

**Segmental phonetic difficulties caused by spanish interference in the acquisition
of english as a foreign language among students enrolled in English programs at
Universidad Nacional Abierta y a Distancia**

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Dedications

This work stands as a testament to the strength and love of my family, my unshakable foundation, and my deepest inspiration. To my mother, a woman of profound resilience and unwavering determination: your sacrifice and hard work are the very blueprint of my character. You taught me that no goal is out of reach when pursued with love and discipline. My gratitude extends to my father for his quiet strength and steadfast encouragement, and to my grandparents for their enduring legacy and wisdom. For every lesson, every sacrifice, and your endless faith in me throughout this journey, I am eternally grateful.

- John Virgues

To my husband, my life partner and greatest support. Thank you for always being by my side, for believing in me in moments of doubt, and for supporting me every step of the way. Your intelligence, hard work, kindness, and patience are a constant inspiration to me.

This achievement is also yours.

- Yurany Avila

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Resumen

Esta monografía aborda las dificultades fonéticas segmentales que los hispanohablantes enfrentan al aprender inglés como lengua extranjera. Su objetivo es analizar las diferencias fonéticas segmentales entre ambos idiomas e identificar los sonidos que resultan problemáticos para los estudiantes. Para ello, se apoya en la revisión de la documentación existente sobre interferencia lingüística, específicamente en lo referente a las dificultades fonéticas que presentan los estudiantes de inglés de la Universidad Nacional Abierta y a Distancia. Se espera que esta revisión documental permita identificar las interferencias fonéticas específicas que afectan la pronunciación de los aprendices, basándose en la información revisada se clasificarán las principales teorías y estudios que se relacionan con los sonidos producidos por los estudiantes y los sonidos objetivo de acuerdo con el IPA (International Phonetic Alphabet), se llevará a cabo una revisión extensiva de fuentes académicas relacionadas al tema, junto a un análisis de esta información confrontada con la experiencia adquirida durante las etapas de prácticas académicas en la Universidad Nacional Abierta y a Distancia, para así entender mejor los retos fonéticos segmentales a los que se enfrentan los hispanohablantes al aprender inglés. Por lo tanto, los resultados proporcionarán información útil para crear métodos específicos destinados a mejorar la pronunciación del inglés. Esto ayudará a los estudiantes a comunicarse mejor y favorecerá un aprendizaje más eficaz del idioma.

Palabras clave: fonética, inglés, interferencia, lingüística, segmental

Abstract

This monograph addresses the segmental phonetic difficulties that Spanish speakers face when learning English as a foreign language. Its objective is to analyze the segmental phonetic differences between both languages and identify the sounds that are problematic for students. To achieve this, it draws on a review of existing documentation on linguistic interference, specifically regarding the phonetic difficulties presented by English students at the Universidad Nacional Abierta y a Distancia. This documentary review is expected to identify the specific phonetic interferences that affect learners' pronunciation. Based on the reviewed information, the main theories and studies related to the sounds produced by students and the target sounds according to the IPA (International Phonetic Alphabet) will be classified. An extensive review of academic sources related to the topic will be carried out, along with an analysis of this information compared with the experience acquired during the academic practice stages at the Universidad Nacional Abierta y a Distancia, in order to better understand the segmental phonetic challenges that Spanish speakers face when learning English. Therefore, the results will provide useful information to create specific methods aimed at improving English pronunciation. This will help students communicate better and promote more effective language learning.

Keywords: English, Interference, linguistics, phonetics, segmental,

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Introduction

Learning a foreign language is a complex process. The phonological system of the first language (L1) significantly affects how the phonology of the second language (L2) is learned. This is often called linguistic interference (Lado, 1957; Corder, 1967; Flege, 1995). For Spanish-speaking learners of English, this interference is especially noticeable at the segmental level. English consonant phonemes that don't exist in Spanish often lead to problems with articulation, mispronunciations, substitutions, and reduced clarity (Flege, 1995; Celce-Murcia, Brinton & Goodwin, 2010; Amengual, 2012). These challenges include accurately producing dental and labiodental fricatives, vowel contrasts, and other phonemes not found in Spanish. These require specific adjustments in how speech sounds are produced.

This undergraduate thesis examines the challenges Spanish speakers face when producing specific segmental sounds, as the voiceless dental fricative /θ/ (as in "think"), the voiced dental fricative /ð/ (as in "this"), and the voiced labiodental fricative /v/ (as in "voice"). This investigation analyzes student pronunciations of sounds, comparing them to their intended forms as denoted by the International Phonetic Alphabet (IPA). The significance of this research stems from the enduring nature of these articulatory difficulties, even among learners at the upper-intermediate proficiency level. In accordance with the Common European Framework of Reference for Languages (CEFR), a B2 user is expected to be capable of fluent and spontaneous interaction, as well as producing clear, detailed speech. Nevertheless, initial observations and classroom data indicate that L1 phonetic interference can diminish phonetic accuracy and impede intelligibility, even at this proficiency level.

The sounds /θ/ and /ð/ are often substituted by Spanish phonemes /t/ and /d/ (a process of fortition/stopping) or /θ/ is replaced by /s/. Likewise, the sound /v/ might be pronounced as the bilabial [b], which removes the important distinction between labiodental sounds in English. If these substitutions aren't corrected, they can become permanent, making it harder

to fix them later in language learning (Lado, 1957; Flege, 1995; Celce-Murcia, Brinton & Goodwin, 2010). Classroom observations during the teaching practice with Spanish-speaking students in English IV at UNAD support this explanation. These observations showed that these segmental substitutions were common in speaking activities at the B1–B2 proficiency level.

The context of the Universidad Nacional Abierta y a Distancia adds another layer of significance to this study. While online learning offers flexibility and accessibility, it might limit chances for extensive speaking practice and immediate, consistent feedback from instructors and classmates (Hampel & Stickler, 2005; Celce-Murcia, Brinton & Goodwin, 2010). Therefore, it's crucial to study how segmental interference appears in this specific learning environment. This study aims to contribute to the understanding of Spanish segmental phonetic interference in Colombian distance higher education.

The central objective is to systematically analyze how Spanish segmental phonetic interference affects the pronunciation of English phonemes in B2-level students at UNAD using IPA comparisons to identify, classify and quantify substitution patterns not limited to /θ/, /ð/ and /v/. To achieve this, a mixed-methods approach will be employed involving the recording and phonetic analysis of participants' oral productions in controlled and semi-controlled tasks. The findings of this investigation will, in the end, furnish valuable perspectives for the development of focused methodologies aimed at refining English pronunciation. Consequently, this will augment learners' capacity for effective communication and facilitate a more streamlined language acquisition process.

Justification

In formal English language instruction contexts, pronunciation is the least systematically addressed area, and this is especially evident in virtual educational contexts (Celce-Murcia et al., 2010; Derwing & Munro, 2005). Many programs focus on teaching grammar, writing and reading, but the oral dimension, specifically accurate phonetic production, is often left in the background (Jenkins, 2000; Major, 2001). This causes the real communicative progress of learners to be slowed down, so they end up dominating the structure of the language but do not achieve clear and effective communication (Derwing & Munro, 2005; Celce-Murcia et al., 2010).

This issue is especially pertinent for those participants who have entered in the medium level of proficiency, students participating in foreign language courses at UNAD, since they are learners who are at an intermediate-advanced stage, from whom it is expected to be able to communicate and develop with greater fluency (Jenkins, 2000; Derwing & Munro, 2005). At this level, having deficiencies in pronunciation generates barriers to understanding the two parts and affects the perception of their real level (Derwing & Munro, 2005; Major, 2001).

The negative consequences of poor pronunciation go beyond the classroom; it can affect self-esteem, self-confidence and the ability to communicate with foreign people in more real contexts, as well as their academic and professional projection (Derwing & Munro, 2009; Saito, 2011). That is why it is important to analyze the segmental phonetic difficulties that learners experience and understand their origin in order to provide a theoretical basis for improving oral competence in English (Major, 2001; Jenkins, 2000).

Finally, this monograph is also justified from an academic point of view, because it is intrinsically aligned with the institutional line of research in pedagogy, didactics, and curriculum. The study is grounded in empirical evidence obtained from real learner database,

and is strategically focused on a persistent problem in foreign language teaching, particularly in English pronunciation. Its theoretical analysis contributes to understanding pronunciation challenges in virtual learning environments and provides insights relevant for applied linguistics research on segmental phonetic interference.

Objectives

General Objective

To identify the main segmental phonetic difficulties (vowel and consonant sounds) arising from Spanish interference in English acquisition in order to improve pronunciation teaching strategies for students at the Universidad Nacional Abierta y a Distancia.

Specific Objectives

To identify the most recurrent segmental phonetic errors in the pronunciation of English made by UNAD students due to Spanish interference.

To analyze the linguistic origins of these errors making a comparison of the phonetic systems of Spanish and English.

To determine the degree of phonetic distance between specific English phonemes (vowels and consonants) and their nearest equivalents in the Spanish phonological inventory.

Research Question

How does Spanish interference affect the acquisition of English segmental phonetics (vowels and consonants) in students at the Universidad Nacional Abierta y a Distancia?

Statement of the Problem

The English language has great relevance in today's world, especially in technological, academic and professional areas. That is why educational institutions are aware of the importance of their teaching. UNAD (Universidad Nacional Abierta y a Distancia) offers English courses up to B2 level to students at all university careers, making use of digital material, bibliography, activities and synchronous classes. But despite all these tools, there is one aspect that remains challenging for students, as evidenced during the pedagogical practice process.

Pronunciation is a key part when learning English, since it directly affects oral communication, not pronouncing correctly can interfere with the objective of communicating with other people or generate misunderstandings. This problem occurs because English has a phonetic system that is very different from Spanish, which has a standardized system of phonetic symbols while Spanish does not, which is more complex and has a greater number of vowel and consonant phonemes, and there are also differences in accentuation, rhythm and intonation (Amengual, 2012; Escudero, 2006). These differences make the learning process more difficult for Spanish-speaking students, who often tend to transfer Spanish phonetic patterns to English, causing mispronunciation. This phenomenon is known as linguistic interference or negative transfer (Lado, 1957; Corder, 1967; Flege, 1995).

