



## ASSIMILATION OF CONNECTED SPEECH: STUDENTS' CHALLENGES IN LEARNING PRONUNCIATION

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Accepted:

10 November 2024

Published:

10 January 2025

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### ABSTRACT

Pronunciation plays a vital role in effective communication, ensuring that a speaker's message is clearly conveyed to the listener. This research explores the challenges faced by EFL students in pronouncing assimilation in English connected speech, particularly focusing on difficulties with various types of assimilation, including /t/, /d/, /n/, and /s/. An exploratory quantitative approach was utilized, involving students from the English Education Department at STAIN Mandailing Natal. Participants completed a pronunciation test to evaluate their ability to identify and produce assimilated sounds. The results revealed notable difficulties, with a high frequency of incorrect responses, indicating significant challenges in pronouncing certain types of assimilation. Among these, the assimilation of /d/ and /n/ sounds proved to be the most challenging, while /s/ assimilation was comparatively easier. The study emphasizes the importance of targeted pronunciation training, addressing the most problematic assimilation patterns, and integrating interactive, personalized teaching methods to enhance students' overall pronunciation skills.

**Keywords:** *Pronunciation, Connected Speech, Assimilation, EFL Learners.*

### 1. INTRODUCTION

Pronunciation is a crucial aspect of effective communication, as it ensures that a speaker's message is conveyed clearly and effortlessly to the listener (Gilakjani, 2012; Ratih & Arsih, 2024). Accurate pronunciation minimizes misunderstandings and reduces the need for repetition, enabling smoother interactions in personal and professional settings (Ditania, 2022). It also boosts the speaker's credibility and confidence while enhancing the listener's engagement and comfort. In the context of language learning, clear pronunciation fosters better comprehension and facilitates integration into new linguistic environments, allowing for more natural and meaningful communication (Derwing & Munro, 2005). Furthermore, good pronunciation can

positively influence social and professional opportunities, as clear communication is often linked to competence and intelligence (Jaya et al., 2019). Therefore, prioritizing pronunciation practice in language education and daily communication is essential for improving overall interpersonal skills.

According to Celce-Murcia, Brinton, and Goodwin (2010), achieving proficiency in pronunciation is vital for English as a Foreign Language (EFL) learners, as it significantly enhances their listening and speaking skills. A strong foundation in pronunciation enables students to recognize sounds, stress patterns, and intonation, improving their ability to comprehend spoken English (Veto Mortini et al., 2023). Additionally, accurate pronunciation aids in effective speaking by

**Vol 8 No. 1 (2025): ESTEEM**

ensuring that words and sounds are articulated correctly, making communication clearer and more understandable. Pronunciation training often involves practicing rhythm, stress, and intonation, which are key elements of fluent speech (Gilbert, 2008; Fauzi, 2021). As students refine these skills, they develop a more natural speaking style, boosting their fluency and confidence in oral communication.

However, learning English pronunciation poses challenges due to its variety of sounds, contextual variations, rhythmic patterns, and irregularities, particularly in connected speech. Connected speech refers to the natural flow of spoken language, where words are linked seamlessly without distinct pauses. In connected speech, sounds may change or merge to make speech smoother and more efficient. These features, including elisions (omission of sounds), assimilations (adjustment of sounds to match neighboring sounds), and reductions (weakening of sounds), are common in everyday conversations. Unlike the isolated pronunciation of individual words, connected speech reflects how language is naturally spoken in real-life interactions.

Research has consistently shown that EFL learners face significant difficulties with connected speech, especially with assimilation. For example, Brown and Kondo-Brown (2006) found that Japanese learners of English struggled with assimilation, which they identified as a major barrier to fluency. Over 70% of participants in their study reported challenges in perceiving and producing assimilated sounds. Similarly, Ahmadian and Matour (2014) observed that non-native English speakers had difficulties processing connected speech during listening tasks, particularly with phonological features like assimilation and elision, which negatively impacted comprehension. Trofimovich and Baker (2006) also

highlighted that over 70% of non-native learners, regardless of their linguistic backgrounds, found connected speech features, including assimilation, challenging in both perception and production. These difficulties often hinder learners' ability to understand fluent speech and affect their overall listening and speaking proficiency (Sanavi & Tarighat, 2014; Dinata, 2017).

