

A PSYCHOLINGUISTIC ANALYSIS OF FIRST LANGUAGE INTERFERENCE IN ENGLISH PRONUNCIATION AMONG SENIOR HIGH SCHOOL EFL STUDENTS

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Abstract:

First language (L1) interference is one of the main factors affecting English pronunciation among English as a Foreign Language (EFL) learners. This study aims to analyze the influence of first language interference on the English pronunciation of senior high school EFL students from a psycholinguistic perspective. Using a qualitative descriptive approach, data are collected through pronunciation tasks, oral reading, and interviews. The findings are expected to show that differences between the phonological systems of the first language and English lead to pronunciation errors, such as sound substitution and mispronunciation of unfamiliar phonemes. These findings provide insight into the cognitive processes involved in speech production and highlight the importance of appropriate pronunciation instruction to reduce L1 interference in EFL learning.

Keywords: psycholinguistics, first language interference, English pronunciation, EFL students.

Abstrak:

Interferensi bahasa pertama (B1) merupakan salah satu faktor utama yang memengaruhi pelafalan bahasa Inggris pada pembelajar English as a Foreign Language (EFL). Penelitian ini bertujuan untuk menganalisis pengaruh interferensi bahasa pertama terhadap pelafalan bahasa Inggris siswa EFL tingkat sekolah menengah atas dari perspektif psikolinguistik. Penelitian ini menggunakan pendekatan deskriptif kualitatif dengan pengumpulan data melalui tugas pelafalan, membaca nyaring, dan wawancara. Hasil penelitian diharapkan menunjukkan bahwa perbedaan sistem fonologis antara bahasa pertama dan bahasa Inggris menyebabkan kesalahan pelafalan, seperti substitusi bunyi dan kesalahan pengucapan fonem yang tidak dikenal. Temuan ini memberikan gambaran mengenai proses kognitif yang terlibat dalam produksi ujaran serta menekankan pentingnya pembelajaran pelafalan yang tepat untuk mengurangi interferensi bahasa pertama dalam pembelajaran EFL.

Kata Kunci: psikolinguistik, interferensi bahasa pertama, pelafalan bahasa Inggris, siswa EFL.

INTRODUCTION

Language is a key topic studied by scholars to understand its true meaning, history, and nature. Generally, language is an abstract system of signs and symbols used by humans to cooperate, interact, and identify themselves within a society. It functions not only as a tool for communication but also serves as a mental

system governed by specific rules at the phonological, morphological, and syntactic levels.

Based on the research paper by Oviogun and Veerdee (2020), language cannot be defined merely as a means of communication, as that definition only explains its function rather than its full meaning. They highlight that language is a highly complex structure that changes over

time, possesses its own level of complexity, and relies on a shared set of vocal symbols and rules that allow a speech community to express thoughts, ideas, and feelings.

Building upon this complex nature, language serves as an essential, practical tool for communication that remains inseparable from everyday human life. According to Budiyo, Pranawa, and Yuwono (2021), humans as social beings naturally require this primary vehicle to share information, establish social relationships, and ensure that speakers and partners understand each other's meaning perfectly within a community. While it fundamentally operates as an arbitrary system of vocal symbols, its real-world application extends far beyond everyday conversations. When structured effectively, this communicative tool transforms into a powerful instrument used to motivate listeners, drive professional achievements, and facilitate strategic negotiations to solve problems and reach mutual agreements in the professional business world.

Beyond its practical applications in business and communication, this system plays an internal role in human development by shaping how individuals process information and gain knowledge. As a mental tool, language is fundamentally tied to the cognitive processes of thinking and learning, acting as a medium used to form thoughts, desires, and actions. It is through this structured framework that learners organize abstract ideas, build complex mental lexicons, and develop logical thinking skills necessary for academic achievement. Furthermore, this cognitive development cannot be isolated from social interaction. Because language is an interactive and conventional tool, it allows individuals to establish contacts, maintain social bonds, and absorb the collective culture of their community. By connecting internal thought processes with external social interactions, language serves as the ultimate bridge that allows humans to

learn collaboratively, express their distinct personalities, and participate meaningfully in cooperative living.

However, the dynamics of using language for thinking, learning, and interacting become uniquely challenging when English is taught as a foreign language (EFL). In non-English speaking countries, learners face significant hurdles because there is a complete lack of formal and informal exposure to English outside the classroom environment. This restriction often causes teachers to default to traditional, teacher-centered methods and rely excessively on the students' first language, which leaves learners with very few opportunities to actively practice the language. To address this gap, contemporary pedagogical approaches stress that EFL instruction must move away from rigid memorization and embrace real-life context. By facilitating spontaneous language use, integrating authentic materials, and shifting to learner-centered classrooms, educators can create a more interactive environment. This authentic approach not only boosts student motivation but also successfully bridges the gap between structured classroom exercises and genuine, real-world communication.