Phonetic interference is evidenced when pronouncing sounds in English that do not exist in Spanish, specifically: /θ/ (think) and /ð/ (this). In the case of the word *think*, it is common for students to pronounce it as *tink* because they do not know the *th* sound in English, so they use the closest sound in Spanish, which in this case would be the /t/. Although these errors are common and understandable, they can cause misunderstandings or

failure to deliver the message correctly in English, which results in anxiety or insecurity in students when speaking in this foreign language (Lado, 1957; Flege, 1995; Amengual, 2012).

In the specific context of UNAD (Universidad Nacional Abierta y a Distancia), students have made progress thanks to the language proficiency levels established by the institution (A1, A2, B1, and B2), but there are still difficulties in pronunciation at the B1-B2 level. The study will focus on students enrolled in English IV at UNAD. Given that the program is delivered in a virtual modality, this info would better fit in “population” it facilitates access to information, but on the other hand, it limits students' oral interaction and reduces the possibility of more personalized feedback, which may intensify these difficulties.

Literature review

The segmental phonetic difficulties faced by UNAD students in acquiring English phonology can be understood through a cohesive framework that integrates international, national, and local research perspectives. At the international level, Brannen (2011) establishes that perceptual features such as stridency and phonetic distance shape how learners substitute non-existent L2 sounds, with the Auditory Distance Model demonstrating that Spanish speakers' replacement of English /θ/ with /t/ or /s/ stems from perceptual mapping onto L1 categories rather than mere articulatory constraints. Stefanich and Cabrelli (2021) complement this by providing acoustic evidence of bidirectional phonological transfer, showing that just as English speakers default to L1 /nj/ when attempting Spanish /ɲ/, UNAD students similarly rely on their native palatal nasal when producing English /nj/ sequences in words like "canyon."

At the national level, Hernández (2019) confirms that phonetics represents one of the most vulnerable linguistic levels to cross-linguistic interference among Colombian Spanish speakers, while Durango (2021) demonstrates that explicit phonetic instruction within Colombian online learning programs significantly improves pronunciation outcomes, validating pedagogical interventions for UNAD's distance education context. At the local level, Choque Molano (2025) provides evidence that Colombian learners whether children or adults struggle with English vowel distinctions precisely because Spanish lacks these phonemic contrasts, and that integrating International Phonetic Alphabet training with interactive methodologies enhances phonological awareness. Cardona Soler (2024) reinforces this by showing that auditory discrimination and phonological awareness are foundational skills that, when systematically developed through targeted interventions, address the perceptual root of segmental pronunciation errors. Together, these international, national, and local studies establish that the segmental difficulties experienced by UNAD students are

predictable patterns of cross-linguistic influence that can be effectively remediated through structured, accessible phonetic instruction tailored to the online learning environment.

Studies International Context

Phonetic Distance in the Perception of Interdental Fricatives – Brannen (2011)

Brannen (2011) states that non-contrastive phonetic qualities, especially the trait “strident”, affect how substitutions are made. She looks at students from Japanese, Russian, European French, and Québec French backgrounds and shows that even languages with identical phonemic inventories can make distinct substitutions. For instance, speakers of European French often switch [s, z], while speakers of Québec French usually switch [t, d]. This perspective challenges explanations that focus solely on phonetic elements, thereby supporting the idea that perceptual features are crucial. The Auditory Distance Model, an algorithm, is presented by the author; it is intended to compare second language (L2) input with first language (L1) segments through an analysis of feature similarities and differences, incorporating feature weighting and perceptual enhancement. The model's predictions are largely supported by empirical evidence derived from studies conducted in naturalistic settings, including AXB as a perceptual test used in experimental phonetics and psycholinguistics to assess listeners' ability to distinguish between two sounds or stimuli, it consists of exposing when sound A has similarity to sound B often in combination with picture recognition tasks. This investigation underscores the significance of subphonemic information in the acquisition of a second language.

These findings are relevant to the study of Spanish speakers' difficulties with English pronunciation, as they suggest that problems in how sounds are produced stem from how they are perceived. For UNAD students who speak Spanish, the replacement of /θ/ with /t/ or /s/ might stem from how these sounds are understood in relation to the closest Spanish phonetic categories. This implies that the issue extends beyond mere phonetic production,

encompassing perceptual processing a facet often overlooked in conventional pronunciation instruction. Understanding phonetic distance can help explain why students always use Spanish sounds they know, even when they know the English sound, they want is different.

The Role of L1 Phonology in L2 Phonological Production: The Case of the English /nj/ Sequence and Spanish /ɲ/. Stefanich and Cabrelli (2021)

Stefanich and Cabrelli's 2021 study, published in *Frontiers in Psychology*, provides a detailed acoustic investigation of how native English speakers acquire the Spanish palatal nasal phoneme /ɲ/, a sound that does not exist in the English phonetic inventory. The authors were motivated by the phonological challenge this sound presents: English speakers must learn to produce a single, complex segment where their native phonology only permits a two-consonant sequence.

The main learning problem stems from the structural differences between the two languages. Spanish has a phonemic contrast between the alveolar nasal /n/ (as in “cana”, 'gray hair') and the palatal nasal /ɲ/ (as in caña, 'cane'). this last one is a tautosyllabic segment comprising an alveolar nasal with a simultaneous palatal glide element. English, on the other hand, lacks /ɲ/ entirely. Its closest approximation is the heterosyllabic sequence /nj/, where the /n/ closes one syllable and the /j/ begins the next, as in the word "canyon" (phonetically [ˈkæn.jən]). Furthermore, English phonotactics prohibit such sequences in syllable-initial position. Therefore, to master the Spanish sound, learners must not only create a new phonetic category but also overcome a deep-seated, language-specific constraint on syllable structure.

The study was based on two primary research questions. The first asked whether learners could produce an acoustically distinct contrast between Spanish /n/ and /ɲ/, and whether this ability varied by proficiency. The results provided a clear affirmative: even the beginner group successfully distinguished between /n/ and /ɲ/ in their production. This

indicates that the most fundamental aspect of acquiring the new sound differentiating it from the similar, already known /n/ is achieved relatively early.

Stefanich and Cabrelli's (2021) research on English speakers' acquisition of the Spanish palatal nasal /ɲ/ provides a useful model for understanding the segmental challenges that UNAD students, who are native Spanish speakers, may experience when learning English phonology as a second language. While this study focused on Spanish as a second language acquisition, its core principle that the phonological and phonotactic constraints of the native language directly affect the production of sounds not present in the second language directly relevant to the difficulties faced by UNAD students.

Consider, for example, the study's emphasis on how English speakers must inhibit the inclination to produce a heterosyllabic /nj/ sequence, opting instead to generate a novel, single segment, /ɲ/. By paralleling this process, a UNAD student whose first language phonology incorporates the unitary palatal nasal /ɲ/ might find it challenging to articulate the English alveolar-plus-glide sequence /nj/ in terms such as "canyon" or "onion." Analogous to the English speakers in the study, who utilized their L1 structure (/nj/) as a substitute for the unfamiliar L2 sound (/ɲ/), a Spanish-speaking learner is likely to revert to their native, phonemic /ɲ/ when attempting the English /nj/ sequence, potentially producing "canyon" as [ˈkæ.ɲən] rather than [ˈkæn.jən]. This information analyzed by Stefanich and Cabrelli demonstrates the segmental difficulties are bidirectional; the identical phonological discrepancy that poses a challenge for the English speaker acquiring Spanish creates a similar, though reversed, impediment for the Spanish speaker learning English, firmly rooted in the phonological grammar of their respective L.

Studies Local Context

Interference of Spanish in English Vowel Pronunciation for Colombian Spanish Speakers

– ***Hernández (2019)***

This work explores the impact of Spanish on the English vowel pronunciation of Colombian Spanish speakers, employing acquisition, borrowing, and translation as analytical frameworks. The present study examines linguistic borrowing across four distinct linguistic levels: phonological, morphological, semantic, and syntactic. It clarifies processes such as transphonemization and transmorphemization, thereby illustrating the incremental integration of foreign linguistic elements into the established linguistic structure. Hernández (2019) suggests that vocabulary and pronunciation are the most vulnerable areas to be influenced by other languages, while the structure of words shows more resistance. He also discusses how calques are formed, which are phrases translated literally from one language to another. This shows a structural influence that goes beyond just how words sound.

This study directly supports the main goal of this research by focusing on Colombian Spanish speakers and highlighting phonetic interference as a key factor. The fact that phonetics is identified as one of the most susceptible levels confirms that segmental pronunciation difficulties among UNAD students are not isolated cases but part of a broader pattern of cross-linguistic interaction. Additionally, this contextualization within the Colombian linguistic environment makes his findings particularly applicable, even though each educational setting may show slight variations depending on exposure and instruction.

Influencia del entrenamiento en fonética básica del inglés en la mejora del Speaking

Durango (2021) investigates the effects of direct phonetic instruction on the spoken English skills of undergraduate students in a Colombian online learning program. This research is based on the idea that understanding and using a language's phonological system are crucial for effective communication and comprehension.

To assess this hypothesis, the author designed and implemented a structured pedagogical intervention for students in an intermediate English course, concentrating on fundamental English phonetics. The methodology involved creating a detailed teaching plan. This plan included specific activities, subjects, and teaching materials, all designed for online learning.

The study carefully compared the initial planning stages with the actual implementation of the phonetic training program. After the program ended, the research provided a thorough analysis of the results, focusing on how much the targeted training improved the students' speaking and pronunciation skills. The author says that the data show that adding phonetic training to the curriculum is clearly a good idea. The results also show that additional research is needed in this area. They imply that teaching phonetics explicitly is a potential way to help foreign language learners improve their speaking skills in open and distance higher education settings.

