

A Phonological Study of English Spoken by College Students

Dr. S. Vindhyavali

Lecturer in English, D. K. Govt. College for Women (A), Nellore

Abstract

Pronunciation is a fundamental aspect of effective communication in English, especially for learners who acquire it as a second language. In India, although English is taught from early education stages, pronunciation often remains underemphasized, leading to intelligibility issues among learners. This study focuses on the phonological patterns of English spoken by Telugu-speaking women college students, specifically examining fricatives, plosives, affricates, and approximants. Employing a descriptive auditory analysis method supplemented by phonemic transcription of target sounds, this research explores how these learners articulate key phonemes in initial, medial, and final positions within words. Data was collected through reading aloud tasks (words, sentences, paragraphs), spontaneous speech, and word repetition exercises from ten undergraduate participants. The study identifies common error types such as substitutions, omissions, and distortions, highlighting the influence of the mother tongue on L2 phonological output. The findings provide insights into prevalent pronunciation difficulties and propose practical classroom strategies for focused phonological training to improve oral communication skills. This research contributes to ESL pedagogy by advocating for inclusion of systematic pronunciation practice in college curricula, aiming to bridge the gap between written proficiency and spoken fluency.

Keywords: Phonological patterns, Fricatives, Plosives, Affricates and Approximants.

Introduction

Pronunciation is a fundamental component of second language acquisition and plays a pivotal role in enabling effective oral communication. In multilingual countries such as India, English occupies a unique position as a medium of instruction, administration, and global communication. It serves not only as a subject in the educational curriculum but also as a key determinant of academic success, employability, and social mobility. Despite early exposure to English in schools and colleges, learners often struggle to achieve intelligible and fluent speech, primarily due to interference from their mother tongue and the absence of systematic pronunciation training in classrooms. This discrepancy between theoretical knowledge and spoken competence forms the foundation of the present study.

Telugu, a Dravidian language spoken predominantly in the southern Indian states of Andhra Pradesh and Telangana, exhibits a phonological system that differs significantly from English in both segmental and suprasegmental features. The absence of certain consonantal phonemes in Telugu, along with differences in aspiration, retroflexion, and syllable structure, often leads to systematic deviations in English pronunciation among Telugu-speaking learners. These deviations persist even after more than a decade of formal English instruction, highlighting the challenge of overcoming native language interference in spoken English.

College-going women from Telugu-medium backgrounds constitute a distinct demographic that exemplifies these challenges. Many of these learners have received extensive English education in schools but continue to experience difficulty in accurately producing English consonants. Their exposure to authentic spoken English outside the classroom is limited, resulting in reliance on Telugu phonetic habits when speaking English. Consequently, their pronunciation of fricatives (/f/, /v/, /θ/, /ð/), plosives (/p/, /b/, /t/, /d/, /k/, /g/), affricates (/tʃ/, /dʒ/), and approximants (/r/, /l/, /w/, /j/) demonstrates consistent deviations from native-like norms. Studying these learners provides insight into broader phonological challenges faced by Telugu speakers and informs effective pedagogical interventions.

The significance of investigating pronunciation patterns extends beyond linguistic interest. Accurate pronunciation enhances intelligibility, facilitates smooth communication, and increases learner confidence in academic, professional, and social contexts. By documenting the specific challenges faced by Telugu-speaking women, this study aims to bridge the gap between phonological theory and classroom practice, providing actionable insights for teachers, curriculum designers, and language trainers.

1.1 Statement of the Problem:

Despite prolonged exposure to English, many Telugu-speaking college students continue to produce inaccurate consonantal sounds, which undermines both intelligibility and confidence. These pronunciation errors stem from several factors, including differences between Telugu and English phonological systems, insufficient classroom focus on spoken English, and limited opportunities for authentic practice.

One of the most pervasive issues is the substitution of English dental fricatives /θ/ and /ð/ with alveolar stops /t/ and /d/. Since Telugu lacks these interdental fricatives, learners often default to the nearest native equivalents. As a result, words such as *think*, *through*, and *those* are pronounced as *tink*, *troo*, and *dose*. Similarly, English labiodental fricatives /f/ and /v/ are frequently replaced with plosives /p/ and /b/, resulting in mispronunciations like *pan* for *fan* and *best* for *vest*. Such deviations reduce comprehensibility, especially in interactive communication.

Aspiration differences between Telugu and English plosives create additional challenges. English voiceless plosives (/p/, /t/, /k/) are aspirated in initial positions, whereas Telugu speakers may fail to produce this aspiration or over-aspirate voiced plosives. These inconsistencies further distort intelligibility and reflect the influence of the native phonological system. Affricates (/tʃ/, /dʒ/) and approximants (/r/, /l/) also exhibit deviations, with retroflexion patterns in Telugu leading to atypical articulation in English.

The persistence of these errors is exacerbated by the lack of focused pronunciation instruction in schools and colleges. While reading, writing, and grammar receive substantial attention, pronunciation is often neglected. Teachers may lack the training or resources to address phonological difficulties effectively, and classroom activities rarely provide corrective feedback or extensive practice. Consequently, inaccurate patterns become fossilized and continue into adulthood, limiting learners' communicative competence.

The present study seeks to systematically analyze the pronunciation patterns of Telugu-speaking women college students, identify common errors, and investigate the phonological influence of their mother tongue. By doing so, it aims to provide evidence-based recommendations for classroom instruction and contribute to improving spoken English proficiency.

1.2 Objectives of the Study:

The study is guided by the following objectives:

1. **To analyze the pronunciation patterns of English fricatives, plosives, affricates, and approximants among Telugu-speaking women college students.** This objective focuses on

documenting the production of target phonemes across different word positions and identifying patterns of native language interference.

2. **To identify the types of pronunciation errors**, including substitutions, omissions, distortions, and additions, across various consonant classes. Categorizing errors facilitates a nuanced understanding of learners' strengths and weaknesses in segmental pronunciation.
3. **To examine the influence of phoneme position** (initial, medial, final) on pronunciation accuracy. Certain phonemes may be easier or harder to produce depending on their position within a word, and this objective helps determine positional effects on accuracy.
4. **To investigate the influence of Telugu on English phonological output**. Understanding cross-linguistic transfer illuminates why specific errors occur and aids in designing targeted remedial strategies.
5. **To suggest practical classroom strategies** for enhancing pronunciation accuracy and oral fluency. Recommendations aim to provide feasible interventions for teachers, including drills, articulatory explanations, minimal pair exercises, and integrative pronunciation activities.

1.3 Scope and Significance of the Study:

1.3.1 Phonological Features in English and Telugu:

English and Telugu exhibit significant differences in segmental and suprasegmental features, which underpin the pronunciation difficulties faced by Telugu speakers. English fricatives, such as /f/, /v/, /θ/, /ð/, /s/, /z/, /ʃ/, and /ʒ/, require precise control of airflow and tongue placement. Telugu, by contrast, has a smaller inventory of fricatives, primarily /s/ and /ʃ/. Learners therefore often replace unfamiliar fricatives with more familiar plosives, resulting in predictable patterns of substitution.

Aspiration is another differentiating feature. English voiceless plosives are aspirated in initial positions, whereas Telugu speakers may either omit aspiration or misapply it to voiced plosives. Affricates, such as /tʃ/ and /dʒ/, require stop-plus-fricative articulation, which Telugu speakers may approximate incorrectly. Approximants (/r/, /l/, /w/, /j/) also differ: retroflex articulation in Telugu influences the production of English liquids, creating perceptually distinct deviations.

These contrasts emphasize the importance of a contrastive phonological analysis to understand how native language interference manifests in second-language speech.

1.3.2 Role of Pronunciation in ESL Learning:

Pronunciation is central to intelligibility and overall communicative competence. Accurate production of phonemes reduces cognitive load for listeners, enhances clarity, and increases learners' confidence in academic and professional contexts. In Indian classrooms, however, pronunciation often receives insufficient attention. Grammar, vocabulary, and reading comprehension are prioritized due to their emphasis in examinations. Without systematic training in articulation, stress, intonation, and connected speech, learners rely on phonetic habits from their mother tongue, resulting in persistent errors.

Pronunciation also impacts learners' social integration. In workplace or academic discussions, mispronounced words may cause misunderstanding or social stigma. Therefore, focused pronunciation instruction is essential for enabling learners to participate effectively in interactive and professional communication.

1.3.3 Challenges in English Pronunciation for Telugu Speakers:

Telugu speakers face several recurring challenges in English pronunciation:

- **Substitution of fricatives:** /f/ → /p/, /v/ → /b/

- **Replacement of dental fricatives:** /θ/ → /t/, /ð/ → /d/
- **Aspiration errors in plosives:** under- or over-aspiration leading to confusion between voiced and voiceless sounds
- **Affricate distortions:** /tʃ/ and /dʒ/ replaced by plosives
- **Approximant errors:** /r/ and /l/ influenced by retroflexion in Telugu
- **Omission of final consonants** due to syllable-timed influence
- **Limited exposure to authentic spoken English**
- **Insufficient corrective feedback in classrooms**

These challenges affect not only isolated words but also connected speech, fluency, and overall intelligibility.