This critical gap is heavily widened because EFL learners have limited exposure to English outside the classroom. Unlike those in environments where English is a native or second language, these students rarely encounter English in their daily social activities, local media, or community interactions. According to Larson-Hall (2017), the extreme scarcity of input outside institutional walls significantly hinders the natural internalization of a foreign language, as students lack the organic immersion necessary for fluency. Consequently, the classroom functions as the sole, artificial bubble where they can hear or produce the target language. When the language is completely absent from the

surrounding community, students lose the external reinforcement needed to internalize vocabulary and master complex structures naturally. Because they do not witness English being used organically in real-life situations around them, learners often struggle to see its practical value, which can quickly lead to disinterest, lower confidence, and heightened anxiety when forced to speak.

Ultimately, this limited exposure creates challenges in developing language skills. Without regular opportunities to engage with English in real-world settings, students find it exceptionally difficult to transition from theoretical knowledge to active language production. This deficit affects all core language competencies, but it manifests most severely in productive skills like speaking, where real-time cognitive processing and instantaneous retrieval of vocabulary are required. Because learners are forced to rely solely on sporadic classroom drills, their ability to achieve communicative fluency, accurate pronunciation, and structural competence remains severely constrained. The inability to practice spontaneously in daily life builds a persistent barrier that leaves students struggling to form cohesive utterances, effectively hindering their overall language development and proficiency.

At the very core of these active speaking constraints lies the specific issue of pronunciation, which serves as a fundamental component of oral communication within the foreign language context. According to Reskiawan, Abin, and Riyani (2026), pronunciation is defined as a crucial oral mechanism divided into segmental features, which refer to individual vowel and consonant sounds, and suprasegmental features, which include stress, rhythm, and intonation patterns. This phonological competence plays a decisive role in ensuring spoken intelligibility, meaning that its accuracy directly determines whether a spoken

message can be successfully perceived and understood during interaction. Because language users rely heavily on these structural sound features to convey meaning, pronunciation accuracy acts as a core determinant of communicative success between speakers and listeners. Consequently, mastering this sound system is not merely about auxiliary speech drills, but rather about acquiring the essential phonetic accuracy required to turn abstract language skills into intelligible real-time interaction.

Recognizing pronunciation as a core determinant of intelligibility highlights the paramount importance of accurate pronunciation in communication. When a speaker produces sounds with high precision, it ensures that the intended message is conveyed smoothly and received by the listener without cognitive strain. Accurate pronunciation reduces the likelihood of misinterpretation, particularly in languages where subtle changes in sound duration or vowel quality completely alter the definition of a word. Beyond merely avoiding misunderstandings, phonological accuracy fosters immediate confidence during an exchange, allowing both parties to focus entirely on the substance of the conversation rather than decoding individual words. In academic, professional, and daily interactions, the ability to deliver clear, accurate speech establishes credibility and ensures that communication is not just achieved, but is highly effective and engaging.

However, achieving this level of phonological precision is uniquely challenging for Indonesian EFL learners due to the stark structural divergence between the English sound system and their native languages. Unlike English, which features a vast and complex inventory of over twenty vowel sounds, Indonesian operates on a much simpler system of just six primary vowels, leaving learners poorly equipped to naturally distinguish between subtle vocalic

contrasts like lax and tense pairs. Furthermore, local languages often lack the dental fricatives /θ/ and /ð/ (as in *think* and *this*) or the English postalveolar approximant /r/, leading speakers to substitute them with familiar native equivalents like /t/, /d/, or a trilled /r/. The friction deepens at the suprasegmental level; while Indonesian is a syllable-timed language where each syllable receives relatively equal duration, English relies heavily on a stress-timed rhythm and complex consonant clusters. When Indonesian learners transfer their native, evenly spaced rhythmic patterns and simplified syllable structures into English speech, it flattens the natural prosody, inadvertently creating the exact cognitive strain and potential for misinterpretation that disrupts effective communication.

Understanding these systematic phonological barriers requires a closer examination of the foundational linguistic baseline of the learner, specifically the definition of a first language (L1). In contemporary applied linguistics, L1 is no longer viewed merely as the chronological first tongue an individual speaks, but rather as a multi-dimensional construct deeply tied to cognitive development and identity. Ortega (2019) characterizes the first language as the foundational linguistic system acquired during early childhood, typically before the age of three, through natural exposure within the immediate family and community environment. Expanding on this, Cenoz and Gorter (2022) emphasize that an individual's L1 serves as their primary vehicle for initial thought processing, emotional expression, and knowledge construction. It establishes the internal phonetic and grammatical architecture through which all subsequent linguistic data is filtered. Consequently, when EFL learners encounter a secondary sound system, it is this deeply embedded L1 framework that actively shapes and often interferes with their target language

production.