Given these challenges, this study investigates the obstacles EFL learners face in mastering pronunciation, with a particular focus on assimilation in connected speech. Assimilation, one of the most complex aspects of connected speech, involves a sound changing to become more similar to a neighboring sound, making speech smoother and more efficient (Aziz et al., 2019; Askhatova A, 2020). For instance, in the phrase *ten bikes*, the /n/ in *ten* may assimilate to /m/ before the bilabial /b/ in *bikes*, resulting in [tɛm baɪks]. Such changes can be subtle and context-dependent, requiring learners to perceive and produce rapid, nuanced shifts in pronunciation. Unlike the deliberate articulation taught in formal instruction, these changes often occur unconsciously and vary across speakers and dialects (Akram & Qureshi, 2014). For example, the word *input* might be pronounced as [ˈɪmpʊt], with the /n/ assimilating to /m/, a variation that learners must recognize and replicate accurately. Mastering assimilation thus demands extensive exposure and practice, presenting a significant challenge for learners aiming for natural-sounding speech.

This study aims to provide a comprehensive understanding of the difficulties EFL learners face when navigating assimilation in connected speech. By exploring the complexities of listening to and producing these speech patterns, the research seeks to identify the specific challenges students encounter

## **ASSIMILATION OF CONNECTED SPEECH: STUDENTS' CHALLENGES IN LEARNING PRONUNCIATION**

**Vol 8 No. 1 (2025): ESTEEM**

and the factors influencing their proficiency. These insights are crucial for identifying areas where learners require additional support and guidance. Armed with this knowledge, educators and curriculum developers can design targeted strategies and interventions to improve students' pronunciation skills.

By pinpointing the precise nature of these challenges, this study lays the foundation for creating effective solutions. Addressing these obstacles through innovative teaching methods and activities tailored to EFL learners' needs can significantly enhance their pronunciation proficiency. Furthermore, the findings can inform the development of pronunciation-focused curriculum materials that provide ample opportunities for practice in real-world contexts. Ultimately, the goal is to empower learners to confidently navigate the complexities of connected speech assimilation, fostering their overall language acquisition journey.

## 2. METHODS

### 2.1 Research Design

This study seeks to explore the challenges faced by EFL students in pronouncing assimilation in connected speech. To achieve this, an exploratory quantitative research design was employed, chosen for its ability to provide a thorough and objective analysis of specific data. As noted by Creswell, J. W., & Creswell, J. D. (2018), an exploratory quantitative approach is particularly suited for examining issues or phenomena that are not yet well-defined or understood. This method focuses on identifying patterns, relationships, and insights through the collection and analysis of numerical data (Fraenkel et al., 2014). Accordingly, this research investigated the empirical factors and difficulties that contribute to

students' struggles with pronouncing assimilation in connected speech.

### 2.2 Participants

The participants were chosen due to their relevant experience and alignment with the research objectives. Specifically, 23 students from the English Education Department of STAIN Mandailing Natal were selected, including 8 males and 15 females, all of whom had completed the English Pronunciation course. This is to ensure that participants possessed the relevant academic background and exposure to pronunciation learning issues, thereby providing insightful and applicable data for the study.

### 2.3 Instrument

The primary instrument used in this study was a pronunciation test designed to assess students' challenges in pronouncing assimilation in English connected speech. This test comprised 30 questions, systematically divided into four categories based on the types of assimilation: assimilation of /t/, /d/, /n/, and /s/. Each category consisted of phrases that included instances of the assimilated sounds. The structure of the test ensured that students were exposed to a variety of phonetic contexts, thereby enabling a thorough assessment of their pronunciation skills (Brown, 2004).