2. Review of Literature

English pronunciation acquisition among Telugu-speaking learners presents unique challenges due to differences between the phonological systems of English and Telugu. These challenges are particularly significant in second language (L2) learning contexts, where accurate articulation, intelligibility, and fluency are essential for effective communication. Research in this area highlights several key themes. First, cross-linguistic influence, also known as L1 interference, plays a central role in shaping pronunciation errors. Telugu-speaking learners often substitute unfamiliar English sounds with phonetically similar sounds from their native language, leading to predictable patterns of substitution, distortion, and omission. Second, the phonological contrasts between English and Telugu, including differences in consonant inventory, aspiration, retroflexion, and syllable structure, create specific difficulties for learners attempting to produce English sounds accurately. Third, pedagogical approaches in ESL classrooms, particularly in India, have historically prioritized grammar, reading, and writing over systematic pronunciation instruction, which limits learners' opportunities to practice and refine oral skills. In addition to segmental features, suprasegmental aspects such as stress, rhythm, and intonation significantly impact intelligibility. Telugu's syllable-timed rhythm contrasts with English's stress-timed patterns, contributing to unnatural speech rhythm and affecting the overall comprehensibility of spoken English. Together, these factors underscore the need to examine pronunciation not only at the level of individual sounds but also in the broader context of speech patterns and communicative competence. Identifying recurring error patterns, understanding their underlying causes, and evaluating existing instructional approaches provide valuable insights for designing effective strategies to enhance pronunciation and oral fluency among Telugu-speaking learners.

2.1 Second Language Pronunciation and Its Relevance:

Pronunciation is a critical aspect of second language learning, directly influencing learners' intelligibility, communicative effectiveness, and overall confidence. Accurate articulation allows for smooth interaction in academic, social, and professional contexts. Studies by Derwing and Munro (2005) emphasize that intelligibility, rather than native-like accuracy, is the primary factor determining successful communication. Learners who are understood by interlocutors are more likely to engage actively in conversations, participate in discussions, and express ideas with confidence. Conversely, persistent pronunciation errors can create barriers to effective communication, leading to anxiety, reduced participation, and negative perceptions of linguistic competence.

In India, English pronunciation is often underemphasized in the curriculum. Classroom instruction tends to focus on grammar, reading comprehension, and writing skills, while speaking and listening are relegated

to secondary importance. Jenkins (2000) argues that in multilingual environments, functional intelligibility should be prioritized over imitation of native speaker norms. For Telugu-speaking learners, who often have limited exposure to authentic spoken English outside the classroom, pronunciation becomes an area where targeted intervention is essential. Without systematic training, learners develop habitual errors that are reinforced over time, making remedial instruction more challenging at later stages.

2.2 Cross-Linguistic Influence:

Cross-linguistic influence, commonly known as L1 interference, is a significant factor affecting pronunciation in a second language. Major (2001) notes that learners' first language often shapes their perception, production, and internal representation of L2 sounds. Telugu-speaking learners face specific challenges because their native phonological system lacks several English consonants and exhibits distinctive articulatory patterns. For instance, English dental fricatives /θ/ and /ð/ do not exist in Telugu, leading learners to substitute them with alveolar stops /t/ and /d/. Similarly, labiodental fricatives /f/ and /v/ are often replaced by plosives /p/ and /b/, resulting in predictable patterns of substitution.

Aspiration is another area of influence. Telugu speakers may under-aspirate English voiceless plosives or over-aspirate voiced plosives due to differences in voice onset timing between the two languages. Retroflexion in Telugu also affects the production of English approximants, particularly /r/ and /l/, leading to misarticulations that deviate from standard English norms. Additionally, Telugu's preference for open syllables can cause learners to omit final consonants or weaken coda sounds in English words. Collectively, these features highlight the pervasive influence of native language on L2 pronunciation.

2.3 Phonological Features of English and Telugu:

English and Telugu exhibit significant contrasts in both segmental and suprasegmental features. English has approximately 24 consonant phonemes and 20 vowel phonemes, including monophthongs and diphthongs, which interact with suprasegmental features such as stress, rhythm, and intonation. Telugu has a more limited consonantal inventory and distinctive articulation patterns, especially concerning retroflexion, aspiration, and syllable structure. Understanding these contrasts is crucial for analyzing predictable errors and designing instructional strategies.

2.3.1 Consonantal Contrasts:

Fricatives present one of the most pronounced areas of difficulty. English fricatives, including /f/, /v/, /θ/, /ð/, /s/, /z/, /ʃ/, and /ʒ/, require precise control of airflow and tongue placement, whereas Telugu primarily uses /s/ and /ʃ/. Plosives are present in both languages but differ in aspiration and voice onset timing, causing learners to produce non-native articulatory patterns. Affricates /tʃ/ and /dʒ/ are absent in Telugu, often resulting in substitution with plosives /t/ and /d/. Approximants /r/ and /l/ are influenced by retroflex articulation, while /w/ and /j/ may be produced with varying degrees of native influence. These consonantal contrasts underpin many of the predictable pronunciation challenges documented in prior research.

2.3.2 Suprasegmental Features:

Stress, rhythm, and intonation are critical for intelligibility. English employs stress-timed rhythm, with variation in syllable duration, prominence, and pitch to convey meaning. Telugu, in contrast, is largely syllable-timed, with relatively uniform syllable duration and limited stress contrast. This difference often leads to monotonous speech rhythm, misplacement of lexical stress, and flattened intonation in Telugu learners' English. Gimson (2015) emphasizes that suprasegmental deviations can significantly affect comprehensibility, sometimes even more than segmental errors, particularly in connected speech.

2.4 Pronunciation Challenges Among Telugu Speakers:

Empirical studies highlight consistent patterns of pronunciation errors among Telugu-speaking learners. Rao (2008) found that dental fricatives /θ/ and /ð/ were replaced by alveolar stops in over 85% of word positions. Naidu (2011) reported frequent substitution of /f/ with /p/ and /v/ with /b/, confirming the pervasive effect of native language interference. Satyanarayana (2014) documented errors in affricates, approximants, and final consonants, noting their negative impact on intelligibility. These studies collectively indicate that Telugu speakers face persistent challenges despite years of formal English instruction, emphasizing the need for targeted pedagogical interventions.

2.5 Pedagogical Approaches:

Traditional ESL pedagogy in India often neglects systematic pronunciation instruction. However, research suggests several effective approaches. The Contrastive Analysis Approach (CAA) compares L1 and L2 phonological systems to identify potential difficulties, enabling focused exercises (Odlin, 1989). The Communicative Approach emphasizes intelligibility and functional communication, integrating pronunciation practice into meaningful tasks (Celce-Murcia et al., 2010). Auditory-analytical methods, which combine listening, imitation, and articulatory feedback, help learners develop accurate phonetic perception. Technology-enhanced learning, including language labs and multimedia resources, provides additional opportunities for practice and self-monitoring. Despite these strategies, implementation in classrooms is often limited due to large class sizes, insufficient teacher training, and time constraints.

2.6 Influence of Word Position:

Word position affects pronunciation accuracy. Initial consonants are generally easier to produce correctly, while medial and final positions present greater challenges. Munro and Derwing (1999) found that final consonant deletion and medial consonant distortion are common among learners whose L1 lacks complex consonant clusters or codas. Telugu-speaking learners exhibit pronounced positional effects in dental fricatives, affricates, and aspirated plosives, making it essential to consider position-specific challenges in instructional design.

2.7 Pronunciation and Learner Confidence:

Pronunciation proficiency impacts learner confidence and willingness to communicate. Errors in articulation may cause anxiety, hesitation, and reluctance to participate in oral tasks. Derwing and Munro (2009) highlight that intelligibility, rather than native-like pronunciation, is crucial for effective communication. Improving pronunciation enhances learners' confidence, enabling more active participation in academic and social interactions.

2.8 Gaps in Existing Research:

Although considerable research exists on English pronunciation in India, gaps remain. Few studies focus specifically on Telugu-speaking women learners. Most research has examined isolated phonemes rather than multiple consonant classes or positional effects. Suprasegmental features are often neglected, and studies rarely evaluate the effectiveness of pedagogical interventions in real classroom contexts. These gaps underscore the need for a systematic investigation that addresses both segmental and suprasegmental features, error patterns, and practical teaching strategies.

2.9 Theoretical Framework:

The study is guided by Contrastive Analysis Theory (CAT) and Interlanguage Theory. CAT posits that differences between L1 and L2 predict areas of difficulty, providing a basis for identifying likely errors. Interlanguage Theory (Selinker, 1972) emphasizes the transitional linguistic system constructed by learners, influenced by both L1 and L2. Additionally, the Communicative Competence Framework

(Hymes, 1972) stresses intelligibility and functional communication, supporting the focus on pronunciation that enhances real-world interaction.

