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Sociophonological Gender Variations of EFL Iraqi Students

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Abstract

This study employs a mixed-methods approach to examine the phonological challenges faced by Iraqi EFL learners, focusing on gender-based differences and the influence of Iraqi Arabic phonology on English pronunciation. Iraqi Arabic presents unique phonological characteristics—such as dark [ɬ], trilled [r̥], and vowel length distinctions—that can complicate the acquisition of English phonology. The study explores two research questions: (1) What phonological features do Iraqi EFL learners struggle with, and how do these differ by gender? (2) How does Iraqi Arabic phonology influence English pronunciation among male and female learners? A quantitative methodology was employed, analyzing speech samples from 50 participants, with frequency counts used to identify patterns. The findings show that both genders struggle with phonological features such as dark [ɬ], trilled [r̥], vowel lengthening, monophthongization, and epenthesis. However, gender differences are evident, with males showing higher frequencies of traditional phonological features, while females tend to approximate English norms more closely. These results confirm the significant influence of Iraqi Arabic phonology on English pronunciation, with sociolinguistic factors shaping learners' adaptation strategies. The study contributes to sociophonology and Arabic sociolinguistics and offers practical insights for EFL pedagogy, suggesting targeted pronunciation instruction to address specific challenges faced by Arabic-speaking learners.

1. INTRODUCTION

Phonological variation in English learners from non-English-speaking contexts is a critical area of study, especially for Iraqi EFL learners. Iraqi Arabic features unique phonological characteristics, such as the dark [ɬ], trilled [r̥], vowel length distinctions, and consonantal variations, which often pose challenges for Iraqi learners acquiring English pronunciation. For instance, the prevalence of velarized [ɬ] in Iraqi Arabic can lead learners to substitute this sound for the English clear [l], resulting in variations in pronunciation (Youssef & Watson, 2006; Jones, 2011). Similarly, the trilled [r], typical of Iraqi Arabic, is frequently transferred into English, diverging from the native English pronunciation norms (Ladefoged & Maddieson, 1996).

Naser (2022) also identified these phonological influences on voice quality among Iraqi EFL learners, particularly the persistence of the trilled [r̥] and dark [ɬ]. Her research suggests that these features significantly affect learners' voice quality, especially in relation to phonological retention.

Vowel length is another significant aspect of Iraqi Arabic that contrasts with the English phonological system. The distinct use of vowel length in Arabic, where vowel duration can change word meaning, often leads to the mispronunciation of long vowels in English (Al-Ani,

1970). Additionally, Iraqi learners often exhibit epenthesis, inserting extra sounds to adapt Arabic syllable structures to English (Broselow, 1992). These phonological variations demonstrate the strong influence of a learner's native phonological system on their English pronunciation. Given these challenges, this study specifically seeks to address two key research questions:

1. What phonological features do Iraqi EFL learners struggle with, and how do these differ by gender?
2. How does Iraqi Arabic phonology influence English pronunciation among male and female learners?

These research questions are rooted in sociolinguistic factors, particularly gender, which also play a crucial role in shaping pronunciation. Research in Arabic-speaking communities reveals that females often adopt more "prestigious" speech forms, possibly due to societal expectations, while males tend to maintain regional phonological patterns (Leaver, 2022; Bakir, 1986). Despite these observations, there is limited research specifically examining sociophonological variations in Iraqi Arabic-speaking EFL learners, particularly concerning gender differences. This study aims to explore and compare the phonological features in English pronunciation among male and female Iraqi EFL learners, investigating how the native Iraqi Arabic phonological system influences their pronunciation.

The importance of this study lies in both its theoretical and practical contributions. Theoretically, it adds to the field of sociophonetics and Arabic sociolinguistics by addressing a gap in research on gender-based phonological variations among Iraqi EFL learners. Practically, the findings will have implications for EFL pedagogy, providing educators with insights into specific pronunciation challenges faced by Arabic-speaking learners and informing more effective teaching strategies.

2. LITERATURE REVIEW

The distinction between narrow and broad transcription is crucial in understanding phonological variations among Arabic speakers learning English. Narrow transcription captures detailed phonetic aspects, such as allophones, while broad transcription focuses on general phonemic contrasts. Arabic speakers face challenges in learning English phonology due to differences in phonemic inventories. The absence of certain English sounds, such as /p/ and /v/, leads to substitutions with Arabic phonemes [b] and [f̪], respectively (Mitleb, 1985). [f̪] indicates that the sound is articulated with the lower lip against the upper teeth, as Arabic does not differentiate between /f/ and /v/. Vowel length distinctions in Arabic often carry over into English, resulting in mispronunciations (Abdely, 2021). This issue aligns with studies showing that Arabic phonology's emphasis on vowel length can hinder learners' ability to distinguish between English short and long vowels (Helal, 2014). Furthermore, Arabic speakers tend to insert vowels (epenthesis) into English clusters, conforming to Arabic phonotactic rules (Broselow, 1992; Crystal, 2008). This practice, while facilitating pronunciation, disrupts the natural syllable structure of English words and highlights the influence of native phonology on second language acquisition.

