

PHONOLOGICAL TRANSFER IN BILINGUAL LEARNERS: A COMPARATIVE STUDY OF DARI AND ENGLISH

Mohammad Aref Ansari¹

Abstract:

This article explores the bidirectional phonological transfer between Dari and English in bilingual learners. Phonological transfer involves the influence of a speaker's first language (L₁) on their second language (L₂) and vice versa. For Dari speakers learning English, challenges include vowel substitution, consonant simplification, and the misapplication of English stress patterns due to the more complex vowel and consonant inventory of English. Conversely, the influence of English on Dari can lead to the introduction of new phonetic elements and altered phonotactic rules, as bilingual speakers incorporate English vowels, consonants, and stress rhythms into their Dari speech. The study highlights the importance of understanding these transfer effects to develop effective teaching strategies that address the specific phonological challenges faced by bilingual learners. By providing explicit instruction on the differences between the phonological systems of both languages and using targeted phonetic exercises, educators can help learners achieve accurate and comprehensible pronunciation in both Dari and English, thereby enhancing their overall language proficiency.

Key words: phonological transfer, bilingual learners, Dari phonology, English phonology, vowel substitution, consonant simplification, phonotactics, stress patterns, intonation, vowel lengthening, phonological adaptation, Dari-English bilingualism, language learning, cross-linguistic influence, pronunciation challenges, bidirectional transfer

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Introduction

Phonological transfer, where elements of a speaker's first language (L₁) influence their production of a second language (L₂), is a well-documented phenomenon in bilingualism. This article explores the phonological transfer between Dari and English in bilingual learners, examining how features from each language impact the other. Dari, a variety of Persian spoken primarily in Afghanistan, has a phonological system distinct from English, making it an interesting case for studying cross-linguistic influence.

The Dari alphabet, based on the Arabic script, includes 32 letters and several sounds not found in English. For example, the letter *ق* (qāf) represents the voiceless uvular plosive /q/, which has no direct equivalent in English. Similarly, the letter *ع*

¹ *Mohammad Aref Ansari, Master of Linguistics (Research Pedagogue) in English Language | Candidate of Ph.D. (English Linguistics), TerSU, Uzbekistan*

(‘ayn) represents a voiced pharyngeal fricative /ʕ/, also absent in English phonology. Conversely, English has sounds such as the voiced dental fricative /ð/ (as in "this") and the voiced alveolar approximant /ɹ/ (as in "red"), which are not present in Dari. (Brown, 2018)

Dari Vowel System:

/ɒ/ (ا) - as in 'father'

/æ/ (ع) - as in 'cat'

/e/ (ه) - as in 'bet'

/i/ (ي) - as in 'machine'

/o/ (و) - as in 'bore'

/u/ (و) - as in 'food'

English Vowel System (selected examples):

/i:/ (ee) - as in 'see'

/ɪ/ (i) - as in 'sit'

/æ/ (a) - as in 'cat'

/eɪ/ (a) - as in 'say'

/u:/ (oo) - as in 'food'

/ʌ/ (u) - as in 'cup'

Understanding these fundamental differences in phonology between Dari and English helps illuminate how phonological transfer occurs and affects bilingual learners' speech patterns. This article delves into specific instances of phonological transfer from Dari to English and vice versa, providing insights into the challenges and adaptations faced by bilingual individuals.

Phonological Systems of Dari and English

Understanding the phonological differences between Dari and English is essential for examining phonological transfer. Dari features a series of consonants and vowels not present in English, such as the voiced uvular stop /q/ and the voiced pharyngeal fricative /ʕ/. English, on the other hand, has phonemes such as the voiced dental fricative /ð/ and the voiced alveolar approximant /ɹ/ that do not exist in Dari.

Understanding the phonological differences between Dari and English is essential for examining phonological transfer. Each language has a unique set of phonemes, which include both consonants and vowels. (Ahmed, 2020)

1.1. Consonants

Dari has a variety of consonants not present in English, which can pose challenges for bilingual speakers. For instance:

ق (qāf) /q/: A voiceless uvular plosive, as in the word قلب (qalb) meaning 'heart.'

غ (ghayn) /ɣ/: A voiced uvular fricative, as in the word غروب (ghorub) meaning 'sunset.'

ع (‘ayn) /ʕ/: A voiced pharyngeal fricative, as in the word علم (‘ilm) meaning 'knowledge.'