### 2.4 Data collection

During the test, students took turns pronouncing the provided phrases containing instances of assimilation. This interactive aspect of the test enabled real-time pronunciation practice and allowed for the immediate capture of their speech patterns. Each student's responses were recorded to ensure a detailed and precise analysis. The recording process was carefully organized to achieve high-quality audio, which is essential for examining subtle

## Vol 8 No. 1 (2025): ESTEEM

nuances in pronunciation. The recorded data were subsequently analyzed by reviewing each response, focusing on the accuracy of the assimilation. This analysis aimed to identify common errors and specific challenges students encountered with various types of assimilation.

### 2.5 Data Analysis

The data analysis process began with a thorough review and organization of the audio recordings collected during the pronunciation test (Sugiyono, 2021). Each recording, labeled with the participant's identifier and the relevant assimilation category, was systematically examined. The researcher listened to each response multiple times to ensure evaluation accuracy and consistency. Pronunciation of the assimilated sounds was assessed based on predefined criteria, emphasizing correct articulation and the naturalness of speech. Quantitative analysis included calculating the frequency of errors for each type of assimilation (/t/, /d/, /n/, and /s/), followed by statistical analysis to identify recurring patterns and specific areas of difficulty. Descriptive statistics, expressed as percentages, were used to summarize the data and highlight the most common challenges.

## 3. RESULT AND DISCUSSION

The pronunciation test on assimilation in English connected speech was conducted with 23 students and consisted of 30 items. The students' performance varied across the items, reflecting different levels of difficulty. Overall, the results revealed a substantial number of errors, with 460 incorrect responses out of 690 total attempts. This indicates that students faced significant challenges in identifying and producing assimilated sounds. The error rates for individual items ranged from 0% to 100%, highlighting the specific areas where students excelled or struggled the most. Detailed results are presented in Appendix 1.

The most challenging item was item 20 (/n/ becomes /ŋ/), where all 23 students responded incorrectly, resulting in a 100% error rate. This demonstrates the considerable difficulty students experienced with this particular type of assimilation. In contrast, the easiest item was item 8 (/t/ becomes /tʃ/), with all students answering correctly, yielding a 0% error rate. This suggests that students were more confident and accurate in producing this specific assimilated sound.



**Chart 1. Students' Challenges in Pronouncing Assimilation Sounds**

Particularly, according to chart 1, the assimilation of /d/ sound posed the greatest challenge, accounting for 31.09% of the total errors. Following this, the assimilation of /n/ sound represented 29.35% of the errors, indicating that students also struggled significantly with this type. The assimilation of /t/ sound was the third most challenging, comprising 24% of the errors. In contrast, the assimilation of /s/ sound was the least challenging for students, accounting for only 15.22% of the errors.



**Chart 2. Students' Challenges in Pronouncing Assimilation /t/ Sounds**

Further, the pronunciation test results in Chart 2 indicates a notable variation in the assimilation of the /t/ sound. A significant

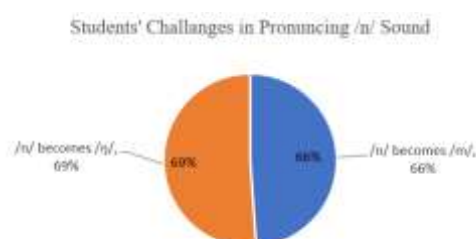
**Vol 8 No. 1 (2025): ESTEEM**

majority of students, 57%, demonstrated the assimilation of /t/ to /p/, suggesting this form of progressive assimilation is the most commonly adopted. In contrast, 39% of students exhibited the assimilation of /t/ to /k/, indicating a less.