2.1. Sociophonology and Gender

Gender influences linguistic patterns in Arabic-speaking communities. Women often adopt prestigious dialects, such as Baghdadi forms, to signal social status (Leaver, 2022). This

preference aligns with broader sociolinguistic findings that women in various linguistic communities are more likely to use standard or prestige language forms to assert social mobility (Labov, 2001). Bakir (1986) notes that women show a stronger preference for standard forms, avoiding stigmatized non-standard variants. This phenomenon suggests that social pressures and identity play a significant role in linguistic choices. Additionally, gender biases, such as the use of default masculine forms in occupational terms, reinforce traditional gender roles and influence language behavior (Soliman, 2023). This aligns with Eckert's (1989) findings on how gendered language practices reflect societal expectations and hierarchies. The intersection of sociolinguistic and phonological dynamics highlights how language use both reflects and shapes societal norms. While Leaver (2022) focuses on the use of prestigious Baghdadi forms, this study explores whether these sociophonological tendencies manifest similarly in the English pronunciation of Iraqi EFL learners, particularly regarding phonological adaptation by gender.

2.2.Iraqi Arabic Phonology

Iraqi Arabic is distinguished by features such as dark [ɬˠ], where the velarization (the tongue is raised toward the soft palate) of [ɬ] contrasts with the clear [l] found in other dialects (Albuarabi, 2018). The influence of such features in second language acquisition is critical, as shown in studies examining how dialectal variations can affect English learning (Youssef & Watson, 2006). The trilled [r̥] (voiceless alveolar trill) is another key characteristic, serving as a regional marker and symbol of linguistic identity. The retention of such trills in English pronunciation can signal a learner's attachment to their native phonological traits. Vowel length is phonemic in Iraqi Arabic, affecting word meanings, a feature also documented in other Arabic dialects (Al-Ani, 1970). Consonantal substitutions, such as the realization of /q/ as [g] (voiced velar plosive) and /\u03b8/ as [t̪] (dentalized version of /t/), further distinguish the dialect (Albuarabi, 2018; Mohammed & Samad, 2020). These features not only impact English learning but also contribute to distinct patterns in EFL pronunciation, emphasizing the challenges faced by learners. This study builds on previous research to examine how these unique phonological features affect male and female learners differently.

2.3.Previous Research on EFL Learners

Arabic speakers learning English often transfer native phonological features, such as vowel length, to English, leading to mispronunciations (Abdely, 2021). While Abdely's work highlights general phonological transfer, the present study focuses on how these issues vary by gender, addressing a gap in the literature. Learners also struggle with consonant clusters not present in Arabic, prompting epenthesis (Al-Rubaat & Al-Shammari, 2019). This aligns with Broselow's (1992) observation that Arabic speakers often insert vowels to maintain phonotactic rules, an adaptation that can disrupt English syllable structures. Additionally, Arabic speakers encounter challenges with phoneme-grapheme consistency, affecting reading and pronunciation (Alshaboul et al., 2014). Unlike previous studies that primarily address the broader implications of these challenges, this research delves into gender-specific differences in how learners navigate such phonological hurdles. Sociophonological studies suggest that social factors, including gender, influence language use, but there is limited research examining the nuances of gender-specific phonological acquisition among Arabic EFL learners. This study aims to bridge that gap, building on foundational works by Bakir (1986) and recent insights by Soliman (2023) on gendered linguistic behavior, to provide a more comprehensive understanding of these dynamics.

3. METHODOLOGY

3.1. Research Design

This study employs a mixed-method descriptive design, focusing on a gender-based sociophonological analysis. By examining the differences in pronunciation patterns among male and female Iraqi EFL learners, the study aims to explore the influence of the native Iraqi Arabic phonological system on English pronunciation. Combining quantitative analysis for frequency counts and qualitative interpretation for deeper insight provides a comprehensive understanding of the learners' phonological challenges and gender-based variations.

3.2. Participants

The research includes 50 participants (25 males and 25 females) from the College of Arts, Department of Translation at Mustansiriyah University. The participants are aged between 18 and 30, representing a relevant demographic for studying pronunciation challenges in young adult EFL learners.