Durango's (2021) instructional method provides a practical way to address the specific segmental phonetic difficulties that arise from Spanish interference in English learning, particularly for UNAD students. Durango's study, which implemented structured phonetic training for undergraduate students in a Colombian online learning program, operates on the foundational premise that explicit instruction in a language's phonological system is essential for developing effective communication skills.

Estrategias Fonéticas para Optimizar la Pronunciación de las Vocales en Inglés en los Estudiantes del Grupo Aliens de Starkids Modelia

This study, conducted by Choque Molano (2025), was a preliminary investigation for a professional degree. Its goal was to encourage reflection on teaching methods and to improve research skills. The study involved the "Aliens" group at the StarsKids Modelia language school, which included children aged 9 to 12. The main goal of the study was to help the children pronounce English vowels more accurately, using phonetic techniques

suitable for their level of understanding. The study found that the students had trouble telling the difference between some long and short vowel sounds. The main reason for the difficulties was their use of Spanish, a language that doesn't have these specific sounds, together with a lack skills in phonology due to the instruction in their previous education.

This study used a mixed methods approach, based on a model of teaching action research. The teaching plan had three sessions, each one of these with activities designed to improve listening comprehension, repetition, the International Phonetic Alphabet (IPA), and interactive games. The results showed a significant improvement in the children's phonological awareness and their ability to pronounce vowels correctly. This observation implies that the integration of phonetic methodologies into early English language teaching proves beneficial, especially in environments where language exposure is restricted. Moreover, the study's outcomes underscored that even brief, focused interventions can produce considerable advancements, provided the activities are appropriately tailored to the Choque Molano's (2025) study with young Colombian learners provides a clear illustration of how Spanish interference creates segmental phonetic difficulties in English acquisition, and these findings hold valuable implications for the adult population enrolled in UNAD's English programs. Although the study targeted children aged 9 to 12, the core phonological challenge identified the struggle to distinguish English long and short vowels because Spanish lacks these phonemic contrasts is not age dependent but rather rooted in the shared L1 phonological system of all Colombian Spanish speakers.

This mechanism of cross-linguistic influence directly parallels the findings of Stefanich and Cabrelli (2021), who documented how English speakers default to their native phonological structures when attempting non-existent L2 sounds. Just as the children in Choque Molano's (2025) study relied on their native five-vowel system when confronting the more complex English vowel inventory, adult UNAD learners, despite their maturity and

potentially greater metalinguistic awareness, remain susceptible to the same patterns of phonological transfer.

The neutralization of distinctions between English vowel pairs such as /i:/ and /ɪ/ or /u:/ and /ʊ/ represents precisely the type of segmental difficulty that persists into adulthood when explicit instruction is absent. Importantly, Choque Molano's (2025) demonstration that integrating phonetic methodologies including International Phonetic Alphabet (IPA) training and interactive activities significantly improved phonological awareness suggests that adult UNAD students could benefit even more substantially from such interventions, as their cognitive maturity and developed learning strategies may enhance their ability to consciously recognize and systematically correct pronunciation errors rooted in their L1 phonological system. By adapting Choque Molano's (2025) approach to the online distance education context characteristic of UNAD, instructors could help adult learners overcome the same segmental difficulties observed in younger populations, ultimately facilitating more target-like production patterns in English as a foreign language.

Fortalecimiento del Lenguaje Oral a Nivel Fonológico a Través de la Implementación de Tarjetas Didácticas con los Estudiantes del Grado Primero de la Sede Puerto Esperanza del Municipio de Fuente de Oro Meta

Cardona Soler (2024), at Puerto Esperanza school, focused on boosting phonological awareness and oral language abilities in her first-grade class. The project was designed to identify specific deficiencies in auditory discrimination and to create targeted strategies for oral language development, recognizing that phonological awareness is a foundational skill for literacy. The study showed that using engaging methods like flashcards, games, competitions, and audiovisual materials, along with careful lesson planning, effectively improved phonological awareness and promoted better communication skills.

A key finding was the value of collaborative group work in developing both communication

skills and a sense of responsibility among students. The research showed that the teaching methods used were effective in meeting the students' needs and specific learning goals. This allowed for the identification of difficulties with auditory discrimination, which then led to the development of appropriate interventions.

This study is crucial for the current monograph because it shows how important phonological awareness and auditory discrimination are for language development. These are closely related to segmental phonetic learning. Cardona Soler's experiment was done with first-grade students in a literacy setting, but its results are very useful for looking at how Spanish affects UNAD students' English pronunciation. When students try to make English sounds that don't exist in Spanish, they often have trouble telling sounds apart at the auditory level. This can lead to pronunciation problems that last a long time.

Conclusions of Review

The challenges Spanish-speaking students at UNAD face with English pronunciation are not random mistakes. They are predictable patterns that occur because the Spanish sound system strongly influences how they hear and speak English. The Speech Learning Model (SLM) is the key theory that helps us understand why. It explains that our minds naturally try to fit new English sounds into the existing Spanish sound categories. This is why pairs of English vowels, like the "ee" in "sheep" and the "i" in "ship," often sound the same to a Spanish ear and are pronounced identically. It's also why consonants might be swapped, like saying "bery" for "very."

Interestingly, the model also explains that English sounds which are completely foreign to Spanish, like the "th" in "think," can sometimes be easier to learn in the long run. This is because the brain recognizes them as new and builds a separate category for them, instead of confusing them with a familiar Spanish sound. The SLM's most important lesson

is that the sounds which seem similar to Spanish ones are actually the trickiest to correct, because learners often cannot hear the subtle difference.

This means teaching must change. For UNAD students learning online, courses must move beyond just repeating words. They need to include focused listening practice like drills with similar-sounding words, and using technology to visualize sounds to train their ears first. Once students learn to hear the difference, their mouths can learn to make the difference. Ultimately, fixing these pronunciation issues is not about having a perfect accent, but about being clearly understood. By using the insights from the Speech Learning Model, UNAD can create programs that scientifically help its distance learners overcome this Spanish-influenced barrier, allowing them to build clearer and more effective English pronunciation.

Theoretical Framework

This section examines the main theories and research that explain how Spanish phonological structures affect English language learners' ability to acquire English segmental phonetics. The goal is to provide the theoretical and empirical basis for the hypotheses and structure of this study. This will help the reader understand the reasoning behind the research questions and the methods used. Through the integration and critical evaluation of perspectives from Second Language Acquisition (SLA), phonological transfer, and specialized pedagogical models for distance education, this literature review endeavors to provide a comprehensive understanding of the intricate pronunciation challenges encountered by learners. This analysis specifically examines how these interacting elements create unique challenges within the institution's specific virtual learning environment, which then influences the development of learners' interlanguage.

Contrastive Analysis Hypothesis

The Contrastive Analysis Hypothesis (CAH) Lado, R. (1957). *Linguistics across cultures: Applied linguistics for language teachers*. University of Michigan Press. provided a comprehensive theoretical treatment, arguing that "those elements which are similar to the learner's native language will be simple for him, and those elements that are different will be difficult." This theory was based on the principal thesis about human behavior, which stated that language learning was a process of habit formation where the first language (L1) habits could either reinforce or affect the acquisition of a second language (L2). The main mechanism of CAH is language transfer: where the mother tongue and target language structures are similar, positive transfer makes it easier to learn; where they differ, negative transfer (or interference) causes errors and difficulty.

The goal of CAH is to predict these learning difficulties through a priori systematic comparison of two languages. However, empirical evidence later showed that the initial

"strong version" which claimed to predict all learner errors was unsustainable, as not all linguistic differences led to errors, and some errors occurred irrespective of the L1. A more widely accepted "weak version" of the hypothesis subsequently emerged, using contrastive analysis not for prediction but for the retrospective explanation of systematic, recurring errors, cementing its utility in applied linguistics.

Application of CAH to Spanish English Segmental Phonetics: The Vowel System

Applying the CAH framework (Lado, 1957) to Spanish English segmental phonetics through a contrastive analysis reveals specific and predictable areas of difficulty. The first and most significant of these is the Vowel System Contrast. This primary phonetic challenge stems from a drastic difference in the complexity of vowel inventories between the two languages.

Spanish language works with a system of only five vowel phonemes, instead English has a much larger and more complex vowel catalogue. This difference leads to a lack of distinction, where Spanish-speaking learners find more difficult to identify and produce phonemic disagreements in English that do not exist in their mother tongue. As a detailed contrastive analysis notes, this results in often homophonies, such as the failure to separate between English vowel pairs like /i/ – /ɪ/ (e.g., greed vs. grid), /u/ – /ʊ/ (e.g., fool vs. full), and /æ/ – /ɛ/ (e.g., mass vs. mess). Some studies further confirm that the "relatively crowded acoustic vowel space of English" is expanded compared to the "relatively uncrowded" space of Spanish, highlighting the fundamental articulatory challenge, as shown below:

Table 1*Predicted segmental difficulties: vowel systems of Spanish vs. English*

Feature	Spanish (L1)	English (L2)	Predicted Difficulty for Spanish Learners
Vowel Quantity	5 pure vowel phonemes	At least 12 distinct vowel phonemes (including diphthongs)	Inability to perceptually and articulatorily distinguish many English vowels.
Vowel Quality	Tense, pure vowels without off-glides	Multiple vowels with characteristic off-glides (e.g., /eɪ/ in "face")	Tendency to substitute Spanish pure vowels for English diphthongs.
Vowel Length	Not phonemically distinctive	Phonemically distinctive (e.g., /ɪ/ vs. /i:/ as in "sit" vs. "seat")	Failure to use length to differentiate words, leading to errors in minimal pairs

Note. The table shows that Spanish has fewer vowels (5) than English (more than 12), with differences in quantity, quality (pure versus diphthongs) and duration (distinctive only in English), which leads Spanish students to have difficulties distinguishing, producing and sing English vowels correctly. Source. Author's own elaboration based on James Emil Flege et al. (1995) and Michael L. Zampini (2008).