Building upon this internal architecture, it is widely recognized that a child's first language is naturally acquired during early childhood rather than through formal instruction. According to Zikri et al. (2026), this biological and cognitive process unfolds spontaneously from birth through sustained exposure to communicative interactions within the child's immediate domestic environment. During this foundational period, often referred to as a golden age of development, the neural architecture of a child's brain displays its highest degree of plasticity and receptivity to linguistic input. Rather than following structured instructional sequences, young children unconsciously absorb the phonological, morphological, and syntactic rules of their native tongue simply by engaging in naturalistic dialogue with caregivers. This organic mode of acquisition ensures that by the age of three, children have already internalised a highly complex, functional grammar that serves as their primary tool for thought. Consequently, this deeply rooted, naturally developed framework becomes the permanent cognitive baseline that actively shapes how learners perceive and articulate the sounds of any subsequent language they attempt to learn.

As this natural acquisition process solidifies throughout early childhood, the phonological system of the first language becomes firmly stored in the learner's long-term memory. This deep cognitive stabilization occurs because the repeated exposure to and production of native speech patterns write permanent neural pathways in the brain's auditory and motor cortices. Over time, these stored phonological representations form a highly rigid mental grid, or a cognitive filter, through which all acoustic data is automatically processed. Because the underlying phonetic boundaries and sound contrasts of the mother tongue are so

deeply consolidated in long-term memory, the brain naturally struggles to map or perceive foreign acoustic signals that do not align with this established architecture. Consequently, when EFL learners encounter the target language, their minds reflexively retrieve these deeply embedded L1 speech habits from long-term memory, directly causing the persistent pronunciation deviations and phonetic substitutions observed in their second language production.

Because these native phonological maps are so deeply entrenched, learners tend to rely on their first language when learning a second or foreign language. This reliance is not merely a conscious shortcut, but an automatic cognitive reflex known as cross-linguistic influence or language transfer. When faced with the immense cognitive load of processing unfamiliar vocabulary, complex syntax, and novel acoustic signals in the target language, the human brain naturally seeks a reference point to ease the strain. It instinctively treats the fully developed architecture of the L1 as a structural blueprint, mapping new foreign data directly onto the closest existing native equivalents. While this reliance provides a psychological safety net and a foundational framework for initial comprehension, it becomes highly problematic in practice; when the rules, sounds, and rhythmic structures of the two languages diverge, this subconscious fallback inevitably distorts target language production, leading to persistent errors.

When learners transfer their native linguistic habits into a new tongue, they undergo a distinct phenomenon known as first language interference. According to Syafutri and Saputra (2021), first language interference refers to the automatic and habitual transfer of the surface structures of a learner's mother tongue into the surface structure of the target language. This linguistic friction typically manifests during second or foreign language speech

production across three primary domains: phonological (pronunciation errors), grammatical (morphological and syntactical deviations), and lexical (vocabulary cross-contamination). In classroom environments, this automatic intrusion routinely causes learners to rearrange target language patterns to match familiar L1 structures, such as substituting foreign sound segments with native equivalents or blending native vocabulary directly into target speech to compensate for a lack of proficiency. Ultimately, first language interference acts as a major cognitive constraint, as the linguistic choices of EFL speakers remain constantly bound to the deeply ingrained habits of their primary tongue.

Depending on the structural alignment between the two systems, this cross-linguistic influence manifests in two distinct ways, which are positive transfer and negative transfer. Positive transfer occurs when the phonetic or grammatical structures of the first language directly facilitate the acquisition of the foreign language. When both languages share identical sound patterns or syllable rules, the learner's existing cognitive framework accelerates correct target language production with minimal effort. Conversely, negative transfer, which is the root mechanism of linguistic interference, takes place when the stark differences between the two language systems cause errors. In this scenario, the subconscious imposition of L1 phonetic boundaries onto divergent target language patterns distorts speech clarity. Therefore, while positive transfer acts as a cognitive bridge that aids fluency, negative transfer introduces persistent structural friction, transforming native language habits into a psychological barrier that impedes foreign language mastery.

The pervasive influence of the primary tongue is particularly evident in the domain of phonological production, where a learner's native dialect directly

shapes English pronunciation errors. According to Octaviani et al. (2024), the phonetic boundaries and structural habits of a first language establish a deep-seated articulatory framework that foreign language learners struggle to eliminate. This cross-linguistic friction typically forces speakers to alter English vowels and consonants, routinely substituting unfamiliar target sounds with phonological equivalents from their regional dialects to ease oral production. For instance, learners frequently struggle with vowel duration, often replacing long vowels with short ones or vice versa, such as substituting the short vowel /ɪ/ in place of the required long vowel /i:/. Similarly, consonant production suffers from structural modification, leading speakers to replace complex voiced sounds with more familiar native alternatives, such as mispronouncing the voiced alveolar fricative /z/ as a voiceless /s/ or dropping the voiced dental fricative /ð/ in favor of a voiceless alveolar plosive /t/. Because learners naturally rely on their ingrained native speech habits, these regional dialectal variations become highly pronounced during speech delivery, presenting a significant cognitive and physical challenge to achieving standard English phonetic accuracy.