3.3. Materials and Instruments

To investigate the pronunciation patterns, a list of **75 words** was selected from *Better English Pronunciation* by J. D. O'Connor. This book is integral to the curriculum and familiar to the students, ensuring that the selected words are practical and directly related to their educational context.

The number 75 was selected to provide a comprehensive sampling of phonological features that are commonly challenging for Iraqi EFL learners. This selection includes various consonant and vowel sounds, diphthongs, and phonemes influenced by the native Iraqi Arabic phonological system, ensuring a broad representation of potential pronunciation issues. Additionally, a larger word list enhances the statistical reliability of the study by increasing the data points for analysis, which is particularly important when examining differences across gender groups. Moreover, the quantity is sufficient to cover a wide range of phonological aspects without causing fatigue to the participants, thereby maintaining the quality of the data collected.

The word list, available in the appendix of this paper, is organized into three columns:

1. **Word:** The target word to be pronounced by the participants.
2. **Standard Phonemic Transcription:** The broad phonemic transcription of each word, representing the standard Received Pronunciation (RP). This transcription was obtained using tophonetics.com, a reliable website that accurately transcribes words following RP pronunciation.

The use of phonemic transcription for the standard pronunciation provides an abstract representation of the essential phonological contrasts without unnecessary detail. It establishes a clear reference point for comparison with the learners' pronunciations.

3. **EFL Learners' Phonetic Transcription (with Deviations):** This column presents the actual pronunciations of the learners, using narrow phonetic transcription to capture specific articulatory features and deviations from the standard pronunciation.

Employing phonetic (narrow) transcription for the learners' actual pronunciation allows for precise documentation of specific pronunciation deviations. It captures subtle articulatory

nuances, such as substitutions, insertions, and alterations in vowel length or quality, which are crucial for analyzing the influence of Iraqi Arabic phonology on English pronunciation.

Instruments Used:

- Zoom H5 Handy Recorder: Utilized for capturing high-quality audio recordings of the participants' speech, ensuring accurate data for analysis.
- Sony WH-1000XM4 Wireless Noise-Canceling Headphones: Used during the analysis phase to listen to the recordings with superior sound clarity, facilitating precise auditory examination of phonological features.
- Microsoft Excel: Employed for organizing the data, performing statistical calculations, and creating visual representations to aid in the analysis.

3.4.Data Collection Procedures

Data collection involved individual oral reading tasks, where participants were asked to read the list of 75 words aloud. The procedure was conducted in a quiet room to minimize background noise and ensure the clarity of recordings.

- **Recording:** Each participant's pronunciation was recorded using the Zoom H5 Handy Recorder.
- **Analysis Preparation:** The recordings were later reviewed using the Sony WH-1000XM4 headphones to ensure detailed auditory analysis.

3.5. Data Processing and Analysis

The analysis focused on identifying and comparing the frequency of specific phonological features in the participants' speech samples.

1. **Transcription:**
   - **Standard Phonemic Transcription:** Provided a baseline for the expected pronunciation of each word.
   - **Learners' Phonetic Transcription:** Captured the actual pronunciations, noting any deviations from the standard.
2. **Identification of Pronunciation Issues:**
   - Deviations such as the use of dark [ɬ] instead of light [l], trilled or tapped [r] ([ɾ]), vowel lengthening, sound substitutions, and epenthesis were documented.
3. **Quantitative Analysis:**
   - **Data Organization:** Transcriptions and observations were systematically organized in Microsoft Excel.
   - **Statistical Calculations:** Frequency counts of each phonological deviation were conducted to identify patterns.
   - **Visualization:** Charts and graphs were created to facilitate comparison across gender groups and to highlight prevalent pronunciation issues.

By integrating the comprehensive word list, employing appropriate transcription methods, and utilizing advanced instruments, the study ensured precise and reliable data collection and analysis. This approach provided in-depth insights into the phonological patterns and deviations of Iraqi EFL learners, contributing valuable information to the field of sociophonology.

4. DATA ANALYSIS

The quantitative analysis of the data collected from male and female Iraqi EFL learners focuses on identifying and comparing the frequency of specific phonological features. Each feature was analyzed for its occurrence rate across genders, providing a clear comparison without delving into the implications behind these trends. The data were processed using statistical frequency counts, calculating percentages for each phonological feature's occurrence in the recorded speech samples of both groups.