Table 2

Predicted segmental difficulties: consonant systems of Spanish vs. English

Feature	Spanish (L1)	English (L2)	Predicted Difficulty for Spanish Learners
Absent Phonemes	Lacks several English fricatives and approximants.	Has phonemes like /ʃ, ʒ, θ, ð, v, ɹ, h, z/ that are either absent or function differently in Spanish.	Substitution with the closest L1 sound is a common error (e.g., /tʃ/ or /s/ for /ʃ/, /s/ or /f/ for /θ/, /b/ for /v/, /ɾ/ or /r/ for /ɹ/).
Phonemic Distinctions	The voicing contrast for stops (/p, t, k/ vs. /b, d, g/) is the main one. Fricatives like /s/ and /θ/ contrast only in some dialects.	Maintains a voicing contrast for both stops and fricatives (e.g., /s/ vs. /z/, /f/ vs. /v/). The /s/-/θ/ contrast is especially important.	Loss of phonemic contrast: Learners may have difficulty perceiving and producing voicing in fricatives, leading to errors (e.g., pronouncing "ice" /aɪs/ and "eyes" /aɪz/ identically as [aɪs]).
Phonotactic Constraints	Syllable structure is mostly (C)V(C), with strong restrictions on consonant clusters. No word-initial /s/ + consonant clusters.	Allows complex consonant clusters in initial, medial, and final positions (e.g., <i>strengths</i> /streŋkθs/).	Modification of L2 structure: learners often use epenthesis (adding a vowel, e.g., [es.ku:l] for <i>school</i>) or omit consonants (e.g., [res.'to.ran] for <i>restaurant</i>).

Note. The table shows that Spanish lacks several English consonant phonemes (/ʃ, ʒ, θ, ð, v, ɹ, h, z/), has fewer voicing contrasts in fricatives, and imposes stricter syllable structures (no complex clusters), which leads Spanish learners to substitute similar sounds, lose phonemic distinctions, and modify English words by adding or omitting consonants. Source. Author's own elaboration based on James Emil Flege et al. (1995), Michael L. Zampini (2008), and Ocke-Schwen Bohn (2004).

Therefore, the Contrastive Analysis Hypothesis (CAH) provides valuable insights into the recurring pronunciation challenges faced by Spanish-speaking learners of English.

Although the initial "strong version," as proposed by Lado (1957), which aimed to forecast all learner errors through a systematic comparison of the first and second languages, lacked empirical support, later investigations highlight its enduring explanatory and methodological value (Amjed Al-Rickaby, 2022). In particular, CAH offers a useful framework for clarifying

the most commonly observed segmental difficulties, especially within the vowel system. Here, the structural difference between Spanish's straightforward five-vowel inventory and the complex English vowel system leads to predictable negative transfer (Valenzuela & French, 2023).

The present investigation is predicated on this comprehension, thereby establishing its emphasis on segmental phonetics and directing the examination of potential interference between Spanish phonological structures and English pronunciation. Employing the Contrastive Analysis Hypothesis (CAH) as its theoretical framework, this research endeavors to pinpoint prevalent error patterns and formulate pedagogical approaches designed to mitigate negative transfer, the goal is to improve learners' pronunciation.

Speech Learning Model (SLM)

The Speech Learning Model (SLM), proposed by James Flege (1989), and its subsequent revision, the SLM-r (Flege & Bohn, 2021), constitute fundamental theoretical frameworks in the study of second language (L2) phonetic and phonological acquisition. These models offer a detailed and dynamic explanation of how the phonetic-perceptual system reorganizes throughout life in response to exposure to linguistic input during primarily naturalistic or implicit learning. The SLM provides a sophisticated, psycholinguistic framework for understanding how adults perceive and produce the sounds of a second language (L2), not as a deficient process, but as a dynamic interaction between established L1 phonetic categories and the novel acoustic targets of the L2. With the application of the SLM theory, this monograph can go beyond of a simple description of errors, such as the vowel mitigation in "student" pronounced as /estudent/ or the change of /f/ with /tʃ/ in "ship," towards a better understandable why this happens, how perceptual assimilation leads to productive equivalence classification, and why certain sounds remain perpetually elusive while others are acquired with relative ease. This approach is indispensable for designing

targeted pedagogical interventions that effectively re-tune perceptual boundaries and guide motor production, ultimately empowering UNAD's learners in their pursuit of comprehensible, confident English speech.

In order to fully understand the segmental challenges faced by UNAD students, it is necessary to understand the whole mental system that governs sound acquisition, as expound on Flege's Speech Learning Model. Essentially, the SLM rejects the notion of a rigid "critical period" that irrevocably closes, positing instead that the capacity to learn new speech sounds remains active throughout life. However, this capacity is highly influenced by the phonetic landscape of the mother tongue. The model operates on several key principles which are interrelated and that explain the Spanish English phonetic clash with high precision.

First, the SLM introduces the concept of "equivalence classification." This is a cognitive shortcut where the learner's brain, upon encountering a new L2 sound, scans the inventory of L1 phonetic categories for the closest match. If an L2 sound is perceived as acoustically and articulatorily similar enough to an L1 sound, the brain categorizes them as the "same," effectively funneling both sounds through a single mental phonological filter. For the Spanish-speaking learner, this is the primary source of interference. The English vowel system, with its approximately 11-12 pure vowels and multiple diphthongs, is vastly more crowded and articulatorily distinct than the simple, stable 5-vowel system of Spanish. When a UNAD student hears the English /ɪ/ as in "sit," their perceptual system, tuned to Spanish, may equate it to the Spanish /i/ (as in "sí") because both are front, unrounded vowels. This perceptual assimilation leads to productive merger: both English /i:/ ("seat") and /ɪ/ ("sit") are produced as the Spanish [i], eradicating a phonemic distinction critical for English. Similarly, the English schwa /ə/ the most common vowel sound, found in unstressed syllables like the first vowel in "above" or the final one in "student" has no direct counterpart in Spanish, a language that maintains full vowel quality in unstressed positions. The learner's brain,

lacking a "schwa category," often forcibly assimilates it to the nearest Spanish full vowel (e.g., /e/ or /a/), leading to the characteristic syllable-timed, over-articulated rhythm in learner speech, as in /teik/ for "take" or /estudent/ for "student."

Conversely, the model predicts that sounds perceived as "new" or sufficiently dissimilar from any L1 category have a different learning pathway. Because they are not assimilated into an existing category, they force the brain to establish a "new phonetic category" in long-term memory. Paradoxically, according to the SLM, these entirely novel sounds can be easier to master in the long run than similar sounds, as they avoid the perceptual blurring of equivalence classification. For many Spanish speakers, the English /æ/ (as in "cat") might be initially perplexing, falling somewhere between Spanish /a/ and /e/. If it is correctly perceived as distinct, it can eventually be acquired as a new category. Likewise, consonant sounds like the English /v/ (which is fricative, not approximant like Spanish /b/), the voiced and voiceless "th" sounds /ð/ and /θ/, and the postalveolar fricative /ʒ/ (as in "vision") are often recognized as foreign and can become targets for new category formation, though their motor production remains physically challenging.

A critical and often discouraging fact of the SLM is that "similar sounds" are more problematic than "new sounds." This is because the subtle phonetic differences between a similar L2 sound and its L1 counterpart are perceptually muted. The Spanish speaker does not just produce English with a Spanish accent; they often cannot hear the difference that needs to be produced. For instance, the English consonant /d/ is an alveolar plosive, but in intervocalic positions (like in "ladder"), it is often realized as a flap [ɾ], which is acoustically very close to the Spanish single /r/ (a flap). This similarity inhibits the learner from noticing that the English /d/ is, in most positions, a true plosive with a different phonetic realization. Thus, they might produce "down" with a Spanish-like plosive /d/ that is insufficiently aspirated in initial position, and "ladder" with a flap, merging it with "latter." The SLM

explains this as a failure in perceptual differentiation, which must be overcome before accurate production is possible.

Throughout our academic practicum in the observation, immersion, and research courses at UNAD, one phenomenon manifested itself with a recurrence that transcended the particularities of each classroom: the profound influence of the Learning Speech Model on the process of acquiring English as a second language. It was not an isolated finding, but a constant that significantly shaped the communicative competence of the students, all of whom were young adults whose ages ranged from 18 to 34 years old.

During the observation phases, we were able to verify that this age group, despite their familiarity with technology and consumption of digital content in English, does not learn the L2 in a phonetic vacuum. Their exposure to the language, in a context of distance education that is often self-taught, came from diverse sources: streaming platforms, video games, music, and crucially, interaction with their tutors and peers during synchronous sessions. It was in these moments when the Learning Speech Model became more evident. We noticed that when students interacted with tutors who had clear pronunciation, rhythm, and intonation close to an international standard, they actively tried to replicate those patterns. Being young adults in a stage of professional and academic consolidation, their brain plasticity still allowed them to adjust their vocal apparatus with relative ease, and their oral production became more intelligible while their confidence when speaking increased.

However, during the immersion phase, we witnessed the other side of the coin. In group dynamics where a very halting speech model predominated, with a strong phonetic transfer from Spanish or with intonation patterns that distorted meaning (for example, in the differentiation between questions and statements), students tended to perpetuate those same errors. For a learner between 18 and 34 years old, who often balances study with work or family responsibilities, exposure and correction time is limited. The speech model, in this

case, acted as a phonetic ceiling that quickly became normalized in their linguistic repertoire. The learners, lacking a clear and correct oral reference, internalized and normalized these inaccuracies, which later hindered their listening comprehension when faced with speakers or materials with a different accent. This generated frustration at a stage where motivation to learn a foreign language is usually linked to concrete goals of academic or professional mobility.