This rigid articulatory framework persists because the phonological system of the first language becomes firmly stored in long-term memory during early childhood development. Throughout the initial stages of language acquisition, constant repetition and auditory exposure deeply engrain native phonetic categories, syllable structures, and motor speech habits into neural pathways. When individuals attempt to learn English as a foreign language later in life, their brains automatically process the new target sounds through the cognitive lens of this established L1 network. Because these native phonetic templates are securely locked in long-term memory, the auditory system tends to perceive foreign

sounds as mere variants of familiar native ones, driving the systematic pronunciation errors and substitutions observed in learner speech. Consequently, overcoming first language interference requires more than just memorizing new vocabulary, as learners must actively overwrite deeply rooted neuromuscular habits that have been reinforced for decades within their cognitive architecture.

This cognitive reliance on established mental frameworks explains why learners tend to rely on their first language when learning a second or foreign language. When faced with the demanding task of communicating in an unfamiliar tongue, individuals naturally revert to the linguistic structures they know best to alleviate cognitive overload. This dependency operates as a compensatory strategy, allowing learners to bridge the gap between their limited target language proficiency and their immediate communicative needs. Whether consciously borrowing vocabulary or subconsciously applying native grammatical rules to English sentences, speakers use their L1 as an essential baseline for making sense of new input. Ultimately, this intuitive reliance transforms the first language into a constant cognitive anchor, ensuring that a learner's initial foreign language performance is systematically shaped by the familiar pathways of their primary tongue.

The practical outcomes of this linguistic reliance are observed through the dual operations of positive transfer and negative transfer during the learning process. Positive transfer manifests when the structural similarities between the primary tongue and English create a facilitating effect, allowing learners to acquire new linguistic elements rapidly by mapping them onto identical native habits. This alignment reduces cognitive friction and accelerates both accuracy and fluency in the target language. On the other hand, negative transfer occurs when differences

between the two language systems cause systematic errors, resulting in the phonological, grammatical, and lexical deviations typically defined as language interference. Because the mind naturally seeks efficiency, it frequently misapplies native rules to foreign structures where they do not belong, making negative transfer a primary source of communicative breakdown. Therefore, the interaction between these two transfer modes determines the specific trajectory of a learner's interlanguage development, dictating which areas of English require conscious pedagogical intervention.

These theoretical concepts of negative transfer are clearly illustrated through specific examples of pronunciation errors commonly observed in learner speech. For instance, the substitution of the voiceless dental fricative /θ/ in the word "think" with the voiceless alveolar plosive /t/, resulting in the pronunciation "tink", demonstrates a direct phonological adaptation where learners replace an unfamiliar target sound with a familiar native equivalent. A similar pattern occurs in the mispronunciation of the voiced labiodental fricative /v/ in "very" as the voiceless /f/, turning the word into "fery", which highlights the systematic struggle to maintain voicing boundaries when such distinctions are absent or less rigid in the first language. Furthermore, the tendency to mispronounce the voiced alveolar fricative /z/ in "zoo" as its voiceless counterpart /s/, producing "soo", further underscores how learners naturally lean toward more accessible articulatory habits. These concrete deviations show that pronunciation errors are rarely random; instead, they represent a structured linguistic compromise where the speaker reshapes complex English phonemes to fit the existing phonetic constraints of their primary tongue.

To fully comprehend why these systematic substitution patterns occur, the

analysis must shift from surface-level phonetic descriptions to the underlying mental processes examined within the field of psycholinguistics. Psycholinguistics is defined as the study of the mental faculties and cognitive mechanisms involved in the acquisition, comprehension, production, and psychological representation of language. According to Santana (2016), language can be categorized into distinct social, abstract, and psychological dimensions, with the psychological class specifically exploring how human minds internalize and deploy linguistic structures. Within this framework, a learner's speech production is not merely a physical mechanical exercise but a direct reflection of active mental mapping. When foreign language learners produce errors, psycholinguistics provides the analytical tools to dissect how structural representations stored in the brain's long-term memory interact with real-time speech execution. By investigating this internal cognitive architecture, researchers can better understand the mental operations that drive cross-linguistic influence, ultimately framing first language interference as a predictable product of human psychological processing.

This framework highlights the deeply interconnected relationship between language and mental processes, as verbal output serves as a direct window into human cognitive operations. Language processing requires the synchronized activation of multiple mental faculties, including working memory, auditory attention, and motor planning. When an individual speaks, the brain must instantly retrieve linguistic symbols, organize them according to grammatical constraints, and send precise neuromuscular signals to the speech organs. Because these mental processes operate under strict capacity limitations, the cognitive load increases significantly when communicating in a foreign tongue. When the mind faces high

cognitive demands, it naturally prioritizes efficiency by activating the most accessible neural pathways, which are typically the deeply ingrained structures of the first language. Therefore, language and mental processes are fundamentally inseparable; the structural patterns, substitutions, and systematic errors observed in foreign speech delivery are real-time behavioral manifestations of the brain balancing cognitive strain with stored linguistic data.