4.1.Phonological Features Analysis

- Clear [l] vs. Dark [ɬ]
  - Frequency: The data reveal that dark [ɬ] appears in 92% of male participants' speech and in 89% of female participants' speech.
  - Observations: This minor difference in frequency suggests a consistent occurrence of dark [ɬ] in both genders, indicating a near-universal use of this phonological feature among the participants.
- *Trilled [r̥] vs. Tapped [ɾ]*
  - Frequency: Trilled [r̥] was found in 78% of male speech samples and in 53% of female speech samples.
  - Observations: The data show a higher frequency of trilled [r̥] in male participants, with a 25% difference compared to females, who demonstrated a more balanced usage of trilled [r̥] and tapped [ɾ].

4.2. Vowel Lengthening and Monophthongization

- Vowel Lengthening
  - Frequency: Vowel lengthening was identified in 87% of male participants and 82% of female participants.
  - Observations: Both groups show a high frequency of vowel lengthening, with a slight 5% higher occurrence in male participants.

- Monophthongization of Diphthongs
  - Frequency: Monophthongization of diphthongs occurred in 81% of male participants' speech samples, compared to 65% in females.
  - Observations: The data show a more frequent occurrence of monophthongization in male speech, with a 16% gender difference.

4.3. Epenthesis

- Frequency: Epenthesis was identified in 58% of male participants and in 45% of female participants.
- Observations: A 13% higher rate of epenthesis was observed in male participants, indicating more frequent insertion of vowel sounds to break consonant clusters.

4.4.Consonantal Variations

- /v/ to [f̪] Substitution

- Frequency: This phonological feature was found in 39% of male participants and 24% of female participants.
- Observations: The data show a 15% higher occurrence of /v/ to [f̪] substitution in male participants compared to females.

- /p/ to [b] Substitution

- Frequency: Females substituted /p/ with [b] in 74% of cases, while males did so in 67% of cases.
- Observations: Both groups frequently substitute /p/ with [b], with a slightly higher frequency observed in female participants (7% higher than males).

5. RESULTS

This section presents the quantitative findings of the study, which focused on identifying and comparing specific phonological features in the English pronunciation of male and female Iraqi EFL learners. The results are based on the analysis of speech samples from 50 participants, with the frequency of each phonological feature calculated as a percentage of the total occurrences in each gender group. These findings directly address the research questions concerning the phonological challenges faced by Iraqi learners and the influence of Iraqi Arabic on their English pronunciation.

5.1.Clear [l] vs. Dark [ɬˠ]

Table 1**.** *Frequencies of clear [l] vs. dark [ɬˠ] in male and female speech*

Phonological Feature	Gender	Frequency (%)	Example Words	Phonetic Transcription
Dark [ɬˠ]	Males	92%	"wheel," "milk"	[wiːɬˠ], [mɪɬˠk]
	Females	89%	"play," "school"	[pɬˠeɪ], [skuːɬˠ]

Observation: Dark [ɬˠ] appeared in 92% of male speech samples and in 89% of female samples, showing minimal variation between genders. This suggests a widespread and consistent use of dark [ɬˠ] across both groups, reflecting its strong influence from Iraqi Arabic phonology.

5.2. Trilled [r̥] vs. Tapped [ɾ]

Table 2. *Frequencies of trilled [r̥] vs. tapped [ɾ] in male and female speech*

Phonological Feature	Gender	Frequency (%)	Example Words	Phonetic Transcription
Trilled [r̥]	Males	78%	"car," "party"	[kaːr̥], [ˈpaːr̥ti]
	Females	53%	"dark," "guard"	[daːrk], [gaːrd]

Observation: Trilled [r̥] was significantly more frequent in male participants (78%) than in females (53%), indicating a clear gender-based difference in the retention of this phonological feature, with males showing a preference for the more traditional Arabic trill.

5.3.Vowel Lengthening and Monophthongization

a. Vowel Lengthening

Table 3. *Frequencies of vowel lengthening in male and female speech*

Phonological Feature	Gender	Frequency (%)	Example Words	Phonetic Transcription
Vowel Lengthening	Males	87%	"food," "stood"	[fuːd], [stuːd]
	Females	82%	"foot," "moon"	[fuːt], [muːn]

Observation: Vowel lengthening was prominent in both groups, with a slightly higher frequency among male participants (87%) compared to females (82%).

b. Monophthongization of Diphthongs

Table 4. *Frequencies of monophthongization in male and female speech*

Phonological Feature	Gender	Frequency (%)	Example Words	Phonetic Transcription
Monophthongization	Males	81%	"coat," "home"	[kɔːt], [hɔːm]
	Females	65%	"go," "no"	[gɔː], [nɔː]

Observation: Monophthongization occurred more frequently in males (81%) than in females (65%), suggesting a higher tendency among male participants to simplify diphthongs into monophthongs, a characteristic of Iraqi Arabic phonology.

