tendency toward agreement across questionnaire items indicates that students are

aware of their pronunciation challenges, including difficulties with vowel sounds, stress, rhythm, and fluency. This awareness supports [31] claim that perception and production are closely interconnected. If learners do not clearly perceive distinctions in vowel length or quality, accurate production becomes unstable. The reading test results, which show confusion in diphthongs and long vowels, reinforce this theoretical perspective. Students' production errors appear to mirror their perceptual uncertainty.

Moreover, the questionnaire highlights cognitive and affective dimensions of pronunciation difficulty. Students perceive pronunciation as mentally demanding and confidence-reducing. From a theoretical standpoint, this suggests that vowel production challenges are not solely phonological but are influenced by cognitive processing capacity and psychological readiness. When learners allocate excessive attention to sound accuracy, fluency may decline, reinforcing hesitation and insecurity. These affective barriers may reduce speaking practice, further slowing phonological development. Taken together, the integration of these two theoretical perspectives demonstrates that English vowel production difficulties among upper secondary students are multidimensional. explain the linguistic, environmental, and pedagogical contributors to vowel complexity and L1 interference, while highlight the central role of learners' perception in shaping production outcomes [30] [31]. The reading test findings provide empirical evidence of production instability, and the questionnaire data reveal students' perceptual and psychological awareness of these difficulties.

A research framework explains that variation in the production of phonemes in both languages is influenced by how learners map L2 sounds into existing L1 categories. This is supported by empirical evidence showing that individual variation in production is influenced by different first language backgrounds, and this has implications for inaccuracies in vowel production. [32] argues that this theory provides an empirical basis for students' substitution of the vowels /eɪ/ and /əʊ/ in reading tests is not simply a habit, but a manifestation of how L1 vowel structures are incorporated into L2 production due to stronger phonetic associations with their own vowel categories. Other research has found that phonological awareness has a significant impact on the accuracy of pronunciation of second language sounds, including vowels. This study shows that increased phonological awareness directly influences learners' ability to articulate phonemes, determine stress, and more accurately pattern intonation, all of which are related to how students perceive and recognize vowel contrasts in the target language. [33] These findings support the questionnaire section that students' perceptions and their phonological awareness contribute to vowel production difficulties not only linguistic factors but also the way they realize sound differences.

Therefore, the discussion of this Research indicates that students' difficulties in English vowel production are shaped by interconnected linguistic factors (vowel complexity and L1 interference), perceptual limitations, cognitive load, environmental exposure, and affective barriers. These findings suggest that effective pronunciation instruction should not focus solely on repetitive articulation practice but must also strengthen phonological perception, increase meaningful exposure, develop prosodic awareness, and build learner confidence. Addressing these dimensions simultaneously may promote more stable and accurate vowel production in EFL contexts.

5. CONCLUSION

This study concludes that upper secondary students at Phanowittayakom School experience persistent difficulties in English vowel production, particularly in vowel quality, and vowel length. The reading aloud test reveals recurring patterns of vowel substitution and simplification, while the questionnaire findings indicate that these difficulties are influenced by interconnected linguistic, perceptual, cognitive, and affective factors. The integration of production data and students' perceptions demonstrates that vowel production problems are not solely caused by phonological complexity but are also shaped by first language interference, limited phonological awareness, instructional factors, and reduced confidence in speaking. This study advances the understanding of English vowel production in EFL contexts by highlighting the relationship between production performance and learner perception within a multidimensional framework. Practically, the findings suggest that pronunciation instruction should incorporate explicit vowel contrast training, prosodic awareness development, increased exposure to accurate models, and confidence-building speaking activities. Future research may further investigate intervention-based pronunciation training or longitudinal development of vowel perception and production among EFL learners.

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