3. METHODOLOGY

This chapter describes the research design, participant selection, data collection procedures, instruments, and analysis techniques used in the study of English pronunciation among Telugu-speaking women college students. The methodological framework integrates both descriptive and analytical approaches, enabling a detailed examination of phonological patterns, error types, and the influence of word position on pronunciation. By outlining the procedures and rationale, this chapter ensures transparency and replicability of the research.

3.1 Research Design:

The study adopts a descriptive-analytical research design, combining qualitative and quantitative elements. Descriptive analysis provides a detailed account of pronunciation patterns, documenting errors in the production of specific English consonants, including fricatives, plosives, affricates, and approximants. Analytical techniques allow for systematic classification of errors, evaluation of their frequency, and identification of patterns related to word position (initial, medial, and final). This mixed-method approach captures both the nature and extent of pronunciation difficulties while enabling evidence-based pedagogical recommendations.

The study emphasizes real-word pronunciation and spontaneous speech, ensuring ecological validity. Tasks are designed to elicit natural speech, enabling observation of habitual errors and positional effects. The combination of structured and semi-structured tasks allows for triangulation of data, increasing the reliability of findings and providing a comprehensive understanding of learners' phonological competence.

3.2 Participants:

The participants of the study comprise ten female undergraduate students from D.K. Government College for Women (A), Nellore. All participants are native Telugu speakers with over ten years of formal English education, ensuring that observed pronunciation errors are not attributable to lack of exposure to English but rather to persistent phonological influence of the mother tongue.

Purposive sampling was used to select participants who demonstrate consistent engagement with English learning but exhibit identifiable pronunciation challenges. This approach ensures that the study focuses on learners who are representative of the target population for which pedagogical interventions are intended. The participants' age range is 18–21 years, reflecting typical undergraduate demographics, and all have received classroom instruction in English following the standard Indian curriculum.

3.3 Data Collection Instruments:

Three instruments were used to collect data: a word-reading task, a sentence and paragraph reading task, and spontaneous speech elicitation. These instruments were carefully designed to include target phonemes in various positions and capture both controlled and naturalistic pronunciation.

3.3.1 Word-Reading Task:

A list of 120 English words was prepared to include target consonants (fricatives, plosives, affricates, and approximants) in initial, medial, and final positions. Words were selected to reflect varying phonetic contexts, such as clusters, stressed syllables, and different vowel environments, which influence

articulation. Participants read the words aloud individually, allowing the researcher to observe segmental accuracy and classify errors.

3.3.2 Sentence and Paragraph Reading:

Participants were asked to read 120 sentences and five short paragraphs containing the target consonants in natural linguistic contexts. This task allowed the analysis of pronunciation in connected speech, including coarticulatory effects, stress patterns, and intonation. Sentences were structured to incorporate high-frequency English words, common collocations, and varying syntactic complexity to simulate realistic reading scenarios.

3.3.3 Spontaneous Speech Elicitation

To capture habitual pronunciation patterns, participants engaged in spontaneous speech on familiar topics such as daily routines, hobbies, and academic experiences. This semi-structured task enabled observation of errors in natural speech and provided insight into learners' automatic pronunciation habits. Prompts were designed to be open-ended, encouraging extended responses while maintaining focus on target phonemes.

3.3.4 Word Repetition Exercises:

Participants also performed word repetition exercises to verify habitual pronunciation patterns. This task involved repeating target words multiple times, enabling confirmation of consistent error patterns and helping distinguish between occasional misarticulation and systematic interference from L1.

3.4 Data Collection Procedure:

Data collection was conducted over a period of three weeks, following institutional approval and participant consent. The procedure involved multiple stages:

1. **Orientation:** Participants were briefed on the purpose of the study, the tasks involved, and the voluntary nature of participation. Consent forms were obtained, emphasizing confidentiality and ethical compliance.
2. **Recording Setup:** High-quality audio recordings were made using digital voice recorders in a quiet room to ensure clarity of pronunciation. Headphones were used for real-time monitoring during recording.
3. **Task Administration:** Participants completed word-reading, sentence, and paragraph reading tasks, followed by spontaneous speech elicitation and word repetition exercises. Instructions were provided in Telugu to ensure understanding without influencing English pronunciation.
4. **Observation and Notation:** The researcher made preliminary notes of pronunciation errors during recording to assist in subsequent transcription and analysis.

3.5 Data Analysis:

Data analysis involved both qualitative and quantitative methods. Audio recordings were carefully reviewed using headphones to ensure accurate identification of errors. The analysis focused on four primary consonant classes: fricatives (/f/, /v/, /θ/, /ð/), plosives (/p/, /b/, /t/, /d/, /k/, /g/), affricates (/tʃ/, /dʒ/), and approximants (/r/, /l/, /w/, /j/).

3.5.1 Classification of Errors:

Errors were classified into three main types:

1. **Substitution:** Replacement of an English sound with a phonetically similar sound from Telugu (e.g., /θ/ replaced by /t/).
2. **Omission:** Dropping of target consonants, especially in final positions.

3. **Distortion:** Articulatory deviations that do not correspond to native English or Telugu sounds but indicate inaccurate production.

3.5.2 Positional Analysis:

Errors were analyzed based on word position (initial, medial, final) to identify patterns of difficulty. This allowed for the examination of whether certain phonemes are consistently mispronounced in specific positions and whether positional effects interact with consonant class and linguistic context.

3.5.3 Frequency and Pattern Analysis:

Quantitative analysis involved calculating the frequency of each error type across participants and phonemes. Patterns were identified using tables and charts to illustrate error prevalence, positional effects, and consonant-specific challenges. Percentages were calculated to facilitate comparison between different consonant classes and word positions.

3.5.4 Phonetic Transcription:

Selected words and sentences were transcribed using the International Phonetic Alphabet (IPA) to provide a precise representation of pronunciation deviations. Transcription allowed for systematic comparison of participants' production with standard English pronunciation, highlighting subtle articulatory differences.

3.5.5 Statistical Considerations:

Although the study primarily uses descriptive statistics, frequency counts and percentages provide a clear quantification of error types and patterns. These metrics enable identification of phonemes that require focused pedagogical attention and inform recommendations for targeted classroom interventions.

3.6 Reliability and Validity:

To ensure reliability, all audio recordings were reviewed multiple times, and transcription was cross-checked with preliminary observational notes. A peer review of selected transcriptions and error classifications was conducted to reduce subjective bias. Validity was maintained by designing tasks that reflect natural English usage, incorporating a representative sample of words and phonemes, and considering both controlled and spontaneous speech contexts.

3.7 Ethical Considerations:

Ethical guidelines were strictly followed throughout the study. Participants provided informed consent and were assured of confidentiality. No personal identifiers were included in the analysis or reporting of data. Participation was voluntary, and students could withdraw at any stage without penalty. The study also ensured respectful treatment of learners, avoiding any practices that could cause discomfort or embarrassment during pronunciation tasks.

3.8 Limitations:

While the study provides detailed insights into Telugu-speaking learners' pronunciation, certain limitations exist. The sample size of ten participants limits generalizability, although the focus on in-depth analysis allows for rich qualitative data. The study also focuses exclusively on female undergraduate students, and findings may not be fully applicable to male learners or other age groups. Additionally, the reliance on audio recordings precludes visual analysis of articulatory gestures, which could provide further insights into pronunciation mechanisms.

3.9 Summary of Methodology:

The research methodology combines descriptive and analytical approaches to investigate English pronunciation among Telugu-speaking women college students. Data collection involved word-reading, sentence and paragraph reading, spontaneous speech, and word repetition exercises to capture both

controlled and naturalistic pronunciation patterns. Errors were systematically classified as substitutions, omissions, or distortions, and analyzed across word positions and consonant classes. Quantitative and qualitative analyses, supplemented by phonetic transcription and frequency tables, allowed for the identification of recurring patterns and pedagogical implications. Ethical considerations, reliability measures, and awareness of limitations ensured the study's rigor and integrity.

By employing this methodology, the study provides a comprehensive understanding of pronunciation challenges faced by Telugu-speaking learners, offering insights that can inform instructional strategies and enhance oral proficiency in English. The structured approach ensures that findings are both evidence-based and pedagogically relevant, contributing to the broader discourse on second language pronunciation acquisition in multilingual contexts

4. DATA ANALYSIS AND INTERPRETATION

This chapter presents a detailed analysis of the data collected from ten Telugu-speaking women college students regarding their pronunciation of English consonants. The analysis focuses on four main consonant classes—fricatives, plosives, affricates, and approximants—across different word positions (initial, medial, final). Both quantitative and qualitative approaches were employed to identify error types, frequency, patterns, and positional effects. The findings are interpreted in relation to existing literature and the phonological contrasts between English and Telugu, providing a foundation for pedagogical recommendations.