5.4. Epenthesis

Table 5. *Frequencies of epenthesis (insertion of new sounds) in male and female speech*

Phonological Feature	Gender	Frequency (%)	Example Words	Phonetic Transcription
Epenthesis	Males	58%	"English," "school"	[ˈɪŋgɪlɪʃ], [ɪskuːɬʸ]
	Females	45%	"student," "spoon"	[ɪstuːdənt], [ɪspuːn]

Observation: Epenthesis was more frequent in males (58%) compared to females (45%), reflecting a higher reliance on vowel insertion to break up consonant clusters.

5.5.Consonantal Variations

a. /v/ to [f̪] Substitution

Table 6. *Frequencies of /v/ to [f̪] substitution in male and female speech*

Phonological Feature	Gender	Frequency (%)	Example Words	Phonetic Transcription
/v/ to [f̪]	Males	39%	"Viber," "seven"	[ˈfaɪbəɹ], [ˈsɛfən]
	Females	24%	"van," "very"	[fæn], [ˈfɛɹi]

Observation: Males substituted /v/ with [f̪] more frequently (39%) than females (24%), indicating a stronger tendency among males to follow native phonological rules in place of English norms.

b. /p/ to [b] Substitution

Table 7. *Frequencies of /p/ to [b] substitution in male and female speech*

Phonological Feature	Gender	Frequency (%)	Example Words	Phonetic Transcription
/p/ to [b]	Females	74%	"apple," "pen"	[ˈæbəl], [bɛn]
	Males	67%	"police," "cup"	[bəˈliːs], [kʌb]

Observation: Both genders frequently substituted /p/ with [b], with females showing a slightly higher rate (74%) than males (67%).

6. DISCUSSION

This section presents an interpretation of the results, providing insights into how the observed patterns relate to Iraqi EFL learners' phonological challenges and comparing them to previous research in the field. The discussion will explore the sociophonological patterns identified in this study while highlighting the influence of Iraqi Arabic phonology on English pronunciation.

6.1. Clear [l] vs. Dark [ɬˠ]

The frequent use of dark [ɬˠ] among both male and female participants (92% for males and 89% for females) highlights the strong influence of Iraqi Arabic, where dark [ɬˠ] is predominant in various environments. Despite English's distinction between clear /l/ and dark [ɬˠ], Iraqi learners transfer this feature from their native language, as shown by the minor gender difference of only 3%. This suggests that the velarized [ɬˠ] is nearly universal among Iraqi EFL learners.

Previous studies, such as those by Youssef and Watson (2006), confirm the dominance of dark [ɬˠ] in Arabic dialects, which aligns with the current findings. However, unlike studies that suggest females might approximate clearer [l] due to social pressures to use prestigious variants (Bakir, 1986), this study shows only a small deviation, indicating that both genders struggle similarly with this feature in English. Naser (2022), moreover, supports the findings of the research under study by demonstrating that voice quality, particularly in terms of resonance and articulation, is significantly influenced by the presence of dark [ɬˠ], a feature deeply embedded in Iraqi Arabic phonology.

6.2.Trilled [r̥] vs. Tapped [ɾ]

The significant difference in the use of trilled [r̥] between males (78%) and females (53%) reflects distinct gendered linguistic behaviors. Males appear to retain the trilled [r̥], a prominent feature of Iraqi Arabic, while females more frequently alternate between trilled [r̥] and tapped [ɾ]. This suggests that females might be adapting their speech to better align with English phonetic norms, which typically favor tapped [ɾ] or approximant [ɹ] over the Arabic trill.

This finding supports sociolinguistic studies that indicate women often adopt prestigious or standard speech forms more frequently than men (Bakir, 1986; Soliman, 2023). In contrast to research showing a tendency for men to preserve regional identity through phonological patterns (Leaver, 2022), the present study confirms that males favor the trilled [r̥], likely reflecting cultural authenticity and resistance to adopting foreign speech norms.

Similarly, Bouras and Mihoubi (2022) found that Algerian female EFL learners outperformed their male counterparts in achieving more accurate pronunciation. This parallels the tendency observed in Iraqi female learners, who approximate "prestigious" or standard English forms more closely. Such patterns suggest a consistent cross-cultural trend among Arabic-speaking EFL learners, where females may be more motivated to align their pronunciation with target norms, potentially influenced by sociocultural expectations.