English, on the other hand, has consonants that do not exist in Dari:

/θ/: A voiceless dental fricative, as in the word "think."

/ð/: A voiced dental fricative, as in the word "this."

/ɹ/: A voiced alveolar approximant, as in the word "red." (Brown, 2018)

1.2. Vowels

The vowel systems of Dari and English also differ significantly. Dari vowels include:

/ɒ/ (ا): As in the word مادر (mādar) meaning 'mother.'

/æ/ (ع): As in the word عمیق (Amiq) meaning 'deep.'

/e/ (ا): As in the word سر (sar) meaning 'head.'

/i/ (ای): As in the word شیر (shīr) meaning 'milk.'

/o/ (و): As in the word خوب (khūb) meaning 'good.'

/u/ (و): As in the word دو (du) meaning 'two.'

English has a more complex vowel system, including:

/i:/ (ee): As in the word "see."

/ɪ/ (i): As in the word "sit."

/æ/ (a): As in the word "cat."

/eɪ/ (a): As in the word "say."

/u:/ (oo): As in the word "food."

/ʌ/ (u): As in the word "cup."

1.3. Phonotactics

Phonotactic rules, which govern the allowable combinations of sounds in a language, also differ between Dari and English. Dari typically avoids complex consonant clusters found in English. For example, the English word "strength" with its initial consonant cluster /str/ may be challenging for Dari speakers, who might insert a vowel to break up the cluster, resulting in something like [sitrɛŋθ].

1.4. Stress and Intonation

Stress and intonation patterns are another area of divergence. English is a stress-timed language, meaning that stressed syllables occur at regular intervals, and unstressed syllables are shortened. In contrast, Dari is more syllable-timed, meaning that each syllable tends to take up approximately the same amount of time. This difference can lead to transfer effects where Dari speakers may apply a syllable-timed rhythm to English, making their speech sound unusual to native English listeners. (Brown, 2018)

Examples:

Consider the English sentence: "She went to the market to buy some vegetables."

In English, this sentence typically has a stress pattern where the primary stresses fall on the words "went," "market," "buy," and "vegetables." Unstressed syllables are pronounced more quickly and with less emphasis. The rhythmic pattern might look like this:

"SHE went to the MARket to BUY some VEGetables."

For a Dari speaker, the sentence might be pronounced with a more even, syllable-timed rhythm, giving each syllable roughly equal duration. This could result in a more monotonous and less natural-sounding pattern to native English listeners. It might sound like this:

"SHE WENT TO THE MAR-KET TO BUY SOME VE-GE-TA-BLES."

In this example, the rhythmic difference is clear: the English stress-timed pattern creates a natural ebb and flow, while the Dari syllable-timed pattern results in a more uniform and steady rhythm. This transfer effect can make it challenging for native English listeners to perceive the natural emphasis and intonation intended by the speaker.

The English word "record" has different meanings depending on stress: "REcord" (noun) vs. "reCORD" (verb). A Dari speaker might not make this distinction, pronouncing both as [ˈrɛkərd].

1.5. Phonological Adaptation and Bilingualism

Bilingual speakers often develop unique phonological adaptations to navigate the differences between their languages. These adaptations can manifest in various ways, such as:

Substitution: Replacing unfamiliar L2 sounds with the closest L1 equivalents. For example, a Dari speaker might substitute the English /ð/ with /d/, pronouncing "this" as [dɪs].

Epenthesis: Inserting additional sounds to fit the phonotactic constraints of L1. For example, a Dari speaker might say [ɪstəp] for the English word "step." Other words such as: Play and Blue.

Vowel Lengthening: Adjusting vowel lengths to match familiar patterns. A bilingual speaker might elongate short English vowels to match the longer vowel durations of Dari. The short vowel /ɪ/ in "bit" is lengthened to /i:/, resembling the longer vowel duration in Dari. This can change the perception of the word to English listeners, making it sound more like "beat." (Ahmed, 2020)

Phonological Transfer from Dari to English

Bilingual learners often exhibit transfer effects when learning English. One prominent area of transfer is vowel pronunciation. Dari has fewer vowel contrasts compared to English, which can lead to difficulties for Dari speakers in distinguishing between vowels like /i:/ and /ɪ/ or /æ/ and /eɪ/ in English. Studies have shown that Dari speakers may substitute these English vowels with the closest equivalents from their native phonological inventory.