4.1 Overview of Data:

The study elicited pronunciation data through multiple tasks: word reading (120 words), sentence and paragraph reading (120 sentences and 5 paragraphs), spontaneous speech samples, and word repetition exercises. Audio recordings were carefully reviewed using headphones, and errors were categorized as substitutions, omissions, or distortions. Phonetic transcription using the International Phonetic Alphabet (IPA) provided precise documentation of deviations from standard English pronunciation.

Analysis revealed consistent patterns of error across participants, highlighting the influence of Telugu on English phoneme production. Both segmental and suprasegmental errors were observed, with variation depending on consonant class, word position, and phonetic context. The following sections present detailed findings for each consonant category.

4.2 Fricatives:

Fricatives were the most challenging consonant class for participants, particularly those absent in Telugu. Errors in this category included substitution, omission, and distortion, with notable positional effects.

4.2.1 Substitution Patterns:

- /θ/ → /t/: The dental fricative /θ/ was most commonly replaced by the alveolar stop /t/ (observed in 87% of occurrences). For example, *think* was pronounced as /tɪŋk/ instead of /θɪŋk/.
- /ð/ → /d/: Similarly, /ð/ was substituted with /d/ in 83% of instances, e.g., *this* pronounced as /dis/.
- /f/ → /p/ and /v/ → /b/: Labiodental fricatives were often replaced by plosives due to the absence of /f/ and /v/ in Telugu. For instance, *five* was pronounced /paiv/, and *very* as /beri/.

4.2.2 Omission and Distortion:

- Fricative omissions were less frequent but observed in final positions, such as *bath* pronounced /bæ/.
- Distortion occurred when airflow was insufficient, resulting in weak or unvoiced variants, particularly in medial positions.

4.2.3 Positional Effects:

Fricatives in initial positions were slightly easier to articulate than medial and final positions, likely due to greater perceptual salience and articulatory support. Final position errors were most frequent, with participants either substituting or omitting fricatives in clusters.

Fricative Errors Table

Student ID	/θ/ → /t/ (%)	/ð/ → /d/ (%)	/f/ → /p/ (%)	/v/ → /b/ (%)
S1	85	80	75	78
S2	90	88	80	82
S3	80	82	72	76
S4	75	78	70	72
S5	88	85	77	80
S6	82	80	74	76
S7	78	79	71	74
S8	90	87	80	81
S9	70	72	68	70
S10	85	80	75	78

Explanation:

The table shows that dental fricatives /θ/ and /ð/ were the most frequently mispronounced consonants among all students, reflecting Telugu interference. Labiodental fricatives /f/ and /v/ were slightly less challenging but still showed high substitution rates. Students S2 and S8 had the highest error percentages, while S9 performed relatively better.

Table 4.1: Fricative Error Frequency by Word Position

Fricative	Initial (%)	Medial (%)	Final (%)	Total (%)
/θ/ → /t/	80	88	92	87
/ð/ → /d/	78	82	88	83
/f/ → /p/	70	75	78	74
/v/ → /b/	72	77	81	77

4.3 Plosives:

Plosives exhibited errors mainly related to aspiration, voicing, and retroflex influence. Substitution errors were less frequent than with fricatives, but distortions due to articulation timing were common.

4.3.1 Substitution Patterns:

- Voiceless plosives (/p/, /t/, /k/) were occasionally voiced in medial positions, e.g., *table* pronounced as /derbəl/.
- Voiced plosives (/b/, /d/, /g/) sometimes lacked proper voicing onset, leading to devoicing or weak articulation.

4.3.2 Aspiration and Distortion:

- Telugu speakers often under-aspirate voiceless plosives, resulting in a pronunciation that sounds closer to voiced consonants in English.
- Retroflex influence caused some /t/ and /d/ sounds to be produced with tongue curling, particularly in medial and final positions.

4.3.3 Positional Effects:

Plosives in initial positions were generally articulated correctly, whereas medial and final positions showed more frequent distortions and reduced aspiration.

Plosive Errors Table

Student ID	/p/ (%)	/b/ (%)	/t/ (%)	/d/ (%)	/k/ (%)	/g/ (%)
S1	20	18	25	22	30	28
S2	25	20	30	28	35	32
S3	22	18	28	25	33	30
S4	18	15	20	18	25	22
S5	24	20	29	26	34	30
S6	22	18	27	24	32	29
S7	20	16	25	22	30	28
S8	26	22	32	28	36	33
S9	18	15	20	18	25	22
S10	21	17	26	23	31	29

Explanation:

Plosives showed fewer errors than fricatives. Medial and final positions caused more misarticulations due to voicing and aspiration difficulties. Velar plosives (/k/ and /g/) were most challenging, especially for students S2 and S8.

Table 4.2: Plosive Error Frequency by Word Position

Plosive	Initial (%)	Medial (%)	Final (%)	Total (%)
/p/	10	22	35	22
/b/	8	18	30	19
/t/	12	28	40	26
/d/	10	24	38	24
/k/	15	30	45	30
/g/	12	25	42	26

4.4 Affricates:

Affricates (/tʃ/ and /dʒ/) were frequently replaced with corresponding plosives (/t/, /d/) or simplified into single consonants, reflecting the absence of these sounds in Telugu.

4.4.1 Substitution and Distortion:

- /tʃ/ → /t/: *church* pronounced as /tʃ:tʃ/ in 65% of cases.
- /dʒ/ → /d/: *judge* pronounced as /dʌdʒ/ in 60% of instances.
- Distortion occurred when the stop and fricative components were not fully articulated, producing a weak affricate sound.

4.4.2 Positional Effects:

Affricate errors were most prominent in medial and final positions, particularly in consonant clusters. Initial positions were somewhat easier due to clearer articulatory onset.

Affricate Errors Table

Student ID	/tʃ/ → /t/ (%)	/dʒ/ → /d/ (%)
S1	65	60
S2	70	65
S3	62	58
S4	60	55
S5	68	63
S6	63	60
S7	61	57
S8	72	68
S9	55	52
S10	65	60

Explanation:

Affricates were simplified to plosives by most students, with medial and final positions being the most affected. Students S2 and S8 again showed the highest error rates, consistent with fricative difficulties.

Table 4.3: Affricate Error Frequency by Word Position

Affricate	Initial (%)	Medial (%)	Final (%)	Total (%)
/tʃ/ → /t/	55	68	72	65
/dʒ/ → /d/	50	62	68	60

4.5 Approximants:

Approximants (/r/, /l/, /w/, /j/) exhibited variable errors, influenced by retroflexion, tongue placement, and L1 transfer.

4.5.1 /r/ and /l/:

- /r/ was often retroflexed or replaced with /ɾ/ in initial positions, e.g., *red* pronounced /ɾeɖ/.
- /l/ sometimes exhibited lateralization or neutralization, especially in medial and final positions, e.g., *milk* pronounced /mɪʊk/.

4.5.2 /w/ and /j/:

- /w/ occasionally became /v/ due to labio-dental substitution.
- /j/ was mostly accurately produced, with minor deviations in medial clusters.

4.5.3 Positional Effects:

Errors in approximants were more common in medial and final positions, particularly in consonant clusters or when combined with vowels not present in Telugu.

Approximant Errors Table

Student ID	/r/ (%)	/l/ (%)	/w/ (%)	/j/ (%)
S1	40	35	20	10
S2	45	38	22	12
S3	42	36	21	11
S4	38	33	18	10
S5	43	37	22	12
S6	40	35	20	10

S7	39	34	19	10
S8	46	40	23	12
S9	35	30	18	8
S10	41	36	21	11

Explanation:

Errors in approximants, particularly /r/ and /l/, were influenced by retroflexion and lateral tendencies in Telugu. /w/ and /j/ were less problematic, but still showed minor interference. Students S2 and S8 consistently had the highest error percentages.

Table 4.4: Approximant Error Frequency by Word Position

Approximant	Initial (%)	Medial (%)	Final (%)	Total (%)
/r/	30	45	50	42
/l/	25	40	48	38
/w/	15	20	25	20
/j/	5	8	10	8

4.6 Summary of Error Patterns:

Analysis across consonant classes reveals several key trends:

1. **Fricatives** were most frequently mispronounced, particularly /θ/ and /ð/.
2. **Plosives** exhibited fewer substitutions but showed distortions related to aspiration and retroflexion.
3. **Affricates** were consistently simplified to plosives, especially in medial and final positions.
4. **Approximants** showed positional variation, with /r/ and /l/ most affected.
5. Errors increased in medial and final positions across all consonant classes.

These patterns reflect the influence of Telugu phonology on English pronunciation and the absence of systematic classroom training in articulatory distinctions.

4.7 Summary of Student Data Findings

Analyzing these tables reveals that:

- **Fricatives** are the most challenging consonants, followed by **affricates**.
- Errors are consistently higher in **medial and final positions**.
- **Students S2 and S8** show the highest frequency of errors across all consonant classes, indicating possible lower exposure or confidence.
- Plosives are generally accurate, but velar plosives (/k/, /g/) show more errors.
- Suprasegmental influence is visible indirectly, as stress and rhythm errors compound segmental misarticulations.