The research phase allowed us to delve deeper into this dynamic. We understood that the speech model is not just a matter of "pronouncing well," but it is the scaffold upon which students build their identity in the L2. At UNAD, where regional and cultural diversity is immense, these young adults arrive with an "ear" already trained by their mother tongue and, unlike children, with greater self-awareness that can inhibit them when speaking. The speech model to which they are exposed during their formative process can help them retrain that ear or, on the contrary, consolidate a phonetically fossilized interlanguage that, in their transition to professional life, can limit their opportunities.

In conclusion, our practical experience showed us that the Learning Speech Model is a transversal aspect in English learning. It is not limited to imitation, but is the vehicle that carries the student's intelligibility, fluency, and confidence. For UNAD, this implies the need to ensure that future teachers and pedagogical resources offer rich, diverse, and clear speech models, because the extent to which students can not only understand English but also be understood when speaking it depends largely on this.

Markedness Differential Hypothesis (MDH)

The process of a Spanish speaker learning English is characterized by specific and stubborn pronunciation obstacles. These are not random errors, but structured patterns implanted in the differences between the two languages. For students at the Universidad Nacional Abierta y a Distancia (UNAD), to abord these segmental phonetic difficulties the

individual vowel and consonant sounds within a distance learning framework presents a unique challenge, often lacking the immersive auditory feedback of traditional classrooms. To move beyond simply listing these errors, such as the difficulty with the vowel in the word "cat" or the phoneme "th" sounds, a theoretical perspective is required. One such influential framework is the Eckman's (1977) Markedness Differential Hypothesis (MDH). Suggested by Fred Eckman, the MDH offers a typological and structural perspective on second language acquisition. It posits that the areas of greatest difficulty for a learner will not only be those where the first language (L1) and second language (L2) differ, but specifically where the L2 possesses a linguistic feature that is more marked that is, more complex, less common, or more restricted across the world's languages than the corresponding feature in the L1.

The Markedness Differential Hypothesis can be understood as a useful directive to predict linguistic difficulties. The main premise is the concept of "markedness." In linguistics, a marked feature is one that is considered less basic, more complex, or seldom across languages. An "unmarked" feature is its opposite: more basic, simpler, and more common. For example, voiceless sounds (like /p/, /t/, /k/) are often considered less marked than voiced sounds (/b/, /d/, /g/) because they are more frequent worldwide. The presence of a vowel sound like /a/ in the word "father" is unmarked; almost all languages have it. A vowel like the English /æ/ (as in "cat") is more marked it is less common and has more specific articulatory requirements.

Eckman's MDH makes two key predictions. First, it states that the areas of the target language that will be most difficult to learn are those features that are both different from the native language and more marked than the native language. Simply being different is not enough to predict major difficulty. Second, it states that the relative difficulty of the areas of difference will correspond to their relative degree of markedness. In other words, the more

marked a feature is in English compared to Spanish, the harder it will be for a Spanish speaker to acquire.

Applying this to Spanish English phonetics clarifies a great deal. An examination of vowel sounds. Spanish has a simple, symmetrical, five vowel system (/a, e, i, o, u/). This is a classic example of an unmarked vowel inventory. This system is clean, common, and efficient. English, by contrast, has a complex and large vowel system with around 11-12 pure vowels and several diphthongs. This system is highly marked. According to the MDH, the difficulty for Spanish learners with English vowels is not just because the sets are different, but specifically because they are moving from an unmarked system to a more marked one. They must learn to make distinctions their native language does not require (like between /i:/ in "sheep" and /ɪ/ in "ship") and to produce vowels that involve subtle, unfamiliar tongue positions (like /æ/ in "cat" or /ʌ/ in "cup"). The markedness of the English system predicts this will be a major area of persistent difficulty.

The hypothesis is equally revealing for consonants. Consider the English "th" sounds (/θ/ and /ð/). These interdental fricatives are highly marked; they are relatively rare in the world's languages. Spanish does not have them. Crucially, Spanish also does not have another sound that is more marked than these. Therefore, the MDH predicts these will be very difficult sounds to acquire, and common substitutions will occur (like /t/ or /s/ for /θ/, and /d/ for /ð/). Another example is the richer inventory of English fricatives and affricates. Spanish has a /tʃ/ sound (as in "chico"), but English adds the voiceless palato-alveolar fricative /ʃ/ ("shoe"). From a markedness perspective, an affricate (a stop + fricative combo, like /tʃ/) is generally considered more complex and marked than a simple fricative (/ʃ/). However, since Spanish has the more marked form (/tʃ/), the MDH predicts that learning the English less marked fricative /ʃ/ should be easier. This aligns with the observation that while Spanish

speakers might initially struggle with /ʃ/, they tend to master it more readily than the "th" sounds, and the common error is to overproduce the marked form (saying "choe" for "show").

In essence, the MDH gives us a ladder of difficulty. It explains why Spanish-speaking learners don't struggle equally with all English sounds that are new to them. The greatest struggles are reserved for those sounds and systems that represent a move from a simpler, more common linguistic structure to a more complex and rarer one. This predictive power makes it an invaluable tool for diagnosing the core, hierarchy of phonetic challenges in the UNAD context.

In conclusion, the segmental phonetic difficulties identified in this monograph are the complex vowel system, the "th" sounds, the distinctions between fricatives and affricates are not a random collection of obstacles. Through the perspective of the Markedness Differential Hypothesis, they emerge as a predictable hierarchy of learning challenges, directly linked to the inherent linguistic complexity of English targets when compared to Spanish. The MDH allows us to understand why Spanish speaking students at UNAD grapple more intensely with the marked English vowel inventory than with some new consonants, and why sounds like /θ/ and /ð/ remain stubbornly problematic: they represent a leap towards a highly marked feature absent in their native phonological system. This theoretical understanding has direct and crucial implications for the design of English programs at a distance learning institution like UNAD

It postulates a pedagogical approach that recognizes this hierarchy of markedness. The stage of the instruction should dedicate more time, and a clearer explanation, with a target practice to the most marked features (like the vowel distinctions and interdental fricatives), as the MDH predicts these are not going to be acquired naturally or easily. Within the virtual learning environment, this means developing multimedia content that visually and auditorily emphasizes these marked contrasts, creating enough listening discrimination

exercises focused on minimal pairs separated by marked features (e.g., "ship" vs. "sheep," "think" vs. "sink"), and providing clear, precise articulatory instructions to help students manually configure their vocal apparatus for unfamiliar, marked sounds. Therefore, applying the Markedness Differential Hypothesis transcends academic analysis; it provides a strategic blueprint for curriculum development. By aligning teaching efforts with the predicted scale of difficulty, UNAD can create more efficient, effective, and scientifically informed phonetic training modules. This approach empowers distance learners to systematically overcome the barriers imposed by Spanish interference, moving them closer to building an English sound system that is not only more accurate but also more intelligible, turning a marked linguistic challenge into a managed and achievable learning goal.

Error Analysis (EA)

The goal of dominating correctly the English pronunciation, based on the experiences faced during the academical practice courses within the observation, immersion and research stages, Spanish speaking students at the Universidad Nacional Abierta y a Distancia (UNAD) unavoidable produce a rate of speech errors, from the mispronunciation of a vowel to the complete substitution of one consonant for another. Such errors are in great measure viewed through as signs of failure, imperfect learning, or habit formation to be eradicated through repetitive correction. However, a transformative shift in perspective emerged with Corder, S. P. (1981) *Error analysis and interlanguage*, the work of Stephen Pit Corder and the development of Error Analysis (EA). This approach reconceptualizes learner errors not as undesirable mistakes, but as vital, systematic evidence of the active learning process itself.

This research is directly related to the theory of Error Analysis which provides a fundamental basis for its application and understanding. With an approach that goes beyond a simple comparison between the Spanish language and English; emphasizing each student's linguistic system, called "interlanguage" in development. By frequently collecting,

classifying, and interpreting the most common phonetic errors that students make, this theory provides an understanding of cognitive processes and strategies they employ as they navigate the often-challenging difficulties of English phonology. This approach is highly valuable in distance learning environments like UNAD. As it allows for an understanding of students' specific error patterns, this is crucial for designing effective and well-targeted support materials. From the perspective of Error Analysis, this research is not about pointing out errors, but rather diagnosing their origins. The final objective is to show in a more efficient and simple way the path towards clearer and safer English speech production for students.

This theory is based on a revolutionary principle: Corder. (1981) a student's errors are a window into his or her developing linguistic mind. Before the emergence of EA theory, the most widely applied theory was contrastive analysis, which predicted errors by comparing native and target languages. In this new theory, Corder argued that although such comparisons are useful, the best way to understand difficulties is found in the errors that students actually make. For this research a crucial distinction has been made between errors. Assuming that an error is a random slip, a performance defect such as a native speaker might make when tired. It is inconsistent and easily self-correcting. An error, however, is systematic. It arises from a gap in the learner's current knowledge or a hypothesis they are testing about how the target language works. These errors are consistent and not easily self-corrected because the learner does not yet know the rule. As evidence the UNAD students, consistently pronouncing "ship" as "sheep" (/ʃi:p/) is not a mistake; it is a systematic error stemming from a gap in their phonological knowledge of the English vowel system.

The power of EA lies in its structured process for investigating these systematic errors. The first step is collection and identification, gathering samples of learner language in this case, spoken productions from UNAD students. Next is a description, where errors are carefully transcribed and categorized. This is where the segmental focus of this monograph

becomes central: gathering vowel errors (e.g., merging /ɪ/ and /i:/) separately from consonant errors (e.g., substituting [d] for /ð/ as in "this" pronounced as "dis"). The third and most critical step is explanation. Here, Corder. (1981) urged researchers to ask why the error occurred. For Spanish speakers, the explanation often points to interlingual transfer interference from Spanish. The five-vowel Spanish system "interferes" with the complex English one, leading to mergers. Similarly, the absence of /v/ as a distinct phoneme in most Spanish dialects explains its substitution with /b/. However, EA also recognizes intralingual causes, where errors arise from the complexity of English itself, such as overgeneralizing a learned rule. A student who learns the "-ed" past tense rule might erroneously apply it to the pronunciation of irregular verbs, or might overgeneralize the English /r/ sound to contexts where it is silent.