Another area of transfer is consonant production. For instance, the English /ð/ and /θ/ sounds are often replaced by /d/ and /t/ respectively, as Dari lacks these interdental fricatives. Additionally, Dari speakers may struggle with English consonant clusters, often simplifying them to conform to the phonotactic constraints of Dari. This can result in epenthesis, where an extra vowel is inserted to break up a cluster, such as pronouncing "street" as [sɪtɪ]. (Sharifi, 2021)

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Voicing Differences

Dari speakers might also transfer voicing patterns from their L1 to English. For example, the English voiced stops /b/, /d/, and /g/ may be pronounced with more aspiration or a different voice onset time compared to native English speakers, due to the different phonetic realization of these sounds in Dari. For example, these words can be pronounced with aspiration: Real Pronunciation Dog (dɔ:g) Dari Speaker Pronunciation: /dʰɔ:g/ (aspirated [d]). English Pronunciation Pin: /pʰɪn/ (aspirated [p]) Dari Speaker Pronunciation: /pɪn/ (unaspirated [p]). (Karimi, 2022)

Phonetic Contexts and Allophonic Variations

Allophonic variations in English might also be challenging for Dari speakers. In English, certain phonemes change their pronunciation based on the phonetic context, a feature less prominent in Dari. For example:

The English /t/ sound can be pronounced as a flap [ɾ] in words like "butter" ('bʌɾə). A Dari speaker might consistently use a non-flapped [t] instead. (Sharifi, 2021)

Influence of L1 Orthography

The orthographic system of Dari can also influence phonological transfer. Dari uses a variant of the Arabic script, which is fundamentally different from the Latin script used for English. This can affect pronunciation, particularly with letters that have multiple phonetic realizations in English. For example:

The letter "c" in English can represent both /k/ (as in "cat") and /s/ (as in "cent"). A Dari speaker might not immediately recognize these variations, leading to pronunciation errors. (Ahmed, 2020)

Practical Implications for Language Learning

Understanding these transfer effects is crucial for developing effective language teaching strategies. Educators can help Dari-speaking learners by:

Providing explicit instruction on English vowel contrasts and consonant clusters.

Using visual aids and phonetic symbols to illustrate differences.

Encouraging pronunciation practice with minimal pairs to highlight subtle contrasts.

Integrating stress and intonation exercises to improve prosodic features of English speech.

By addressing these specific challenges, language instructors can better support Dari-speaking learners in achieving more accurate and comprehensible English pronunciation.

Phonological Transfer from English to Dari

Phonological transfer is not unidirectional; English can also influence the phonological system of Dari in bilingual speakers. One noticeable effect is the introduction of English phonemes into Dari. For example, bilingual speakers might start using the English /ɪ/ in Dari words, replacing the native /r/. This phenomenon is particularly common among younger bilinguals who are more exposed to English through media and education.

Moreover, the intonation patterns of English, which are typically more varied and stress-timed, can affect how Dari bilinguals use pitch and stress in their native language. This influence can lead to a shift towards a more stress-timed rhythm in Dari speech, deviating from its traditionally syllable-timed nature. (Sharifi, 2021)

Phonological transfer is bidirectional in bilingual learners, and the influence of English on Dari can be just as significant as the reverse. This transfer can affect various aspects of pronunciation, including consonant and vowel production, stress, and intonation patterns. Below, we explore the specific instances and mechanisms of phonological transfer from English to Dari.

Vowel Pronunciation

One area where English can influence Dari is in vowel pronunciation. English has a more complex vowel system with numerous vowel contrasts that do not exist in

Dari. This can lead to the introduction of new vowel qualities into Dari speech. For instance:

English diphthongs like /eɪ/ (as in "say") and /oʊ/ (as in "go") may be incorporated into Dari, which traditionally lacks such diphthongs. A Dari speaker influenced by English might pronounce words like خوب (khūb) 'good' with a diphthongal quality, sounding more like [xoub].

Consonant Production

English consonants that do not exist in Dari can also be transferred. This often occurs when bilingual speakers use English phonetic patterns in their Dari speech. Some examples include:

The voiced dental fricative /ð/ (as in "this") might be introduced into Dari, even though the language typically uses /d/ in similar phonetic contexts. This can lead to the production of the word درد (dard) 'pain' with a non-native [ð] sound.