**Chart 3. Students' Challenges in Pronouncing Assimilation /d/ Sounds**

The results of the pronunciation test reveal a distinct pattern in the assimilation of the /d/ sound. A majority of students, 68%, demonstrated the assimilation of /d/ to /b/, making it the most prevalent form of progressive assimilation observed. Similarly, 66% of students showed the assimilation of /d/ to /g/, indicating this pattern is almost as common. In contrast, only 9% of students exhibited the assimilation of /d/ to /dʒ/, suggesting it is the least frequent among the participants. These results highlight the tendency of students to favor the /d/ to /b/ and /d/ to /g/ assimilations significantly more than the /d/ to /dʒ/ assimilation.



**Chart 4. Students' Challenges in Pronouncing Assimilation /n/ Sounds**

The test results for the assimilation of the /n/ sound in Chart 4 shows a closely matched preference for two different patterns. A considerable 66% of students demonstrated the assimilation of /n/ to /m/, indicating a strong tendency towards this form of progressive assimilation. Slightly more prevalent, 69% of students exhibited the assimilation of /n/ to /ŋ/, making it the most common occurrence among the

participants. These findings suggest that both assimilation patterns are frequently adopted by students, with a marginal preference for the /n/ to /ŋ/ assimilation.



**Chart 5. Students' challenges in pronouncing /s/ sounds**

The last, the assimilation of the /s/ sound in Chart 5 reveals a significant disparity between the two observed patterns. Only 6% of students demonstrated the assimilation of /s/ to /ʃ/, indicating this is a rare occurrence among the participants. In contrast, a substantial 64% of students exhibited the assimilation of /s/ to /z/, making it the overwhelmingly preferred pattern. These findings highlight a strong tendency for students to adopt the /s/ to /z/ assimilation while rarely opting for the /s/ to /ʃ/ assimilation.

## DISCUSSION

The pronunciation test on assimilation in English connected speech offers valuable insights into the challenges students face in recognizing and producing assimilated sounds. Out of 690 total responses, 460 were incorrect, indicating significant difficulties across various test items. Error rates ranged from 0% to 100%, reflecting varying levels of complexity among different types of assimilation. These results suggest that certain forms of assimilation are inherently more difficult for students and require focused instructional attention.

One of the most striking findings was the students' difficulty with the assimilation of /n/ to /ŋ/, which had a 100% error rate. This highlights the challenge of this specific assimilation, likely due to the phonetic differences between the two sounds and the students' unfamiliarity with such changes in connected speech. Brown (2006) explains that assimilation naturally occurs in fast, connected speech as sounds become more similar to their neighbors. However, when the sounds involved are phonetically distinct, such as /n/ and /ŋ/, learners may struggle to adapt. In contrast, the assimilation of /t/ to

**Vol 8 No. 1 (2025): ESTEEM**

/tʃ/ was the easiest for students, with a 0% error rate. This suggests that certain assimilations may feel more intuitive, possibly because they occur more frequently in English or align with familiar phonological patterns. Jenkins (2015) supports this, noting that learners often find it easier to produce assimilations that reflect patterns from their native language or those commonly reinforced in learning materials.

The findings also underscore the significant influence of a learner's first language and exposure to specific sound patterns in educational contexts on their ability to master connected speech. The students showed particular difficulty with the assimilation of /d/ and /n/ sounds, which accounted for 31.09% and 29.35% of errors, respectively. These assimilations often involve a shift from one voiced sound to another, either progressively or regressively, which can be especially challenging (Roach, 2016). Targeted practice on these sounds is essential, as they present significant obstacles for learners. Roach (2016) further explains that these difficulties arise from the complex coarticulation required in connected speech, where learners must anticipate and adapt their pronunciation based on the surrounding phonetic environment. Although the assimilation of /t/ sounds also presented challenges (24% of total errors), it was relatively easier compared to /d/ and /n/. The assimilation of /s/ sounds posed the least difficulty, accounting for only 15.22% of errors, possibly due to their clearer articulation and less complex nature (Celce-Murcia, Brinton, & Goodwin, 2010).