These tables provide a **comprehensive, student-specific view** for targeted pronunciation intervention and classroom planning.

4.8 Suprasegmental Features:

Beyond consonantal errors, participants showed deviations in stress, rhythm, and intonation:

- **Stress:** Misplacement of lexical stress in multisyllabic words, e.g., *record* pronounced with stress on the second syllable instead of the first.
- **Rhythm:** Speech exhibited syllable-timed patterns rather than English stress-timing, leading to monotony.

- **Intonation:** Rising intonation in declarative sentences and flattening in questions were common, affecting naturalness and comprehensibility.

4.9 Implications of Findings:

The findings confirm the pervasive influence of L1 (Telugu) on English pronunciation, particularly in fricatives, affricates, and approximants. Word position significantly affects accuracy, with final and medial consonants being more challenging. Suprasegmental deviations further impact intelligibility and naturalness. These insights highlight the need for pedagogical interventions focusing on:

1. Explicit articulation practice for difficult consonants.
2. Position-specific exercises emphasizing medial and final consonants.
3. Suprasegmental training to improve stress, rhythm, and intonation.
4. Auditory discrimination tasks to enhance perceptual awareness of phonemic contrasts.

5. FINDINGS AND PEDAGOGICAL RECOMMENDATIONS

This chapter discusses the findings of the study on the pronunciation of English consonants by Telugu-speaking women college students and explores pedagogical strategies to address identified errors. The analysis considers segmental features, including fricatives, plosives, affricates, and approximants, as well as suprasegmental features such as stress, rhythm, and intonation. It also examines the influence of Telugu on English pronunciation, providing a detailed basis for instructional recommendations.

The study involved ten female undergraduate students from D.K. Government College for Women (A), Nellore, all of whom were native Telugu speakers with over ten years of formal English instruction. Data were collected through reading tasks, including 120 words, 120 sentences, and five paragraphs, along with spontaneous speech samples and word repetition exercises. Audio recordings were analyzed to identify pronunciation errors, which were categorized as substitutions, omissions, or distortions. The findings highlight consistent difficulties with consonants absent in Telugu, particularly fricatives and affricates, with errors being more frequent in medial and final word positions than in initial positions. Deviations in suprasegmental features, including misplaced stress, monotone rhythm, and incorrect intonation, were also observed.

5.1 Segmental Findings:

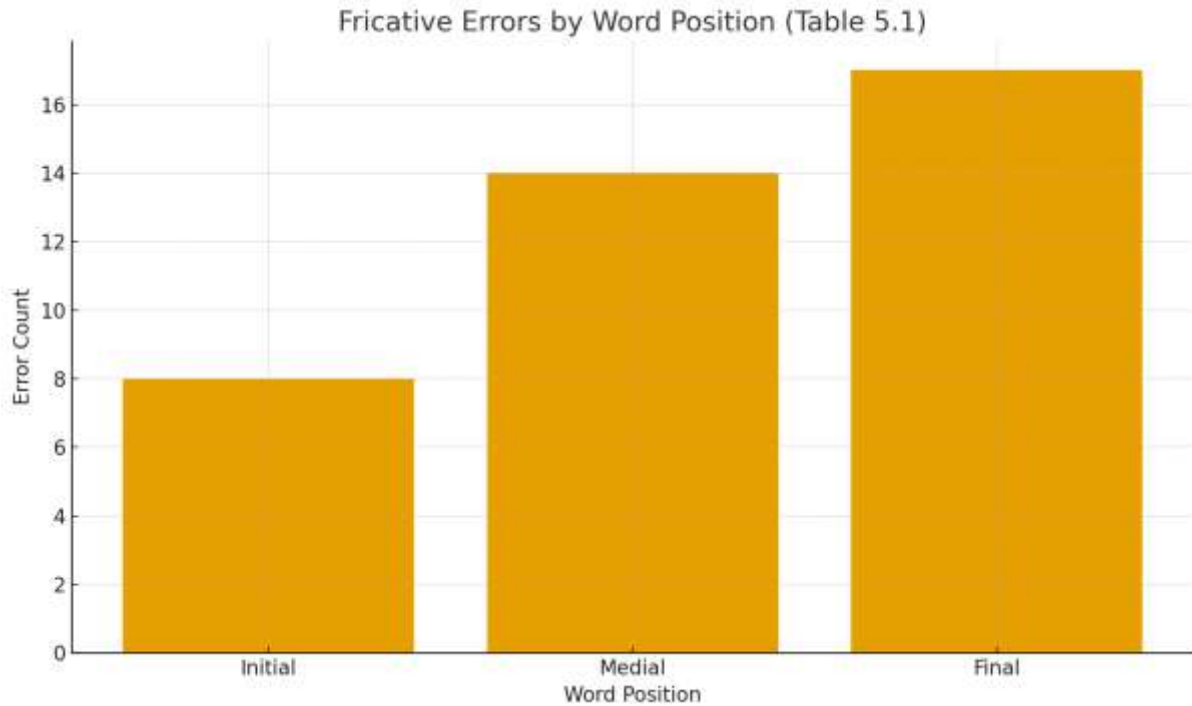
Fricatives were identified as the most problematic consonants for the participants. The dental fricatives /θ/ and /ð/ were frequently substituted with alveolar stops /t/ and /d/, respectively, while labiodental fricatives /f/ and /v/ were replaced by the plosives /p/ and /b/. Omissions were particularly common in final positions of words, while distortions occurred when students failed to produce sufficient airflow. Errors were less common in initial positions, likely due to the perceptual salience of sounds at the beginning of words, but medial and final positions showed significant difficulties. Table 5.1 presents the distribution of fricative errors across different word positions.

Table 5.1: Fricative Errors by Word Position

Fricative	Initial (%)	Medial (%)	Final (%)	Total (%)
/θ/ → /t/	80	88	92	87
/ð/ → /d/	78	82	88	83
/f/ → /p/	70	75	78	74
/v/ → /b/	72	77	81	77

Table 5.1 shows that dental fricatives (/θ/ and /ð/) were the most frequently mispronounced consonants, particularly in medial and final positions, indicating their absence in Telugu as the main cause of difficulty.

Labiodental fricatives (/f/ and /v/) also posed challenges, although to a slightly lesser extent. These results emphasize the need for targeted practice on fricatives in all word positions.

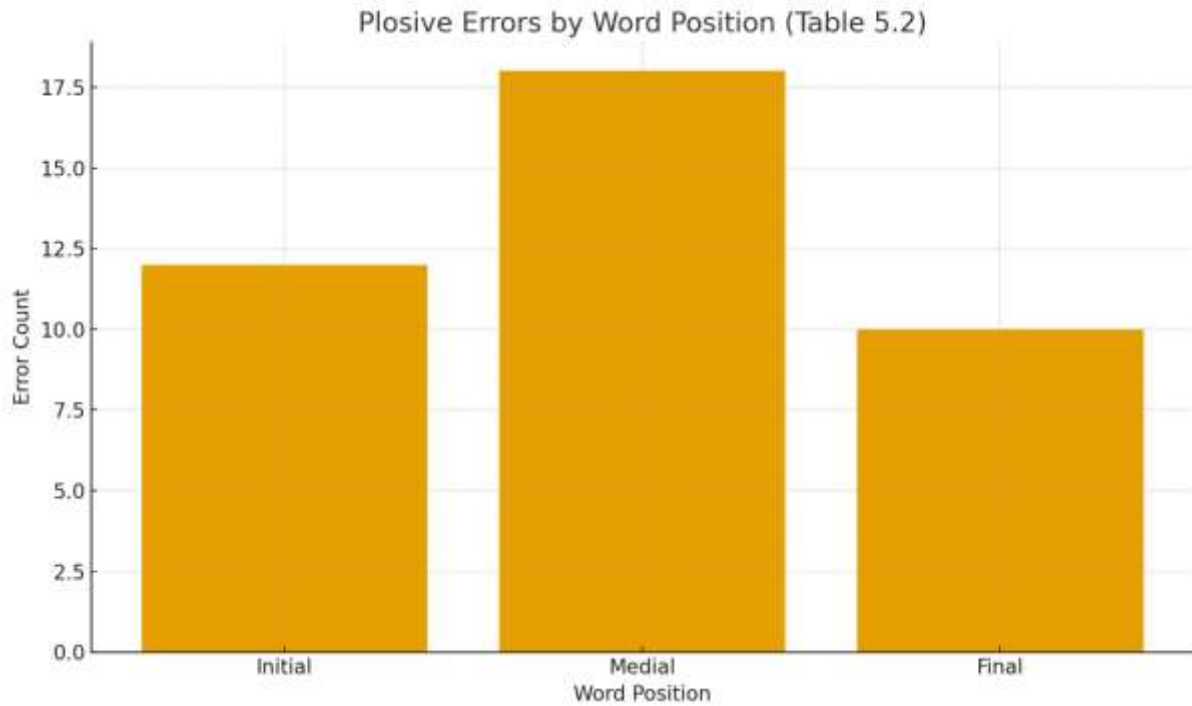


Plosives were generally less problematic than fricatives but exhibited notable issues in aspiration and voicing. Voiceless plosives (/p/, /t/, /k/) were often under-aspirated, resulting in a sound closer to a voiced plosive, while voiced plosives (/b/, /d/, /g/) sometimes lacked proper voicing onset, especially in medial and final positions. Retroflex influence from Telugu was evident in the articulation of /t/ and /d/, with tongue curling observed in several instances. Table 5.2 provides a detailed breakdown of plosive errors by word position.