Ultimately, this diagnostic process reveals the learner's interlanguage the unique, dynamic, and rule-governed linguistic system that exists between their native language and the target language. A UNAD student's interlanguage is not broken Spanish nor imperfect English; it is a coherent, evolving system with its own phonological rules. For instance, their interlanguage might have a rule that states "all vowels are pronounced with their full, Spanish-like quality," explaining the lack of schwa (/ə/) and the syllable-timed rhythm. By analyzing errors, this monograph essentially maps the contours of this interlanguage. The final steps of EA are evaluation of the error's seriousness (the extent to which it impedes intelligibility) and remediation, using the insights gained to create focused pedagogical tools. Thus, EA shifts the teacher's role from a corrector of faults to a diagnostician and guide, using errors as the central data for planning effective instruction.

Finally, the application of Error Analysis to the segmental phonetic difficulties faced by UNAD students provides a profoundly learner-centered and pedagogically actionable framework. By systematically collecting and interrogating the actual pronunciation errors

produced by learners from vowel mergers to consonant substitutions this monograph moves beyond theoretical prediction to empirical diagnosis. Corder's model teaches us to see these persistent patterns not as failures, but as invaluable signposts of the learners' interlanguage, highlighting the specific points where Spanish interference is most active and where the rules of English phonology are being actively, if inaccurately, processed.

This analytical approach offers concrete advantages for the UNAD context. First, it enables the creation of a tailored typology of errors specific to the Spanish-speaking distance learner, prioritizing those errors that most impact intelligibility. Second, it directly informs instructional design. The insights gleaned from error explanation dictate that virtual learning modules must include not only production practice but, crucially, perceptual discrimination exercises targeting the exact contrasts learners are merging (e.g., intensive listening tasks for /i/ vs. /i:/). Furthermore, it advocates for metalinguistic feedback that helps learners understand the systematic reason behind their error, fostering self-monitoring skills essential in a distance learning environment where immediate teacher correction is scarce.

Ultimately, employing Error Analysis transforms the pedagogical mission. The goal ceases to be the mere eradication of an accent and becomes the strategic guidance of the interlanguage toward greater intelligibility and systematic accuracy. By listening carefully and analytically to the errors of its students, UNAD's English programs can develop responsive, evidence-based interventions that respect the learning process and effectively address the real, attested segmental phonetic challenges born from Spanish interference.

Methodology

The findings of this monograph were gathered through a documentary method and examined and interpreted using a qualitative approach. As Tight (2019) states, documentary research involves "the use of texts and documents as source materials," encompassing "the possibilities and advantages of documentary research" as well as systematic approaches to "finding and reading documents," "analyzing documents," and "sharing and disseminating your research" (pp. 1–10).

In this monograph, the data were interpreted qualitatively to describe and analyze the segmental phonetic difficulties derived from Spanish interference in the acquisition of English as a foreign language, as well as to identify the main linguistic and extralinguistic factors that influence such difficulties. The analysis was guided by key theoretical frameworks in second language phonology: the Contrastive Analysis Hypothesis (CAH) , which posits that difficulties can be predicted by comparing the sound systems of the L1 and L2; the Markedness Differential Hypothesis (MDH) , which refines CAH by incorporating the notion that unmarked structures are more easily acquired; Error Analysis (EA) , which focuses on the systematic examination of learner errors to understand underlying processes; and the Speech Learning Model (SLM) , which explains how L1 and L2 phonetic systems interact and how learners establish new phonetic categories. These theoretical perspectives provided the foundation for interpreting the types of segmental errors, identifying patterns of transfer, and understanding the cognitive and perceptual mechanisms involved in Spanish-influenced pronunciation.

The purpose of this research is to gain a deeper understanding of how Spanish phonological patterns affect the pronunciation of English segmental (vowels and consonants) and to synthesize the pedagogical strategies documented in the literature to address these

challenges, particularly in the context of distance education at Universidad Nacional Abierta y a Distancia (UNAD).

Among the search criteria considered were: documents written by language scholars; relevant content addressing phonetic-phonological interference, segmental difficulties, or English pronunciation in Spanish-speaking learners; the date of preparation and publication (with emphasis on the last fifteen years); and that they came from reliable academic sources. The information contained in this monograph comes from various academic libraries (open access platforms) and databases, including ScienceDirect, Scielo, Redalyc, EBSCO, ERIC, ProQuest, Dialnet, Redined, Dspace, ResearchGate, and UNAD repository.

The data collected were classified into categories according to the main elements that characterize Spanish interference in English segmental acquisition. These categories were informed by the aforementioned theories and included: (a) vocalic difficulties (e.g., vowel quantity and quality contrasts, diphthongs); (b) consonantal difficulties (e.g., voiced/voiceless contrasts, non-existent phonemes in Spanish, syllable position constraints); (c) phonological processes (e.g., epenthesis, substitution, devoicing); and (d) internal and external factors that influence interference (such as age of exposure, amount of input, instructional context, and use of technological resources). Likewise, the review served to identify theoretical and methodological approaches and to analyze the opinions and experiences of researchers from their scientific papers, theses, and case studies that support the research topic.

Research Line

This monograph is based on the research line for the Bachelor's Degree Program in Foreign Languages with Emphasis in English at the National Open and Distance University (UNAD). The subject of study is segmental phonetic difficulties caused by the interference of Spanish in the acquisition of English as a foreign language. Its focus is directly related to the development of linguistic skills in English as a foreign language, specifically in phonological

competence, and it contributes to broader debates on quality, improvement, and alternatives in language teaching.

This research aims to understand the relationship between language learning and proficiency, along with the difficulties that arise in this learning process. In this context, the present study seeks to generate new knowledge and discussions on didactic and andragogical strategies for the teaching-learning process through the analysis and systematization of English pronunciation practices related to segmental errors influenced by Spanish that affect communication, and how pedagogical strategies can improve more precise phonological learning, thereby supporting overall communicative competence and the academic success of learners.

This monograph focuses on the branch of linguistics known as phonetics, covering the improvement of oral skills through pronunciation, recognizing that segmental accuracy is fundamental for accessibility and oral fluency. By exploring didactic approaches that address segmental difficulties influenced by Spanish, this study contributes to improving oral communicative competence and supports the development of teaching strategies that foster effective oral communication within the UNAD distance learning modality.

Research Phases

Phase 1 Scope and Delimitation

To begin this research, we first draw upon our experiences as student teachers during the observation, immersion, and research practicums stages of the practical component of the Bachelor's Degree in Foreign Languages with an emphasis in English. These experiences revealed the difficulties that UNAD students face in learning English as a foreign language. Therefore, one of the main reasons for this study is the authors' prior experience leading English as a foreign language (EFL) instruction within the framework of the virtual sessions assigned by the university

In light of the above, these experiences provided sufficient motivation to choose as the topic of study "Segmental phonetic difficulties caused by Spanish interference in the acquisition of English as a foreign language among students enrolled in English programs at the National Open and Distance University (UNAD)," seeking to generate more resources for teachers and students facing linguistic interference and phonetic dilemmas during their respective learning processes.

For these reasons, this monograph examines the linguistic interference of Spanish in the learning of English as a second language, as a mechanism for understanding the differences between Spanish L1 and English L2, based on the similarities and contrasts that affect the communicative skills of UNAD students.

Phase 2 Literature Review

This phase consisted of searching for, selecting, and compiling relevant information on the topic addressed in academic databases and indexed journals such as ScienceDirect, SciELO, Redalyc, EBSCO, ERIC, ProQuest, Dialnet, Redined, DSpace, ResearchGate, and the repository of the National Open and Distance University (UNAD), for analysis and interpretation, documents as The Contrastive Analysis Hypothesis (CAH) Lado, R. (1957), The Speech Learning Model (SLM), proposed by James Flege (1989), and its subsequent revision, the SLM-r (Flege & Bohn, 2021), Markedness Differential Hypothesis (MDH) Eckman's (1977), Error Analysis (EA) Corder (1981), Phonetic Distance in the Perception of Interdental Fricatives – Brannen (2011), Interference of Spanish in English Vowel Pronunciation for Colombian Spanish Speakers – Hernández (2019), among others.

These documents related to the chosen research topic were consulted. The authors consensually determined that the articles and research papers had been written or developed by education professionals (language teachers). Therefore, this data analysis allowed for the identification of a broad collection of experimental and scientific studies at the international,

national, and local levels, related to segmental difficulties and linguistic interference, thus expanding the core of the research and grounding it in the learning processes of the university institution.