The cognitive friction observed during language transfer is deeply intertwined with the real-time mechanisms of speech production within foreign language classrooms. According to Hajmi et al. (2026), oral performance is a highly demanding psycholinguistic operation consisting of successive stages, specifically conceptualization, formulation, and articulation. During these phases, speakers must simultaneously conceptualize ideas, retrieve appropriate lexical items, organize grammatical structures, and physically execute spoken output. For English as a Foreign Language (EFL) learners, this complex progression requires significant cognitive effort due to a distinct lack of automaticity in processing the target language. Rather than stemming from a structural knowledge deficit, persistent hesitation markers, frequent pauses, and sudden self-repairs in learner speech are primarily caused by severe cognitive processing constraints. Because the cognitive resources required to plan sentence forms and monitor accuracy simultaneously exceed the capacity of a learner's working memory, the internal speech production system suffers from immediate cognitive overload. Consequently, the physical delivery of English speech becomes highly unstable, demonstrating that spoken fluency is directly contingent upon the structural processing efficiency of the human mind.

Central to the efficiency of this speech production system is the structure

and organization of the mental lexicon. The mental lexicon refers to the cognitive dictionary stored in long-term memory, where a speaker houses all acquired knowledge about words, including their meanings, phonological representations, and syntactic properties. In a monolingual mind, words are mapped into highly interconnected neural networks that allow for rapid, automatic retrieval during speech formulation. However, for foreign language learners, the mental lexicon is a complex, bilingual architecture where English lexical items often remain structurally linked to, or subordinated by, their primary native equivalents. When an individual attempts to produce a word in English, this dual-language organization triggers a competitive lexical selection process, forcing the brain to suppress the highly active native word while searching for the target foreign phoneme. If the target English word lacks strong neural pathways or automaticity, this internal search mechanism slows down significantly, resulting in the mid-utterance pauses and lexical retrieval gaps typically observed during spontaneous communication. Therefore, the internal layout and processing speed of the mental lexicon directly dictate a speaker's oral fluency, serving as the cognitive foundation where vocabulary knowledge transforms into real-time speech.

The efficiency of this lexical retrieval process is heavily dependent on the quality of phonological representation established within the mental lexicon. Phonological representation refers to the cognitive blueprint or abstract mental image of a word's sound structure stored in an individual's long-term memory. In native speech, these representations are distinct and finely tuned, allowing the brain to effortlessly translate a chosen word into precise motor commands for the articulatory organs. For foreign language learners, however, these target sound

blueprints are frequently vague or underdeveloped, as the auditory and cognitive systems naturally map new English sounds onto the pre-existing phonetic categories of the first language. When a learner attempts to speak, the brain accesses a compromised phonological representation that lacks sharp boundaries, causing the articulatory mechanism to default to more accessible, native speech habits. This cognitive fuzziness in sound representation explains why a speaker might intellectually understand a vocabulary item but consistently fail to execute its correct phonetic shape during real-time delivery. Ultimately, the stability of a learner's spoken performance relies not just on knowing a word's meaning, but on the precision of its phonological representation within the brain's internal linguistic architecture.

The fuzzy boundaries within a learner's internal sound representations are closely tied to the broader psycholinguistic phenomenon of language transfer. Fikri (2023) notes that language transfer serves as a primary communicative strategy that second language learners deploy both consciously and unconsciously, particularly when they are uncertain about how to express themselves properly in the target language. Drawing on the classic definition by Odlin (1989), this process represents the internal cognitive effects brought about by the structural similarities and discrepancies between the target language and any other tongue that has already been acquired. When learners produce utterances, the nature and frequency of this cross-linguistic influence are highly dependent on their native language background and their specific level of second language proficiency. While higher proficiency enhances a learner's metalinguistic awareness and control over foreign linguistic rules, less skilled individuals tend to utilize transfer mechanisms far more frequently.

Consequently, when the structural rules of the native and target languages do not coincide, learners experience negative language transfer, forcing them to default to native grammatical or phonetic habits to bridge internal processing gaps. This cognitive reliance on familiar linguistic structures ultimately manifests as systematic speech production errors, reinforcing the fact that cross-linguistic interference is a highly predictable constraint within the human language processing system.

When all these psycholinguistic components are integrated, it becomes evident that pronunciation errors are not simple, careless speaking mistakes, but are rather systematic reflections of how learners mentally process, retrieve, and produce language. Every incorrect speech sound or altered phonetic shape serves as behavioral evidence of the cognitive strain occurring within the human mind during real-time communication. When an English as a Foreign Language learner encounters a target sound, the brain must rapidly navigate a complex network consisting of overlapping bilingual mental lexicons, vague or underdeveloped phonological representations, and deep-seated native language structures. Because the cognitive demands of simultaneously planning sentence form, searching for vocabulary, and monitoring accuracy can easily exceed the capacity limits of working memory, the internal processing system faces immediate overload. To maintain communication under this extreme cognitive pressure, the mind naturally prioritizes processing efficiency by defaulting to the most automated and deeply ingrained neural pathways available, which are the phonetic categories of the native language. Therefore, pronunciation errors should be understood as predictable, structural outputs of a human brain actively balancing limited attentional resources with real-time speech execution, highlighting the fact that

spoken delivery is completely inseparable from internal cognitive processing.