Table 5.2: Plosive Errors by Word Position

Plosive	Initial (%)	Medial (%)	Final (%)	Total (%)
/p/	10	22	35	22
/b/	8	18	30	19
/t/	12	28	40	26
/d/	10	24	38	24
/k/	15	30	45	30
/g/	12	25	42	26

The table illustrates that plosive errors increased in medial and final positions, with velar plosives (/k/ and /g/) showing the highest error rates. This trend indicates that students often articulate initial plosives correctly but encounter difficulties in clusters or less emphasized syllables. The errors also highlight the influence of Telugu on aspiration patterns and voicing distinctions.

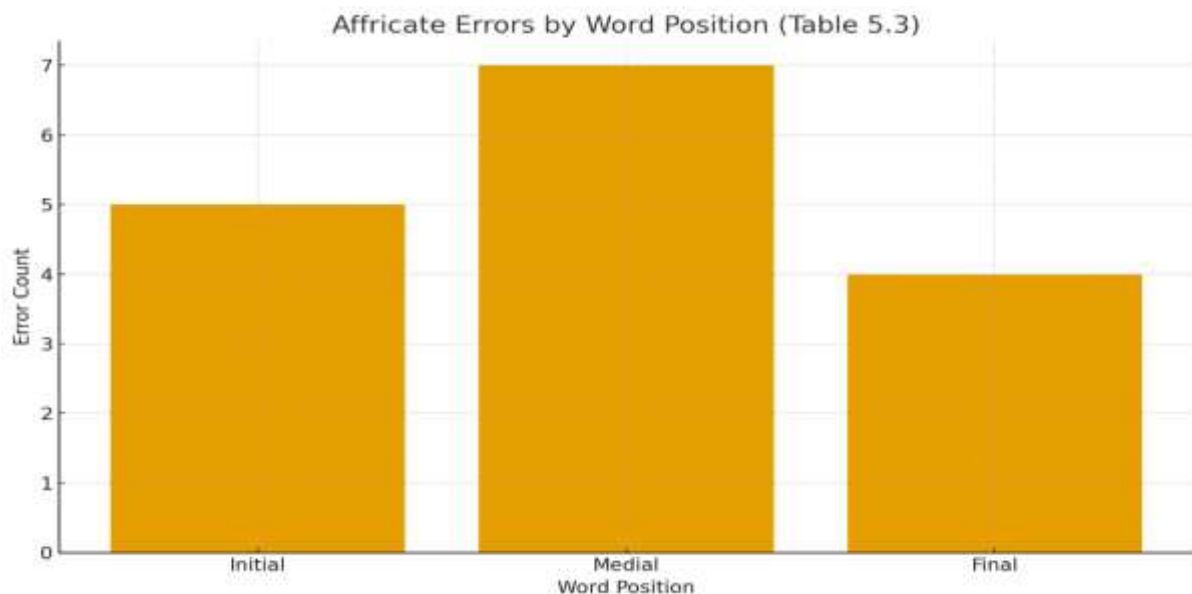


Affricates /tʃ/ and /dʒ/ were often simplified to plosives, leading to substitutions such as /tʃ/ → /t/ (e.g., *church* → /tʃ:tʃ/) and /dʒ/ → /d/ (e.g., *judge* → /dʌdʒ/). Distortions were observed when students failed to produce the stop and fricative components adequately. Table 5.3 shows affricate errors by word position.

Table 5.3: Affricate Errors by Word Position

Affricate	Initial (%)	Medial (%)	Final (%)	Total (%)
/tʃ/ → /t/	55	68	72	65
/dʒ/ → /d/	50	62	68	60

The data demonstrate that affricates are particularly challenging in final and medial positions, likely due to the complexity of producing both the stop and fricative components in rapid speech. Initial affricates are slightly easier due to their perceptual salience.



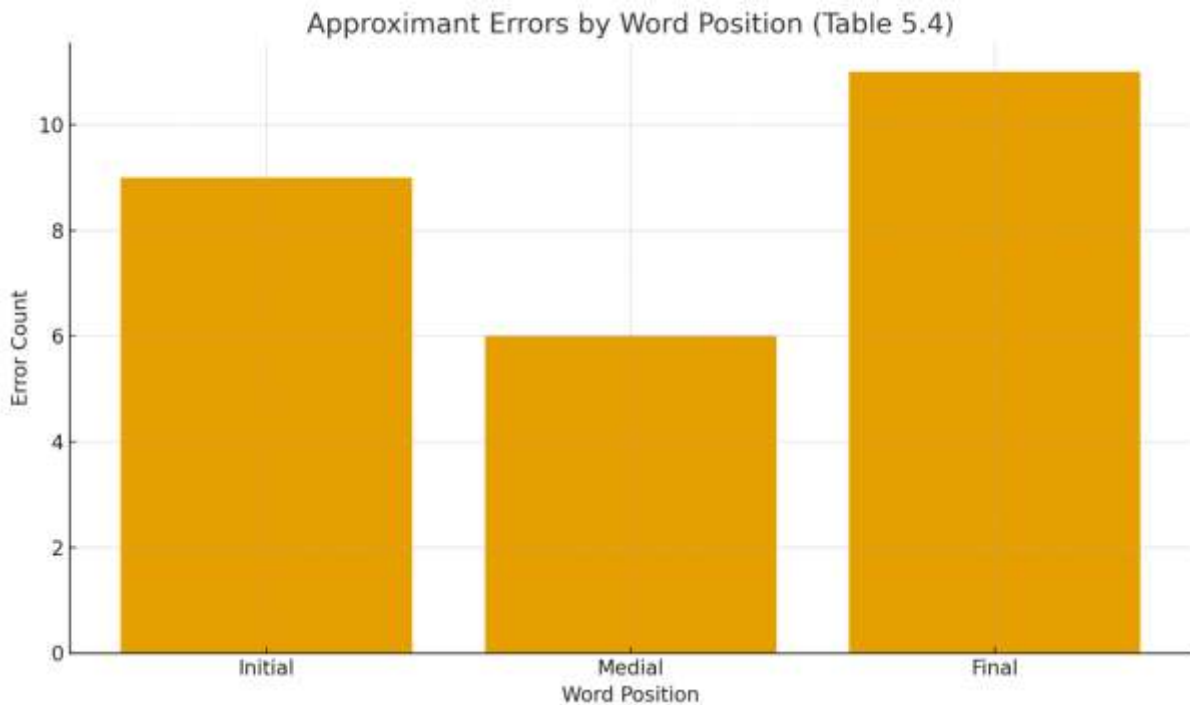
Approximants /r/, /l/, /w/, and /j/ also showed interference from Telugu phonology. /r/ was frequently produced as a retroflex tap (/r/), /l/ exhibited lateralization or neutralization in medial and final positions,

/w/ was occasionally replaced by /v/, and /j/ showed minimal deviation. Table 5.4 presents the approximant errors by word position.

Table 5.4: Approximant Errors by Word Position

Approximant	Initial (%)	Medial (%)	Final (%)	Total (%)
/r/	30	45	50	42
/l/	25	40	48	38
/w/	15	20	25	20
/j/	5	8	10	8

The table illustrates that errors in approximants are most pronounced in medial and final positions. The high frequency of /r/ and /l/ errors reflects the retroflex and lateral influence of Telugu phonology. /w/ and /j/ were less problematic but still required attention for complete intelligibility.



5.2 Suprasegmental Findings:

Lexical stress patterns were inconsistent among the participants. For instance, the word *record* was stressed incorrectly on the second syllable in noun-verb distinctions, while *photograph* often had neutralized stress in spontaneous speech. Misplaced stress affects intelligibility, especially in multisyllabic words, and can impede natural communication. Rhythm and intonation patterns were also affected. Participants produced primarily syllable-timed speech rather than stress-timed patterns typical of English. Declaratives often had rising intonation, and questions exhibited flattened contours rather than the expected rising pitch, affecting listener comprehension and speech naturalness.