Building on these findings, Li, Wang, and Shen (2024) highlight how language learning is often perceived as a feminine activity, which can shape motivational beliefs and emotional engagement. Such perceptions may partly explain why female learners in this study gravitate towards more "prestigious" forms, reflecting societal expectations of linguistic conformity. Conversely, male learners may resist these norms to maintain cultural and masculine identity, which could contribute to their stronger retention of traditional features such as trilled [r̥].

6.3.Vowel Lengthening and Monophthongization

a. Vowel Lengthening

Vowel lengthening occurs frequently in both genders (87% in males, 82% in females), suggesting that this feature, a key element of Arabic phonology, persists in their English pronunciation. The slight gender difference could indicate that males are less likely to receive or respond to corrective feedback in educational settings, resulting in a higher frequency of vowel lengthening in their speech.

Studies such as those by Alshaboul et al. (2014) have noted the prominence of vowel length distinctions in Arabic and their impact on English pronunciation. This study extends those findings by showing a smaller gender gap in vowel lengthening compared to consonantal features, which might imply a more consistent carryover of vowel-based phonological rules across genders.

b. Monophthongization of Diphthongs

The monophthongization of diphthongs is significantly higher in males (81%) than in females (65%), indicating that males simplify vowel sounds more frequently. This reflects Iraqi Arabic's lack of complex diphthongs, prompting male speakers to favor phonetic simplicity. Female participants, while also demonstrating monophthongization, appear to retain diphthongal contrasts more often, possibly due to their exposure to English norms in educational environments.

Previous studies have identified similar patterns, with males tending to simplify vowels due to the phonological structure of Arabic (Al-Ani, 1970). However, the present study contributes new insights by showing that females are more resistant to this simplification, likely aligning with studies that highlight women's tendency to approximate more "correct" or prestigious speech forms in second language acquisition (Soliman, 2023).

6.4.Epenthesis

The higher frequency of epenthesis in males (58%) compared to females (45%) underscores a gendered difference in handling consonant clusters. Males tend to insert vowels to break up clusters more often, reflecting the preference for CV (consonant-vowel) syllable structures in Arabic. Females, while still exhibiting epenthesis, seem to attempt a more native-like English pronunciation by reducing the need for vowel insertion.

Epenthesis has been well-documented in Arab learners of English (Broselow, 1992). This study corroborates earlier research but offers a nuanced view by showing that females use epenthesis less frequently, possibly due to a greater awareness of English syllable structure. This contrasts with Mitleb's (1985) findings, which did not emphasize significant gender differences in the application of this feature.

Similarly, Piyamat and Deekawong (2021) identified epenthesis as a common strategy used by Thai EFL learners to address consonant clusters absent in their native language. Their findings reinforce the cross-linguistic tendency for learners to adapt non-native phonological patterns by inserting vowels, highlighting epenthesis as a universal challenge among EFL learners with distinct syllable structures. While Iraqi EFL learners demonstrate gendered differences in their application of epenthesis, this study underscores the importance of addressing such features in language instruction for learners from diverse linguistic backgrounds.

6.5.Consonantal Variations

a. /v/ to [f̪] Substitution

The substitution of /v/ with [f̪] is more common in males (39%) than in females (24%). This suggests that males are more likely to follow native phonological patterns, possibly due to less exposure to corrective feedback. Females, on the other hand, might be attempting to adopt more standard English norms, as evidenced by their lower frequency of this substitution. Similar patterns have been observed in studies on Arab EFL learners, where /v/ is often replaced with [f̪] due to its absence in Arabic phonology (Al-Rubaat & Al-Shammari, 2019). However, the gender difference identified here supports Bakir's (1986) findings that females are more inclined to adopt foreign phonological norms, even when faced with difficult sounds such as /v/.

b. /p/ to [b] Substitution

The /p/ to [b] substitution is prevalent in both genders but slightly more frequent in females (74%) than in males (67%). This indicates that both genders struggle with the /p/ phoneme, which does not exist in Arabic. The slight increase in female substitution rates could be attributed to hypercorrection or overcompensation in their attempts to conform to English pronunciation standards.

The findings align with those of Mitleb (1985), who documented this substitution pattern among Arab learners. However, the observation that females substitute /p/ with [b] more frequently than males suggests that hypercorrection might be at play, an issue not extensively covered in earlier research.

The results show that Iraqi Arabic phonology heavily influences English pronunciation among Iraqi EFL learners. Gender-based differences in the production of certain features—such as trilled [r̥], vowel lengthening, monophthongization, epenthesis, and consonantal substitutions—reflect broader sociolinguistic dynamics. Female participants tend to approximate "prestige" or "correct" forms more frequently than males, possibly due to societal expectations or educational contexts that emphasize linguistic conformity.