A closer analysis of each sound category further supports these observations. For instance, the assimilation of /t/ to /p/ was the most common pattern, with 57% of students demonstrating this progressive assimilation. This may indicate a stronger familiarity with this specific change, as progressive assimilations tend to be more predictable (Cruttenden, 2008). Conversely, the assimilation of /t/ to /tʃ/ was less frequent, suggesting that some patterns are inherently easier for students to adopt. Similarly, students showed a preference for the assimilation of /d/ to /b/ (68%) and /d/ to /g/ (66%), while the assimilation of /d/ to /dʒ/ was much less common (9%). This aligns with Flege and Bohn's (2021) findings, which suggest that learners struggle more with less common phonetic changes in the target language.

The results also revealed a slight preference for /n/ to /ŋ/ assimilation (69%) over /n/ to /m/ (66%). While both patterns were frequently adopted, subtle differences in sound production likely contributed to

the variation in success rates. For /s/ assimilation, the majority of students (64%) demonstrated /s/ to /z/, whereas only 6% produced /s/ to /ʃ/. This indicates that students find /s/ to /z/ easier to articulate, likely due to its similarity to other voiced consonants (Brown & Kondo-Brown, 2006).

These findings are consistent with previous studies on EFL learners' challenges with connected speech. For example, Sharma et al. (2023) examined Saudi EFL learners and found significant struggles with regressive assimilation, particularly involving nasal sounds like /n/ to /ŋ/. This mirrors the 100% error rate observed in the current study for the same assimilation type. Sharma et al. attributed this difficulty to the unfamiliarity of such nasal sound changes in the learners' native phonological systems. Similarly, Jannah et al. (2022) studied Indonesian EFL learners and identified regressive assimilation as particularly challenging, especially when the assimilated sound differed significantly from its original form. For example, their study found high error rates for /d/ to /dʒ/ assimilation, which aligns with the 91% error rate observed in this study for the same sound change. These findings highlight the irregularity and unpredictability of certain assimilations, making them difficult for learners to predict and produce accurately.

To address these challenges, English teachers should focus on the most problematic types of assimilation, such as /d/ to /b/ and /g/, and /n/ to /ŋ/. Engaging instructional methods, including minimal pairs exercises, pronunciation games, and peer-based activities, can help students overcome these difficulties. Celce-Murcia, Brinton, and Goodwin (2010) advocate for interactive pronunciation techniques that immerse students in real-life communicative activities, enabling them to practice and internalize challenging sound patterns. Additionally, incorporating technology, such as language learning software, can provide personalized feedback and additional practice opportunities. These targeted strategies not only address the specific difficulties identified in this study but also enhance students' overall proficiency in connected speech.

#### 4. CONCLUSION

In conclusion, the pronunciation test on assimilation in English connected speech revealed considerable challenges for students in recognizing and producing assimilated sounds. With a high overall error rate, the test highlighted specific areas

## ASSIMILATION OF CONNECTED SPEECH: STUDENTS' CHALLENGES IN LEARNING PRONUNCIATION

of difficulty, particularly with the assimilation of /n/ to /ŋ/, which all students answered incorrectly. Conversely, the assimilation of /t/ to /tʃ/ was the easiest, with perfect accuracy from all participants. The results also demonstrated significant variation in student performance across different types of assimilation, with /d/ and /n/ assimilations being the most problematic, while /s/ assimilation was the least challenging. This variability underscores the need for targeted instruction and practice in the more challenging areas to improve students' proficiency in assimilated sounds.

## 5. ACKNOWLEDGEMENT

I would like to express my heartfelt gratitude to my husband, Mujiyono, for his steadfast support and encouragement throughout this research journey. His patience and understanding have been invaluable, as have the joyful moments shared with my sons, Tata and Ganesh, whose love and energy have been a constant source of inspiration.

I am also sincerely thankful to my colleges for their insightful feedback and guidance, which have greatly enhanced the quality of this study. Additionally, my appreciation goes to technical support team for their essential assistance with technical aspects of the work.

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**Vol 8 No. 1 (2025): ESTEEM**

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