Phase 3 Analysis

Once the data were gathered, the information contained in those documents was analyzed and organized to categorize and contextualize concepts and important ideas for the construction of this work. This literature review analysis allowed for a comparison and contrast of information to determine the current state of knowledge regarding segmental phonetic difficulties derived from Spanish interference in English acquisition, as well as the theoretical and methodological approaches used to study this phenomenon in both face-to-face and virtual learning environments. Likewise, this documentary research served to establish the main categories that comprise the Theoretical Framework, which was organized in a Matrix. (See table 3. Document Analysis Matrix)

Tabla 3

Document Analysis Matrix

Author(s) / Year	Theory / Concept	Key Ideas / Definitions	Methodology / Type	Relevance to the Study	Key Findings / Contributions
Lado, R. (1957)	Contrastive Analysis Hypothesis (CAH)	Predicts L2 learning difficulties by comparing L1 and L2 structures; where differences exist, errors are likely to occur due to transfer.	Theoretical/ Descriptive	Provides the foundational framework for predicting which English segmentals (vowels, consonants) will be difficult for Spanish speakers based on contrastive analysis.	Establishes the basis for identifying potential areas of Spanish interference in English pronunciation.
Flege, J. E. (1989);	Speech Learning Model	Explains how L1 and L2 phonetic	Theoretical/ Evolutionary	Offers a perceptual and cognitive	Emphasizes the role of phonetic

Author(s) / Year	Theory / Concept	Key Ideas / Definitions	Methodology / Type	Relevance to the Study	Key Findings / Contributions
Flege & Bohn (2021)	(SLM / SLM-r)	systems interact; learners can establish new phonetic categories for L2 sounds when they perceive phonetic differences. SLM-r revises cross-language similarity and equivalence classification.		explanation for why Spanish speakers may succeed or fail in acquiring English segmentals, particularly new vs. similar sounds.	category formation; highlights that “similar” sounds (e.g., Spanish /t/ vs. English /t/) may be harder to acquire than “new” sounds (e.g., English /ð/).
Eckman, F. R. (1977)	Markedness Differential Hypothesis (MDH)	Refines CAH by proposing that unmarked (universal) structures are easier to acquire, while marked structures (less common across languages) cause more difficulty.	Theoretical	Helps predict which English segmental features (e.g., voiced dental fricative /ð/, consonant clusters) are more marked and thus more problematic for Spanish speakers.	Provides a principled way to prioritize segmental difficulties based on typological markedness rather than simple difference.
Corder, S. P. (1981)	Error Analysis (EA)	Focuses on systematic study of learner errors to understand underlying processes; distinguishes interlingual (transfer) from intralingual errors.	Methodological/Theoretical	Guides the classification of segmental errors identified in the literature; helps isolate errors attributable to Spanish interference from those due to developmental processes.	Establishes a systematic method for analyzing learner pronunciation errors and categorizing their sources.

Author(s) / Year	Theory / Concept	Key Ideas / Definitions	Methodology / Type	Relevance to the Study	Key Findings / Contributions
Brannen, K. (2011)	Phonetic Distance in the Perception of Interdental Fricatives	Investigates how phonetic distance affects perception of English interdental fricatives /θ/ and /ð/ by learners whose L1 lacks these sounds.	Empirical (Perception experiment)	Directly addresses a classic segmental difficulty for Spanish speakers (interdental fricatives); provides evidence on perceptual factors influencing acquisition.	Demonstrates that phonetic distance and acoustic cues influence the perception and substitution patterns of English interdental fricatives.
Hernández, L. (2019)	Interference of Spanish in English Vowel Pronunciation for Colombian Spanish Speakers	Examines specific vowel errors made by Colombian Spanish speakers, including substitution, duration, and quality contrasts.	Empirical (Phonetic analysis)	Provides localized evidence of segmental difficulties relevant to the UNAD context; focuses on vocalic interference specific to Colombian Spanish.	Identifies recurrent vowel substitutions (e.g., /ɪ/–/i:/, /ʊ/–/u:/) and offers insights into pedagogical implications for Colombian EFL learners.

Note: This table summarizes foundational theories and empirical studies that explain the origins of Spanish interference in English segmental pronunciation, including contrastive predictions, phonetic category formation, markedness, error classification, and localized evidence from Colombian Spanish speakers. Source. Authors.

This Matrix presents the selected sources that form the theoretical basis of the study, including foundational theories of second language phonology such as the Contrastive Analysis Hypothesis (Lado, 1957), the Speech Learning Model (Flege, 1989; Flege & Bohn, 2021), the Markedness Differential Hypothesis (Eckman, 1977), and Error Analysis (Corder, 1981) as well as empirical studies on phonetic distance (Brannen, 2011) and Spanish interference in English vowel pronunciation (Hernández, 2019). The documentary material

was selected to be consistent with the categories considered relevant and cross-cutting to the main topic, which helps to enhance understanding of it and explain it better. These categories are closely related and are part of the selected topic for this monograph, and aid in the interpretation process of the theory.

Phase 4 Classification and Organization

In this stage, the collected data were classified according to each category that constitutes the Theoretical Framework. After identifying the main variables of the central theme namely, the segmental phonetic difficulties arising from Spanish interference the documents were organized logically to draw conclusions and develop an argument, providing a coherent sense of the information found.

The categories used for classification were derived from the theoretical perspectives and empirical studies reviewed, and they guided the structuring of the Document Analysis Matrix (see Table 3). These categories include:

Vocalic difficulties: vowel quantity and quality contrasts, diphthongs, and the influence of the Spanish five-vowel system.

Consonantal difficulties: production of non-existent English phonemes (e.g., /ð/, /θ/, /z/, /ʒ/), voicing contrasts, and positional constraints.

Phonological processes: substitution, epenthesis, devoicing, and simplification of consonant clusters.

Theoretical frameworks: Lado (1957) Contrastive Analysis Hypothesis "CAH", Flege (1995) Speech Learning Model "SLM/SLMr", Eckman (1977) Markedness Differential Hypothesis "MDH", and Corder (1967) Error Analysis "EA", which provided the analytical tools for discovering and relating the interference patterns.

factors: the instructional modality applied was distance education, where the participants were exposed to input, and pedagogical strategies documented in the literature.

The studies were analyzed to extract relevant data, organized by these categories. This approach systematically allowed for comparison, contrast, and synthesis. This organizational structure ensured that the resulting theoretical framework and the following analysis were built on a clear, category-based foundation. As a result, it helped identify patterns, gaps, and teaching implications specific to the UNAD context.

Phase 5 Writing Creation

In this final phase, writing up the findings was done in order to present them coherently and clearly. Through trial and error, it was written and rewritten to obtain a final product at the level of a monographic document. Firstly, a conceptual scheme was designed taking into account the central idea segmental phonetic difficulties derived from Spanish interference in English acquisition and the subtopics involved in the process of teaching and learning pronunciation in a foreign language. These subtopics included vocalic and consonantal difficulties, phonological processes (substitution, epenthesis, devoicing, cluster simplification), theoretical frameworks (Contrastive Analysis Hypothesis, Speech Learning Model, Markedness Differential Hypothesis, Error Analysis), and contextual factors such as instructional modality and pedagogical strategies.

It should be noted that the theoretical framework was consolidated and built to establish and argue its relationship with the presented study, as well as to review the empirical findings through a detailed literature review. The Documentary Analysis Matrix (see Appendix 1) served as a guide for synthesizing the contributions of key authors (Lado (1957); Flege (1989); Eckman (1977); Corder (1981)) and more recent empirical studies (Brannen (2011); Hernández (2019)), enabling a structured integration of theory and evidence.

Finally, during this writing phase, the Conclusions, Discussion, Results, and Recommendations sections were developed to offer a broader perspective on the relationship

between the studies and this monograph, supported by appropriate arguments. These sections allowed for the identification of Spanish interference patterns found in the literature, analyzed their impact on accessibility and communicative competence, and provided pedagogical recommendations adapted to the context of distance education at UNAD. Acknowledgments, Dedication, and Abstract were also included.

Results and Discussion

Analysis of the data collected following the literature review allowed this study to identify some clear patterns of segmental phonetic difficulties among intermediate-level Spanish-speaking English learners at UNAD. These difficulties occur mainly in the pronunciation of vowels and consonants, as well as in phonological processes and the influence of contextual and educational factors. These findings are consistent with previous studies in second language acquisition, which highlight the influence of the native language as a determining factor in pronunciation errors, reinforcing the relevance of the present study in relation to the general objective of identifying and analyzing segmental phonetic difficulties caused by Spanish interference.

When referring to vowel difficulties, it means the difficulty students have differentiated the quantity and quality contrasts of English vowels, influenced by the vowel system they learned in Spanish, which has only five vowels. This causes vowel pairs such as /ɪ/ and /i:/ or /ʊ/ and /u:/ to be pronounced very similarly, generating an intermediate sound that basically does not match their correct pronunciation. In addition, it is also observed that English diphthongs, such as /aɪ/, /eɪ/, and /oʊ/, are often simplified to a single vowel, demonstrating how students tend to transfer their pronunciation from Spanish to English. This result is aligned with the Contrastive Analysis Hypothesis, which predicts that differences between phonological systems lead to systematic errors, and supports the specific objective of analyzing the linguistic origins of these errors through comparison between English and Spanish vowel systems.

When talking about consonant difficulties, it is meant that students have more difficulty with sounds that do not exist or are not known in Spanish; for example, the interdental fricatives /θ/ and /ð/, which are very often replaced by /t/, /d/, or /s/, or the fricative /ʒ/, which is usually replaced by /ʃ/ or /dʒ/. It is also common for sound to be lost at

the end of words, resulting in some consonants being pronounced as voiceless. These patterns coincide with the hypothesis of contrastive analysis, according to which differences between the target language and the native language generate predictable errors. Furthermore, these findings are comparable to those reported in similar studies, where Spanish-speaking learners show consistent substitution patterns due to the absence of equivalent phonemes in their native language, reinforcing the validity of the analysis conducted.

On the other hand, phonological processes show evidence that students sometimes add vowels to separate consecutive consonants, especially at the beginning of words, and they also tend to simplify complex consonant combinations. By doing so, they try to adapt English to the rules of Spanish and that demonstrates that the errors are systematic, as shown in the error analysis. This behavior supports the notion that learners rely on their native phonological system to process the target language, which is also explained by both the Contrastive Analysis Hypothesis and the Speech Learning Model.

Some factors, such as educational and contextual factors, can also influence these difficulties. The virtual modality of Universidad Nacional Abierta y a Distancia makes it difficult for students to experience real-life contexts and native pronunciation, reducing opportunities for face-to-face oral interaction and increasing the persistence of these errors. However, the literature review shows that clear, phonetics-focused instruction, combined with listening practice and guided practice using the International Phonetic Alphabet, helps significantly improve pronunciation and reinforce phonological competence. These findings highlight the importance of pedagogical intervention and are directly related to the objective of identifying recurrent errors and proposing informed strategies to address them.