These findings support broader sociolinguistic theories that link language use to gender, with females often adopting more prestigious forms (Leaver, 2022; Soliman, 2023). However, this study provides a more detailed examination of specific phonological features, highlighting the

nuanced ways in which gender and native phonology interact in the process of second language acquisition. Unlike previous studies that focused on either phonological transfer or sociolinguistic variation, this research bridges both fields, offering a comprehensive view of gendered phonological adaptation in Iraqi EFL learners.

These insights also carry important pedagogical implications. Educators should incorporate explicit instruction targeting problematic phonological features identified in this study, such as the substitution of /v/ with [f̪] or /p/ with [b]. Tailored exercises focusing on diphthong retention and the reduction of epenthesis would benefit male learners, while addressing hypercorrection tendencies may support female learners. Teacher training programs should emphasize these gendered patterns to better equip instructors for addressing the diverse needs of learners. Furthermore, incorporating targeted pronunciation drills into the curriculum, such as minimal pair exercises and cluster reduction strategies, can help learners overcome persistent phonological challenges. Providing visual aids and tools for articulatory feedback can also enhance learner awareness of native-like pronunciation.

7. CONCLUSION

This study examined the phonological challenges faced by Iraqi EFL learners, focusing on gender-based differences and the influence of Iraqi Arabic phonology on English pronunciation. The results revealed that both male and female learners struggle with features such as dark [ɬˠ], trilled [r̥], vowel lengthening, monophthongization, epenthesis, and consonantal substitutions. Gender-based variations were evident, with males generally exhibiting higher frequencies of retaining traditional Iraqi phonological features, while females tended to approximate English norms more closely. Naser (2022) similarly observed these patterns in voice quality among Iraqi EFL learners, reinforcing the idea that traditional phonological features persist strongly in both gender groups.

Key findings include the near-universal production of dark [ɬˠ] by both genders, the higher frequency of trilled [r̥] among males, and the greater use of vowel lengthening and monophthongization in male speech. Female learners showed a higher occurrence of /p/ to [b] substitution and slightly lower rates of epenthesis and /v/ to [f̪] substitution, indicating a tendency toward adapting to English pronunciation norms. The study confirms the significant influence of Iraqi Arabic phonology on English pronunciation, with sociolinguistic factors, such as gender, shaping phonological adaptation.

These findings offer practical insights for EFL educators, highlighting the need for targeted pronunciation instruction that addresses specific phonological challenges faced by Arabic-speaking learners. Future research could expand on these findings by including diverse Arabic dialects and exploring the long-term effects of targeted pronunciation training. Understanding how gender and sociolinguistic dynamics influence language learning will further contribute to effective teaching strategies in EFL contexts.

Future research could expand on these findings by including a more diverse range of Arabic dialects to understand regional variations and their specific impacts on English pronunciation. Longitudinal studies examining the long-term effects of targeted pronunciation training would provide deeper insights into the efficacy of instructional strategies over time. Additionally, incorporating qualitative methods, such as in-depth interviews and learner feedback, could further illuminate the sociolinguistic motivations behind gender-based pronunciation patterns. Research into the role of external factors, such as exposure to native English speakers and access to varied educational resources, would also contribute to a

comprehensive understanding of the phonological adaptation processes in EFL learners. Understanding how gender and sociolinguistic dynamics influence language learning will further contribute to effective teaching strategies in EFL contexts.

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Appendix: List of Words for Pronunciation Analysis