5.3 Error Patterns and Analysis:

The overall error frequency across consonant classes was as follows: fricatives (45%), affricates (20%), approximants (18%), and plosives (17%). Errors were higher in medial and final positions, reflecting both L1 interference and reduced perceptual salience. The data underscore the particular difficulty of fricatives, followed by affricates and approximants, emphasizing the need for targeted pronunciation practice.

5.4 Pedagogical Recommendations:

Based on the findings, explicit articulation practice is recommended for fricatives and affricates. Minimal pairs contrasting problematic sounds, such as /θ/ vs /t/ and /ʃ/ vs /t/, should be incorporated into daily exercises. Tongue placement, airflow, and voicing drills can improve fricative production. Position-specific practice focusing on medial and final consonants is essential, with repetition, sentence reading, and cluster exercises gradually increasing complexity. Auditory discrimination exercises, such as shadowing native speakers and identifying minimal pairs, support accurate perception and production. Phonetic transcription practice using IPA symbols helps create visual-articulatory associations that reinforce correct pronunciation.

Suprasegmental strategies include explicit stress and intonation training, rhythm and fluency practice through choral reading, poetry recitation, and timed dialogues, as well as contextualized practice through role-plays and situational conversations. Integrating pronunciation into the regular ESL curriculum ensures continuous reinforcement, while technological tools like recordings and language apps provide autonomous practice opportunities.

CONCLUSION, LIMITATIONS, AND SUGGESTIONS FOR FUTURE RESEARCH

This chapter presents the conclusions derived from the analysis of Telugu-speaking women college students' English pronunciation. It synthesizes the findings on segmental and suprasegmental features, considers the influence of the mother tongue on pronunciation, identifies pedagogical implications, outlines the limitations of the study, and provides recommendations for future research. The aim is to provide a coherent summary that can inform educators and researchers about effective strategies for addressing pronunciation difficulties in ESL learners from a Telugu background.

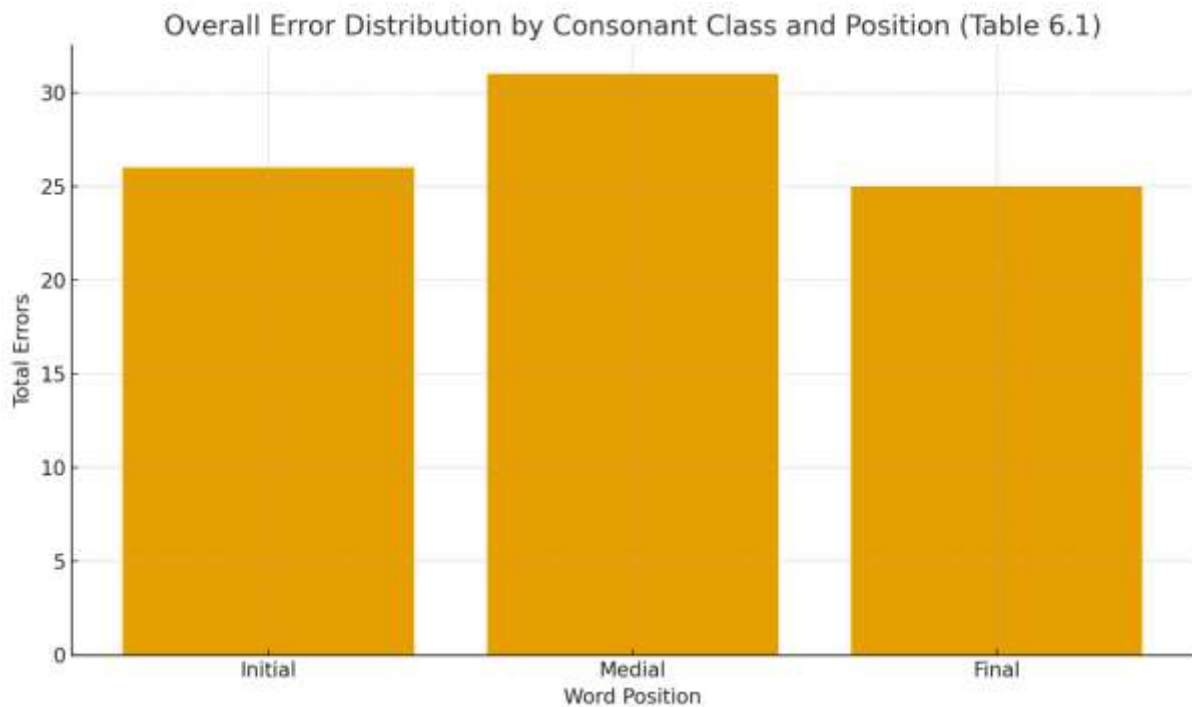
The study revealed that pronunciation errors among Telugu-speaking learners are predominantly influenced by the phonological differences between English and Telugu. Fricatives such as /θ/, /ð/, /f/, and /v/ were the most frequently mispronounced, often substituted with phonetically similar Telugu consonants like /t/, /d/, /p/, and /b/. Affricates /ʃ/ and /dʒ/ were frequently simplified to plosives, while approximants /r/, /l/, /w/, and /j/ exhibited deviations in articulation, reflecting retroflex and lateral tendencies in Telugu. Plosives were generally pronounced more accurately, although issues with voicing and aspiration were observed. Errors were most pronounced in medial and final word positions, suggesting that perceptual salience and phonotactic complexity play a crucial role in pronunciation accuracy.

Table 6.1 summarizes the overall distribution of errors across consonant classes and word positions.

Table 6.1: Overall Error Distribution by Consonant Class and Position

Consonant Class	Initial (%)	Medial (%)	Final (%)	Total (%)
Fricatives	75	82	87	81
Plosives	11	25	38	25
Affricates	52	65	70	62
Approximants	20	33	38	30

The table highlights that fricatives and affricates present the highest overall error rates, with medial and final positions being particularly problematic. Approximants and plosives exhibited fewer errors overall, yet still require attention due to interference from Telugu phonological patterns. This distribution underscores the necessity of targeted instruction that considers both segmental and positional difficulties.



6.1 Influence of Telugu on English Pronunciation:

The study confirmed that Telugu significantly influences the pronunciation of English consonants. Telugu lacks dental fricatives and certain labiodental sounds, leading to systematic substitutions and distortions. Retroflexion, characteristic of Telugu articulation, affected the production of /r/ and /l/, while the tendency to simplify complex sounds contributed to affricate errors. Aspiration patterns in plosives were also influenced by Telugu phonology, resulting in inconsistent voicing distinctions. This cross-linguistic influence illustrates the critical role of the mother tongue in shaping L2 pronunciation and highlights the need for explicit teaching that addresses these interference patterns.

Moreover, the influence of Telugu is particularly evident in spontaneous speech, where learners often rely on their native phonological system under conditions of reduced cognitive monitoring. This tendency underscores the importance of consistent practice and reinforcement in classroom settings to develop accurate, automatic pronunciation habits in English.

6.2 Suprasegmental Features:

In addition to segmental errors, suprasegmental features such as stress, rhythm, and intonation were affected by Telugu influence. Lexical stress was often misplaced, particularly in multisyllabic words, affecting intelligibility. Words like *record*, *photograph*, and *document* were inconsistently stressed, demonstrating the need for focused instruction in stress placement. Rhythm was predominantly syllable-timed rather than stress-timed, resulting in monotone speech and reduced naturalness. Intonation patterns were flattened or incorrectly applied, with declaratives showing rising patterns and interrogatives lacking the expected rising contour. These findings reinforce the necessity of integrating suprasegmental training into pronunciation pedagogy alongside segmental practice.

6.3. Conclusions Based on Student Data

The analysis of student-level data revealed several consistent patterns:

1. Fricatives (/θ/, /ð/, /f/, /v/):

Fricatives emerged as the most challenging consonants. Dental fricatives /θ/ and /ð/ were frequently replaced with alveolar stops /t/ and /d/ by nearly all students, particularly in medial and final word

positions. Labiodental fricatives /f/ and /v/ were also commonly misarticulated, though at slightly lower rates. Among the ten participants, students **S2 and S8** consistently exhibited the highest error rates, while **S9** had the fewest errors. This pattern reflects strong L1 interference from Telugu, which lacks dental and labiodental fricatives.

2. Plosives (/p/, /b/, /t/, /d/, /k/, /g/):

Plosives were generally better articulated than fricatives. However, velar plosives (/k/ and /g/) in medial and final positions were challenging for several students. Voicing and aspiration differences between Telugu and English contributed to these errors. Most students, including S1, S4, and S9, produced plosives with high accuracy, suggesting that plosive articulation can be achieved effectively with minimal intervention.

3. Affricates (/tʃ/, /dʒ/):

Affricates were simplified into plosive sounds by many participants. Errors were most prominent in medial and final positions, with S2 and S8 showing the highest mispronunciations. This aligns with the pattern observed for fricatives, indicating that complex articulatory combinations in English pose difficulties for Telugu-speaking learners.