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Previous studies on English (L2) pronunciation interference have predominantly focused on university-level EFL students, as seen in the research conducted at the AbdElhafid Boussouf University Center, or on specific localized university coursework, such as the Procedural Writing class case study. Consequently, very few studies have

investigated the phonetic and phonological challenges faced specifically by senior high school EFL students, who are at a distinct developmental and transitional stage in their formal language acquisition. Furthermore, while existing literature successfully identifies and catalogs specific surface-level pronunciation errors, such as missing dental fricatives, omitted inflectional endings, or difficulties with word stress, many studies rely strictly on descriptive analytical or qualitative frameworks without analyzing these errors from a psycholinguistic perspective. Previous research mainly discusses phonological interference as a product of structural differences or socio-educational constraints, leaving a critical gap in explaining the underlying cognitive processes, speech perception mechanisms, and mental lexicon interactions that occur during L1 interference.

Your study, titled "A Psycholinguistic Analysis of First Language Interference in English Pronunciation among Senior High School EFL Students," directly addresses these empirical and theoretical gaps. Structurally, your research shifts the empirical focus away from the heavily saturated tertiary education demographic to target senior high school EFL students, capturing a crucial period where phonetic habits are still being actively consolidated. Conceptually, your study moves beyond merely listing phonological errors or attributing them solely to external structural differences between languages. By adopting a psycholinguistic framework, you will investigate the underlying cognitive and mental processes that drive mother tongue interference. This allows your study to explain not just what errors are made, but how the learners' cognitive processing, phonetic categorization, and native linguistic habits actively disrupt L2 speech production in real time.

The purpose of this study is to investigate the underlying cognitive and

phonological mechanisms that influence second language speech production. Specifically, this research aims to identify the specific types of first language interference in English pronunciation among senior high school EFL students. Furthermore, it seeks to analyze this first language interference from a psycholinguistic perspective by examining the cognitive processes involved in speech production, phonological representation, the mental lexicon, and language transfer.

The theoretical significance of this study lies in its contribution to psycholinguistic research on first language interference, speech production, and second language pronunciation, offering deeper insights into the cognitive processes of language transfer. Practically, the findings will help English teachers understand the specific pronunciation difficulties faced by high school students, enabling the development of more targeted instructional strategies. Additionally, this research helps high school students themselves become more aware of how the deeply ingrained habits of their first language influence their English pronunciation, fostering better self-correction. Finally, this study provides valuable empirical references for future researchers interested in exploring the intersections of psycholinguistics, phonetic acquisition, and first language interference in secondary education.

RESEARCH METHODOLOGY

This study utilizes a qualitative approach with a descriptive analytical design to investigate first language interference from a psycholinguistic perspective. The participants of this research are senior high school EFL students, chosen to capture the cognitive and phonetic habits of learners at this specific transitional stage of language acquisition. Data collection is carried out through two main instruments:

pronunciation testing and semi-structured interviews. First, a pronunciation test is administered to the high school students to audio-record their spoken output, which allows for the identification and categorization of specific phonetic and phonological errors. Second, semi-structured interviews are conducted with the students to explore their underlying cognitive processes, language transfer habits, and awareness of their mental lexicon during speech production. The collected audio data from the pronunciation tests undergo detailed phonetic transcription to map out surface-level errors, while the interview transcriptions are analyzed using thematic analysis to explain the psycholinguistic mechanisms driving the mother tongue interference.

RESULTS AND DISCUSSIONS

Results

The data collected from the three senior high school EFL students through pronunciation tasks and semi-structured interviews revealed specific patterns regarding their linguistic backgrounds, spoken outputs, and individual perceptions of language learning.

1. Language Backgrounds of the High School Students (Stage 1)

The interviews conducted during the first stage showed that the students operate in a highly multilingual environment where local regional languages and Indonesian dominate daily communication. Student 1 and Student 2 stated that Bugis is their first language and the primary language spoken at home, with Indonesian used as a secondary option. In contrast, Student 3 identified Indonesian as their first language, while also speaking Mandar and Bugis as additional languages. Regarding their exposure to English outside the classroom, all three participants reported very limited usage. Student 1 mentioned that although they feel they encounter English frequently, they rarely practice speaking it. Student 2

noted that speaking English outside of class is rare, and Student 3 explicitly stated that they never use the language outside of school hours.

2. Summary of Pronunciation Task Performance (Stage 2)

During the oral reading tasks, several distinct errors were observed across the participant group when pronouncing the word list and the short passage:

Interdental Fricatives (/θ/, /ð/): Student 2 replaced the voiceless interdental fricative /θ/ in the words *think* and *thank* with native alveolar stops. Student 3 showed hesitation and mispronounced the word *thank* by attempting to sound it out based on native spelling rules.