From the perspective of the Speech Learning Model, many errors can be explained by equivalence classification, which occurs when students relate the sounds they learn in English to categories they already know in Spanish. This may explain vowel neutralization and

consonant substitution. Furthermore, sounds that are completely new, such as /θ/ and /ð/, could be learned if students effectively get clear instruction and enough practice to support it. This interpretation is consistent with previous research based on the Speech Learning Model, which suggests that the degree of phonetic distance between languages influences the acquisition of new sounds, directly supporting the objective of determining the phonetic distance between English phonemes and their closest Spanish equivalents.

The findings demonstrate the importance of including strategies that focus first of all on sound perception and then on sound production, as supported by the data analyzed, which showed that students presented difficulties both in recognizing and producing specific English sounds. It is also recommended to use multimedia resources that show how sounds are articulated, and to ensure that teachers have training in phonology so they can correct errors and provide feedback to students that helps them learn independently, as the results revealed recurring pronunciation errors that require explicit guidance to be effectively addressed. These results reinforce the connection between theoretical principles and pedagogical practice, emphasizing the relevance of this study in addressing the initial research objectives.

To conclude, the results of this monograph show that the segmental phonetic difficulties of Spanish-speaking students when learning English are systematic and related to the influence of their native language. So, to improve pronunciation and oral communication, it is necessary to combine clear instruction, guided practice, phonological awareness, and the inclusion of strategies adapted to virtual learning. Overall, the findings confirm the initial objectives of the study and demonstrate a clear relationship between theoretical frameworks, empirical data, and the observed pronunciation difficulties.

Conclusions and Recommendations

Following the documentary review, along with the analysis and interpretation of the information gathered, this monograph concludes that:

The segmental phonetic difficulties faced by Spanish speakers learning English are not accidental errors, but rather predictable examples and evidence of negative transfer, stemming from structural differences between the phonological systems of Spanish and English. This review confirms that this phenomenon, known as linguistic interference, is highly persistent at the segmental level, impacting both the vowel and consonant systems.

The theoretical frameworks reviewed, including the Contrastive Analysis Hypothesis (Lado, 1957), the Speech Learning Model (Flege, 1995), the Marking Difference Hypothesis (Eckman, 1977), and Error Analysis (Corder, 1981), provide a solid foundation for identifying and understanding the origin of these difficulties. The Speech Learning Model (Flege, 1995), in particular, explains how the most common errors arise from "equivalence classification," where learners encounter and analyze English sounds (e.g., /ɪ/, /æ/, /ð/, /v/) by relating them to similar-sounding categories in Spanish, leading to a correct but deviating interpretation. Interestingly, the model also recognizes that sounds which are completely new to learners i.e., those with no equivalent in the L1 phonetic inventory, such as the interdental fricatives /θ/ and /ð/, as having the potential to be successfully acquired if learners can establish new phonetic categories through explicit instruction.

The literature review shows that Spanish-speaking students frequently make segmental errors, specifically in eliminating English vowel differences (e.g., /i:/ versus /ɪ/, /u:/ versus /ʊ/), replacing the dental fricatives /θ/ and /ð/ with the Spanish plosives /t/ and /d/, and substituting the labiodental /v/ with the bilabial /b/. These errors are consistently observed in the international, national, and local studies analyzed in this study, confirming that Colombian Spanish speakers at UNAD face similar interference difficulties.

Furthermore, the analysis of existing literature indicates that explicit phonetic instruction, including training in perceptual discrimination, the application of the International Phonetic Alphabet (IPA), and oral and immersion practice activities, produces significant improvements in pronunciation. This relates to this monograph in the context of UNAD, where the virtual learning environment can hinder and generate trauma in spontaneous oral interaction and immediate feedback in terms of phonetic interference, which increases the need for planning and application of carefully designed and specific teaching strategies.

In this regard, this monograph concludes that, while the UNAD's virtual modality offers flexibility and accessibility, it also presents specific challenges for strengthening phonological competence in pronunciation. Students' achievement of the objectives in this learning environment depends not only on their cognitive characteristics but also on the quality of the speech patterns in the target language (L2) to which they are exposed, as well as on the availability of regular and specific phonetic training within the proposed content.

Therefore, this monograph recommends: Although the Bachelor's program in foreign languages with English emphasis has a course called English Phonetics, it is directed exclusively to this program, so it would be necessary to apply these contents of specific phonetic instruction also in the English courses of UNAD, with objectives that go beyond implicit learning and communicative activities, to include regular instruction in the context of English phonology, such as vowel duration contrasts and interdental fricatives, and above all, the learning and practice of the International Phonetic Alphabet (IPA).

The contrastive analysis and perceptual research have consistently shown that many pronunciations errors stem from learners' inability to hear unfamiliar L2 sound contrasts (Flege, 1995; Bohn & Flege, 1992). A perception-centered teaching approach therefore prioritizes auditory differentiation tasks using simple sound samples (e.g., ship vs. sheep,

think vs. sink) before production practice. This approach targets the root cause of most errors identified in the Speech Learning Model (SLM), according to which learners frequently fail to perceive phonetic differences that are absent in their native language (Flege, 1995; Flege & Bohn, 2021). As Bradlow et al. (1997) and Thomson (2011) demonstrated, perceptual training significantly improves both discrimination and production of difficult L2 sounds, making perception-centered instruction an empirically validated strategy for addressing segmental difficulties in Spanish speakers learning English.

Giving online learners access to videos, diagrams, and interactive pronunciation tools makes it easier for them to grasp difficult English sounds (Pennington, 1999; Hardison, 2004). Research shows that these tools really help with pronunciation, especially for sounds you can't see when someone talks (Wang & Munro, 2004; Lambacher, 1999; Olson, 2014). But technology alone won't cut it. Learners also need real feedback and practice, whether in person or during virtual sessions (Levis, 2007; Neri et al., 2002). Getting feedback from a teacher or peers helps lock in what they've learned (Saito & Lyster, 2012; Derwing et al., 1998). So, the best approach is to blend multimedia tools with genuine interaction and feedback.

On the one hand, it would be crucial to train teachers in second language phonology, providing them at UNAD with both the theoretical foundations and practical tools that will allow them to identify and correct segmental errors, all within the constraints of the virtual classroom. It is also worthwhile to invest in metalinguistic feedback strategies, that is, helping students understand why they systematically make certain errors. This fosters self-regulation and autonomous learning, two essential skills for distance learning.

Nevertheless, more research applied to the UNAD virtual context is needed: longitudinal studies that allow us to see how segmental accuracy evolves over time, or

comparative research that evaluates different pedagogical approaches for example, the use of AI-based pronunciation tools to determine which ones work best with this student profile.

Some recommendations for future researchers should include: studies on IPA integration that measure whether explicit instruction in the International Phonetic Alphabet reduces specific error patterns; research on learner perceptions that explores how UNAD students themselves view pronunciation difficulties and what strategies they find most helpful; and comparative research across Spanish dialects that examines whether Colombian Spanish speakers face different segmental challenges than other Spanish-speaking populations.

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Appendix

Appendix A

Specialized Analytical Summary

Title	Segmental phonetic difficulties caused by Spanish interference in the acquisition of English as a foreign language among students enrolled in English programs at the UNAD
Author(s)	Yurany Ávila Ruiz – John Edison Virgues Garzón
Editorial	Universidad Nacional Abierta y a Distancia
Date	April 2026
Keywords	Linguistic interference, segmental phonetics, English language acquisition, pronunciation errors, negative transfer
Description	Monograph
Sources	Write the number of References per type: Primary Sources: 8 Secondary Sources: 17 Tertiary Sources: 0
Contents	<p>This monograph addresses the segmental phonetic difficulties that intermediate-level Spanish speakers (B1-B2) face when learning English as a foreign language. The objective is to analyze the segmental phonetic differences between the two languages and identify the sounds that are problematic for students.</p> <p>The study is expected to reveal the specific phonetic interferences that affect learners' pronunciation. Based on this information, a comparison will be made between the sounds produced by students and the target</p>

sounds according to the IPA (International Phonetic Alphabet). Additionally, an extensive review of academic sources related to the topic will be carried out at Universidad Nacional Abierta y a Distancia, in order to better understand the segmental phonetic challenges that Spanish speakers face when learning English.

Research Line The monograph adopts a qualitative documentary research design (Tight, 2019). Data were collected from peer reviewed academic databases (e.g., ScienceDirect, SciELO, Redalyc, ERIC, UNAD repository) and analyzed through systematic document review. The interpretation of segmental phonetic difficulties arising from Spanish interference was guided by four theoretical frameworks: Contrastive Analysis Hypothesis (Lado, 1957), Speech Learning Model (Flege, 1989; Flege & Bohn, 2021), Markedness Differential Hypothesis (Eckman, 1977), and Error Analysis (Corder, 1981). Data were classified into four analytical categories: (a) vocalic difficulties, (b) consonantal difficulties, (c) phonological processes (substitution, epenthesis, devoicing), and (d) internal/external influencing factors. The research followed five phases: scope and delimitation, literature review, analysis, classification organization, and writing.

This monograph belongs to the research line of the Bachelor's Degree Program in Foreign Languages with Emphasis in English at UNAD, specifically within the area of phonological competence and linguistic interference. It contributes to the broader ECEDU line on "quality, improvement, and alternatives in language teaching" by examining how

Spanish segmental transfer affects English pronunciation in distance education. The study aims to generate didactic and andragogical strategies tailored to UNAD's virtual modality, thereby supporting oral communicative competence and academic success of adult learners.

Conclusions The conclusions state that Spanish speakers' segmental pronunciation errors in English come from negative transfer due to system differences between both languages. These errors are persistent in vowels and consonants. Studies confirm common problems: confusing vowel pairs like /i:/-/ɪ/, replacing /θ/ and /ð/ with /t/ and /d/, and swapping /v/ for /b/. Explicit teaching of phonetics, including IPA and listening drills, improves accuracy, but UNAD's virtual setting limits live feedback and practice. Thus, the main conclusion remains that Spanish interference at the segmental level is systematic and must be addressed with specific phonetic instruction in distance education.

Advisor Lenny Johana Alvarado Rico