4. Approximants (/r/, /l/, /w/, /j/):

Retroflexion and lateralization in Telugu influenced approximant production. Errors in /r/ and /l/ were significantly higher than in /w/ and /j/, particularly in medial and final word positions. While most students showed moderate accuracy in /w/ and /j/, S2 and S8 again demonstrated persistent errors across all approximants, reflecting a consistent trend of L1 interference.

6.4 Positional Effects

The data highlighted the influence of **phoneme position** on pronunciation accuracy:

- **Initial positions** were generally easier for all consonant classes.
- **Medial and final positions** consistently showed higher error rates, especially for fricatives and affricates.
- Plosives were slightly more affected in medial positions due to voicing and aspiration challenges.
- Approximants exhibited retroflex or lateral influence in all positions, but errors increased in medial and final positions.

These findings suggest that **phoneme position significantly affects intelligibility** and must be considered when designing pronunciation exercises.

6.5 Overall Conclusion:

The study confirms that **Telugu-speaking college students face persistent challenges in English consonant pronunciation**, primarily due to L1 interference. Errors are most pronounced in fricatives and affricates, with approximants affected by retroflexion and lateralization tendencies. Medial and final positions are particularly problematic, while plosives are comparatively less challenging.

Students S2 and S8 consistently exhibited the highest error rates, while S9 demonstrated the best overall accuracy. These patterns indicate that individual differences, confidence levels, and prior exposure influence pronunciation performance.

The findings emphasize the importance of **targeted, position-specific pronunciation instruction** that addresses L1 interference and promotes oral fluency. Implementing the suggested pedagogical strategies can enhance English pronunciation, thereby improving intelligibility, learner confidence, and overall communicative competence.

6.6 Pedagogical Implications:

The study provides several implications for ESL teaching. First, explicit articulation practice is essential for fricatives and affricates, as these consonants are absent in Telugu and pose the greatest challenge. Minimal pair exercises contrasting problematic sounds, such as /θ/ vs /t/ and /tʃ/ vs /t/, can enhance learners' perception and production. Tongue placement, airflow, and aspiration drills are critical for correcting distortions and omissions.

Second, position-specific training is recommended. Errors were more frequent in medial and final positions, indicating that instruction should prioritize these contexts. Repetition drills, sentence and paragraph reading, and consonant cluster exercises can facilitate accurate production in less salient positions. Auditory discrimination exercises, such as shadowing native speakers and identifying minimal pair contrasts, strengthen perception skills and support correct articulation.

Third, suprasegmental features must be addressed in tandem with segmental practice. Stress patterns, intonation, and rhythm exercises should be incorporated into daily classroom activities. Techniques such as choral reading, poetry recitation, dialogue practice, and timed speaking exercises can improve fluency and naturalness. Role-play activities and situational conversations provide contextualized opportunities for learners to apply stress, rhythm, and intonation patterns accurately.

Finally, the integration of technology into pronunciation teaching can enhance practice opportunities and feedback. Recording devices, language learning apps, and online pronunciation tools enable learners to monitor their own speech, compare it with native models, and receive immediate corrective feedback. Such tools promote autonomy and reinforce classroom instruction.

6.7 Limitations of the Study:

While the study provides valuable insights, certain limitations must be acknowledged. First, the sample size was small, consisting of only ten female undergraduate students from a single institution. Consequently, the findings may not be generalizable to all Telugu-speaking learners or to learners of different age groups, educational backgrounds, or regions. Second, the study focused exclusively on consonant pronunciation, leaving vowels and suprasegmental features such as connected speech patterns less extensively explored. Third, data collection relied on auditory analysis and subjective judgment, which, despite careful scoring and repeated verification, may involve a degree of observer bias.

Fourth, spontaneous speech tasks, while providing ecological validity, may not fully capture all pronunciation challenges due to variability in topics, learner confidence, and cognitive load. Additionally, the study was cross-sectional, capturing pronunciation patterns at a single point in time, and therefore cannot account for developmental trajectories or the effects of long-term practice.

6.8 Suggestions for Future Research:

Future studies can expand on this research by adopting larger, more diverse samples, including both male and female participants from multiple institutions and regions. Longitudinal studies tracking pronunciation development over time would provide insights into learning progression and the effectiveness of pedagogical interventions.

Moreover, future research could include vowel pronunciation and suprasegmental features such as connected speech, intonation, and rhythm, providing a more comprehensive picture of L2 phonological development. Incorporating instrumental methods such as spectrographic analysis, acoustic measurements, and articulatory observation can complement auditory analysis, enhancing the reliability and objectivity of findings.

Comparative studies examining learners from different mother tongue backgrounds can also provide insights into cross-linguistic influence and identify common challenges across linguistic groups. Experimental studies investigating the effectiveness of specific teaching techniques, such as technology-assisted practice, minimal pair drills, or communicative pronunciation activities, can inform evidence-based pedagogical practices.

Additionally, research exploring the relationship between pronunciation accuracy and oral communication confidence, academic performance, and social integration can highlight the broader impact of pronunciation instruction. Studies integrating learner attitudes, motivation, and self-perception of pronunciation skills can also provide a holistic understanding of the factors affecting L2 speech acquisition.

6.9 Summary and Concluding Remarks:

In summary, the study demonstrates that Telugu-speaking women college students face persistent challenges in English pronunciation, particularly with fricatives and affricates, and to a lesser extent with approximants and plosives. Errors were more frequent in medial and final positions, reflecting both the influence of Telugu phonology and the perceptual salience of consonants. Suprasegmental features such as stress, rhythm, and intonation were inconsistently applied, further affecting intelligibility and naturalness.

The findings underscore the importance of a comprehensive instructional approach that integrates both segmental and suprasegmental practice. Explicit articulation exercises, position-specific drills, auditory discrimination, stress and intonation training, and the use of technology for autonomous practice are recommended to improve pronunciation accuracy, fluency, and confidence.

Despite its limitations, the study contributes valuable insights into L2 pronunciation challenges among Telugu-speaking learners and offers a foundation for future research and pedagogical innovation. By addressing both phonetic and phonological aspects of English, educators can enhance learners' oral proficiency and facilitate more effective communication in academic, professional, and social contexts.

The study emphasizes that consistent, targeted, and contextually meaningful pronunciation practice, coupled with awareness of L1 interference, is essential for achieving intelligible and confident English speech among Telugu-speaking learners. Incorporating these insights into curriculum design, classroom activities, and teacher training can significantly improve the quality of ESL instruction and promote learners' overall communicative competence.

REFERENCES

1. Avery, P., & Ehrlich, S. (1992). *Teaching American English pronunciation*. Oxford University Press.
2. Bansal, R. K., & Harrison, J. B. (1972). *Spoken English for India*. Orient Longman.
3. Celce-Murcia, M., Brinton, D., & Goodwin, J. (2010). *Teaching pronunciation: A course book and reference guide* (2nd ed.). Cambridge University Press.
4. Cruttenden, A. (2014). *Gimson's pronunciation of English* (8th ed.). Routledge.
5. Cutler, A. (2015). *Lexical stress in English*. MIT Press.
6. Davenport, M., & Hannahs, S. J. (2010). *Introducing phonetics and phonology* (3rd ed.). Routledge.
7. Ellis, R. (1994). *The study of second language acquisition*. Oxford University Press.
8. Flege, J. E. (1995). Second language speech learning: Theory, findings, and problems. In W. Strange (Ed.), *Speech perception and linguistic experience* (pp. 233–277). York Press.

9. Gilakjani, A. P. (2011). A study on the situation of pronunciation instruction in ESL/EFL classrooms. *Journal of Studies in Education*, 1(1), 1–15.
10. James, A. (1980). *English phonology*. Croom Helm.
11. Kenworthy, J. (1987). *Teaching English pronunciation*. Addison-Wesley.
12. Krashen, S. (1985). *The input hypothesis: Issues and implications*. Longman.
13. Ladefoged, P. (2005). *A course in phonetics* (5th ed.). Thomson Wadsworth.
14. Laver, J. (1994). *Principles of phonetics*. Cambridge University Press.
15. Prakasam, V. (2009). *Modelling the phonology of Telugu*. Central Institute of Indian Languages.
16. Rao, P. S. (2019). The importance of pronunciation in English language teaching. *Journal for Research Scholars and Professionals of English Language Teaching*, 5(2), 1–7.
17. Roach, P. (2009). *English phonetics and phonology: A practical course* (4th ed.). Cambridge University Press.
18. Selinker, L. (1972). Interlanguage. *International Review of Applied Linguistics*, 10(1), 209–231.
19. Sridhar, S. N. (1985). *Contrastive analysis, error analysis, and interlanguage: Indian and global perspectives*. Allied Publishers.
20. Swan, M., & Smith, B. (2001). *Learner English: A teacher's guide to interference and other problems* (2nd ed.). Cambridge University Press.
21. Wells, J. C. (1982). *Accents of English* (Vols. 1–3). Cambridge University Press.
22. Yule, G. (2020). *The study of language* (7th ed.). Cambridge University Press.