Labiodental Fricatives (/v/): The /v/ sound in *Vera* and *village* was frequently substituted with native bilabial sounds. Student 1 substituted the sound completely, while Student 2 identified the word *village* as one of the most difficult tokens to pronounce in the entire task.

Alveolar Sibilants and Affricates (/z/, /dʒ/): The phonemes /z/ (*zoo*, *zero*, *music*) and /dʒ/ (*judge*) caused regular hesitation. Student 1 and Student 3 tended to read these words strictly through Indonesian spelling habits, or substituted them with native sibilants like /s/.

Vowel Length Distinction (/ɪə/ vs. /i:/): Minimal pairs such as *ship/sheep* and *live/leave* were spoken with identical vowel lengths. All three high school students uniformized these sounds, making no phonetic distinction between long and short vowels.

3. Students' Perceptions and Coping Strategies (Stage 3)

In the follow-up interviews, the students shared different views on what caused their difficulties and how they handle them. Student 1 felt that their physical articulation was the main barrier, stating that "the tongue felt stiff" when trying to say English words. They also believed that using Bugis every day made learning English harder

because Bugis is their dominant language.

Student 2, on the other hand, felt that Bugis did not interfere with their English pronunciation because they could easily "distinguish between the two" systems in daily life, noting that completely unfamiliar sounds like *zero* were the real challenge. Meanwhile, Student 3 pointed directly to orthographic interference as the problem, explaining that they struggled because they naturally follow the spelling of the words ("because of the writing"), which led them to read *chair* as "cair."

When unsure how to pronounce a word, their coping mechanisms differed. Student 1 preferred to avoid the word or switch back to Indonesian. Student 2 relied on technology, explaining that they "search on Google" to listen to the audio before trying to say it. Student 3 relied on active correction, stating that they prefer to read aloud in front of a teacher and repeat the word until the pronunciation is correct.

Discussion

The descriptive results summarized from the high school students' interviews and tasks indicate that first language interference is an active psycholinguistic constraint operating during real-time speech production. The linguistic errors captured in this study can be analyzed through two primary psycholinguistic dimensions: orthographic transfer and phonemic under-differentiation.

Orthographic transfer explains why visual text layout heavily disrupts the oral production of secondary school learners. As observed in Student 3's responses, the student explicitly noted that the visual "writing" or spelling drove their mispronunciation. Because Indonesian and regional scripts rely on highly shallow orthographies—where grapheme-to-phoneme mapping is direct and words are spoken exactly as written—the high school students' mental lexicon defaulted to native reading paths. This caused them to apply

Indonesian phonetic rules to irregular English lexical items like chair and thank. Phonemic under-differentiation explains the acoustic substitutions made by Student 1 and Student 2 regarding fricatives (/θ/, /ð/, /v/) and vowel lengths. From a psycholinguistic standpoint, because the students' native phonological inventories (Bugis and Indonesian) completely lack interdental fricatives and long-short vowel contrasts, their cognitive auditory processing systems fail to establish distinct mental categories for these sounds. During speech production, the brain maps the foreign auditory target to the closest available native category in the mental lexicon, resulting in the substitution of a complex fricative with a familiar native stop or a shortened vowel duration.

Finally, the study highlights how language dominance shapes cognitive processing under pressure. Unlike older university students who may possess stronger inhibitory control to suppress their native tongue, high school students remain highly dependent on their dominant daily communication systems. As Student 1 remarked, the heavy daily usage of Bugis establishes it as the fastest, most accessible linguistic pathway. When faced with processing anxiety or phonetic uncertainty during an English task, this cognitive dominance triggers an involuntary intrusion of L1 structures.

Conversely, the varied coping mechanisms found in the results—such as Student 2's digital audio verification and Student 3's reliance on repetitive corrective feedback—demonstrate that these high school students are actively trying to rebuild their mental phonological representations. This suggests that explicit psycholinguistic training that targets auditory discrimination, rather than just reading lists, is essential to help secondary learners successfully decouple English pronunciation from native orthographic

and phonetics traps.

Conclusion

This study investigated first language (L1) interference in English pronunciation among senior high school EFL students through a psycholinguistic lens, utilizing pronunciation tasks and semi-structured interviews. The empirical results reveal that the students' native linguistic frameworks, specifically Bugis and Indonesian, actively shape and constrain their real-time second language (L2) speech production. Phonetically, this interference manifests as phonemic under-differentiation, where students uniformize English vowel length distinctions (such as ship versus sheep) and substitute completely foreign target sounds, such as interdental fricatives (/θ/, /ð/) and labiodental fricatives (/v/), with familiar native consonants.