The English /ɹ/ sound, which is a voiced alveolar approximant, might replace the Dari /r/, which is a more trilled or tapped sound. As a result, a word like رنگ (rang) 'color' could be pronounced with an English-style [ɹ] instead of the native [r].

Phonotactic Changes

The influence of English phonotactic rules can lead to changes in the permissible sound combinations in Dari. English allows more complex consonant clusters than Dari, and bilingual speakers may transfer these patterns:

English clusters like /st/ and /sk/ might be used in Dari speech without the typical epenthesis (insertion of a vowel) seen in native Dari phonotactics. This can lead to pronunciations such as استادی (estādī) 'professorship' being pronounced as [stādī] without the initial [e] sound. (Ahmed, 2020)

Stress and Intonation Patterns

Stress and intonation patterns from English can also transfer to Dari. English is a stress-timed language, whereas Dari is more syllable-timed. This can result in Dari sentences taking on a more English-like rhythm:

A bilingual speaker might place stress on certain syllables in a way that mimics English stress patterns. For example, in the sentence من خوب هستم (man khūb hastam) 'I am good,' an English-influenced speaker might stress 'khūb' more prominently, similar to stressing "good" in the English sentence "I am good." (Sharifi, 2021)

Voicing and Aspiration

English voicing and aspiration patterns can influence how Dari speakers produce certain sounds. English voiceless stops (/p/, /t/, /k/) are typically aspirated (produced with a burst of air) at the beginning of words, a feature that is less prominent in Dari:

A Dari speaker influenced by English might aspirate the /p/ in پل (pul) 'bridge,' producing it as [p^hul] instead of the native [pul]. (Karimi, 2022)

Introduction of New Phonemes

The phonological inventory of Dari can expand to include new phonemes under the influence of English. This can happen when English phonemes are adopted into Dari speech, especially in borrowed words: (Ahmed, 2020)

Words borrowed from English, such as 'computer' or 'internet,' might be pronounced with English phonemes that are not native to Dari. This can lead to the inclusion of sounds like /k/ (with aspiration) or /tʃ/ (as in "ch") into the Dari lexicon.

Orthographic Influence

The influence of English orthography can also affect phonological transfer. When Dari speakers learn English, they might incorporate English spelling conventions into their pronunciation of Dari words:

The English 'th' in "this" might influence the pronunciation of similar Dari sounds, even leading to spelling changes in transliterated text. (Karimi, 2022)

Practical Implications for Language Learning

Understanding these transfer effects is crucial for developing effective language teaching strategies for Dari speakers learning English and vice versa. Educators can help bilingual learners by:

Providing explicit instruction on the differences between English and Dari phonological systems.

Highlighting the unique features of each language to prevent unwanted transfer.

Using phonetic exercises to reinforce native pronunciation patterns in both languages.

By addressing these specific challenges, language instructors can better support Dari-English bilingual learners in achieving accurate and comprehensible speech in both languages.

Factors Influencing Phonological Transfer

Several factors contribute to the extent and direction of phonological transfer. Age of acquisition plays a critical role; younger learners are more likely to exhibit transfer effects due to their developing phonological systems being more malleable. Proficiency in both languages also affects transfer, with higher proficiency in L2 reducing the likelihood of transfer from L1.

The linguistic environment, including the amount of exposure to each language and the contexts in which they are used, significantly impacts phonological transfer. Bilinguals immersed in a predominantly English-speaking environment may show more transfer effects from English to Dari, and vice versa. (Ahmed, 2020)

Conclusion

Phonological transfer between Dari and English in bilingual learners encompasses a range of phenomena, from vowel and consonant production to stress and intonation patterns. Dari speakers learning English face challenges due to the more complex vowel and consonant inventory of English, leading to potential pronunciation errors such as vowel substitution, consonant simplification, and misapplication of English stress patterns. Conversely, English's influence on Dari can introduce new phonetic elements and alter phonotactic rules, as bilingual speakers may incorporate English vowels, consonants, and stress rhythms into their Dari speech.

Understanding these bidirectional transfer effects is crucial for educators and language learners. By recognizing specific areas where phonological transfer occurs, targeted teaching strategies can be developed to address these challenges. This includes explicit instruction on the distinct phonological systems of each language, use of phonetic exercises, and reinforcement of native pronunciation patterns. Through such tailored approaches, bilingual learners can achieve more accurate and comprehensible pronunciation in both Dari and English, enhancing their overall language proficiency and communication skills.

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