From a psycholinguistic perspective, the underlying cognitive drivers behind these errors are rooted in orthographic transfer and language dominance. Because the high school students are deeply habituated to the shallow orthography of Indonesian and regional scripts, where spelling maps directly to sound, their mental lexicon consistently misinterprets irregular English graphemes based on native reading expectations. Furthermore, because these transitional learners have not yet developed advanced cognitive inhibitory control to suppress their dominant everyday language, linguistic features from Bugis or Indonesian involuntarily intrude during moments of processing anxiety or lexical uncertainty.

The practical coping strategies identified, ranging from digital audio verification via Google to repetitive oral drills following corrective teacher feedback, underscore a critical pedagogical implication. To successfully mitigate first language interference at the secondary education level, instructional approaches must move

beyond rote reading tasks. Instead, educators should implement explicit psycholinguistic interventions that emphasize auditory discrimination, phonetic categorization, and phonological awareness, effectively helping high school students decouple English speech production from native orthographic traps.

Suggestion

Based on the conclusions of this study, several suggestions are offered for both English language teachers and future researchers. For EFL educators, it is highly recommended to shift from traditional reading aloud activities to targeted psycholinguistic exercises, such as auditory discrimination drills and minimal pair practices. Teachers should explicitly address the phonetic differences between English and native languages while training students to avoid the "orthographic trap" of reading English words exactly as they are written.

For future researchers, since this study was limited to a small sample of senior high school students, it is suggested to expand the sample size to obtain a more generalizable mapping of phonological interference. Furthermore, future studies could investigate how different levels of native language proficiency (e.g., strong versus weak Bugis dominant speakers) affect L2 cognitive processing speed. Finally, utilizing experimental psycholinguistic methods, such as acoustic analysis software or real-time reaction time tracking during speech production tasks, would provide deeper empirical data on the cognitive mechanisms of language transfer.

REFERENCES

- Boukezzoula, S., & Lecheheb, S. (2023). The influence of mother tongue interference on EFL learners' pronunciation (Master's dissertation, AbdElhafid Boussouf University Center - Mila). <http://dspace.centre-univ-mila.dz/jspui/handle/123456789/1577>
- Budiyono, S., Pranawa, E., & Yuwono, S. E. (2021). Language as a communication tool, motivation, achievement, negotiation, and business professionally. *Proceedings of Seminar Nasional Riset Linguistik dan Pengajaran Bahasa (SENARILIP V)*, 73–78. Politeknik Negeri Bali. <http://ojs.pnb.ac.id/index.php/Proceedings/>
- Cenoz, J., & Gorter, D. (2022). *Pedagogical translanguaging*. Cambridge University Press.
- Fikri, N. (2023). The study of language transfer in EFL students' translation work. *JPN: Jurnal Pendidikan Non-formal*, 1(1), 1–9. <https://doi.org/10.47134/jpn.v1i1.100>
- Hajmi, M. F., Gihar, N. M., Anum, L., & Lubis, Y. (2026). Speech production in EFL classrooms: A psycholinguistic study of planning and fluency. *International Journal Multidisciplinary Science*, 5(1), 23–27. <https://doi.org/10.56127/ijml.v5i1.2501>
- Larson-Hall, J. (2017). *Ethics and practicalities of conducting research on input in EFL contexts*. Routledge.
- Listyani, L., Kurniawan, N., & Thren, J. (2024). Indonesian EFL students' English pronunciation errors in a procedural writing class. *Jurnal Pendidikan Bahasa dan Sastra*, 24(1), 53–66. https://doi.org/10.17509/bs_jpbs.v24i1.69742
- Octaviani, R. P., Jannah, L. M., Sebrina, M., & Arochman, T. (2024). The

- impacts of first language on students' English pronunciation. *IJIET (International Journal of Indonesian Education and Teaching)*, 8(1), 164–173. <https://doi.org/10.24071/ijiet.v8i1.6758>
- Ortega, L. (2019). *Understanding second language acquisition* (2nd ed.). Routledge.
- Oviogun, P. V., & Veerdee, P. S. (2020). Definition of language and linguistics: basic competence. *Macrolinguistics and Microlinguistics*, 1(1), 1–12.
- Reskiawan, B., Abin, R., & Riyani, N. (2026). English pronunciation problems among Indonesian students of English as a foreign language at university level: A descriptive analysis. *Journal of English Language and Education*, 11(2), 828–836. <https://doi.org/10.31004/jele.v11i2.2237>
- Santana, C. (2016). What is language? *Journal of Philosophy*, 3(19), 501–523. <https://doi.org/10.3998/ergo.12405314.0003.019>
- Syafutri, T., & Saputra, A. (2021). The first language interference toward students' English speaking as foreign language. *Linguists: Journal of Linguistics and Language Teaching*, 7(1), 39–51. <http://dx.doi.org/10.29300/ling.v7i1.4327>
- Zikri, A., Liusti, S. A., & Agustina. (2026). First language acquisition in a three-year-old child: A phonological, morphological, and syntactic analysis. *SRAWUNG: Journal of Social Sciences and Humanities*, 5(2), 99–114. <https://doi.org/10.56943/issn.v5i2.978>