Table A1

List of Words Used for Phonological Analysis and Their Transcriptions

No.	Word	Standard Phonemic Transcription	EFL Learners' Phonetic Transcription (with Deviations)
1	After	/ˈɑːftə/	[ˈɑːftəɾ] (trilled or tapped [r])
2	Ago	/əˈgoʊ/	[əˈgɔː] (Mispronounced vowel)
3	Air	/eə/	[ɪɚ] (Rhoticity, change to American accent)
4	All	/ɔːl/	[ɔːɬ] (dark [ɬ] instead of light [l])
5	Answer	/ˈænsə/	[ˈænsəɾ] (trilled or tapped [r])
6	Apple	/ˈæpəl/	[ˈæbəl] (Substitution of [p] with [b]; substitution occurs twice)
7	Art	/ɑːt/	[ɑːɾt] (trilled or tapped [r])
8	Bad	/bæd/	[bæd] (No significant deviation)
9	Bath	/bɑːθ/	[bɑːθ] (No significant deviation)
10	Bed	/bɛd/	[bɛd] (No significant deviation)
11	Better	/ˈbɛtə/	[ˈbɛɾɚ] (Rhoticity, flapped [ɾ])
12	Bird	/bɜːd/	[bɜːɾd] (trilled or tapped [r])
13	Blood	/blʌd/	[bluːd] or [bəluːd] (Pronounced with /uː/ instead of /ʌ/; insertion of schwa [ə])
14	Book	/bʊk/	[bʊk] (No significant deviation)
15	Breathe	/briːð/	[bɹiːθ] (Substitution of [ð] with [θ])
16	Brochure	/ˈbrəʊʃə /	[broʊˈtʃɚ] (Rhoticity, change to American accent; mispronouncing [ʃ] as [tʃ])
17	Can	/kæn/	[kɑːn] (Sometimes exaggerated as "caan")

18	Car	/kɑ:/	[kɑ:ɾ] (trilled or tapped [r])
19	Chair	/ʧeə/	[ʧɪɚ] (Rhoticity, change to American accent)
20.	Circle	/ˈsɜ:kl/	[ˈsɜ:kɬ] (dark [ɬ] instead of light [l])
21	Coat	/koʊt/	[kɔ:t] (Monophthongization)
22	Country	/ˈkʌntri/	[ˈkʌntɪɾi] (Insertion of extra sound /ɪ/ after /t/; trilled or tapped [r])
23	Dark	/dɑ:k/	[dɑ:ɾk] (trilled or tapped [r])
24	Door	/dɔ:/	[dɔ:ɾ] (trilled or tapped [r])
25	Early	/ˈɜ:li/	[ˈɜ:ɬi] (dark [ɬ] instead of light [l])
26	Earth	/ɜ:θ/	[ɜ:ɾθ] (trilled or tapped [r])
27	English	/ˈɪŋglɪʃ/	[ˈɪŋgɪlɪʃ] (Insertion of extra sound)
28	Farm	/fɑ:m/	[fɑ:ɾm] (trilled or tapped [r])
29	Father	/ˈfɑ:ðə/	[ˈfɑ:ðɚ] (Rhoticity, adding /r/)
30	First	/fɜ:st/	[fɜ:ɾst] (trilled or tapped [r])
31	Food	/fu:d/	[fu::d] (Heavier /u:/ pronunciation)
32	Foot	/fʊt/	[fu:t] (Lengthened /u:/)
33	Girl	/gɜ:l/	[gɜ:ɬ] (dark [ɬ] instead of light [l])
34	Go	/gəʊ /	[gɔ:] (Monophthongization)
35	Group	/gru:p/	[gru:b] (Substitution of [p] with [b]; emphasis on the /r/ sound)
36	Guard	/gɑ:d/	[gɑ:ɾd] (trilled or tapped [r])
37	Hair	/heə/	[hɪɚ] (Rhoticity, change to American accent)
38	Join	/ʤɔɪn/	[ʤɔɪən] (Insertion of extra sound)
39	Kill	/kɪl/	[kɪɬ] (dark [ɬ] instead of light [l])
40	Law	/lɔ:/	[laʊ] (Mispronounced as "low" /laʊ/)
41	Learn	/lɜ:n/	[lɜ:ɾn] (trilled or tapped [r])
42	Lexicon	/ˈlɛksɪkən/	[lɛkˈsɪkɒn] (Stress shift)
43	Life	/laɪf/	[ɬaɪf] (dark [ɬ])
44	Live	/lɪv/	[li:v] or [laɪv] (Some pronounce as "leev" [li:v]; also pronounced as "life" [laɪv])
45	Love	/lʌv/	[ɬʌv] (dark [ɬ] instead of light [l])
46	Map	/mæp/	[mæ:p] (Some exaggerated vowel length)
47	Milk	/mɪlk/	[mɪɬk] (dark [ɬ] instead of light [l])
48	Model	/ˈmɒdəl/	[ˈmɔdəl] (Change in vowel quality; replacing dark [ɬ] with clear [l])
49	No	/nəʊ /	[nɔ:] (Monophthongization)
50	Nurse	/nɜ:s/	[nɜ:ɾs] (trilled or tapped [r])

51	Ocean	/ˈəʊʃᵊn /	[ˈɔːʃən] (Mispronounced diphthong)
52	Often	/ˈɒfən/	[ˈɒftən] (Often pronounced with /t/)
53	Only	/ˈoʊnli/	[ˈɔːnɬi] (Monophthongization; using dark [ɬ] instead of light [l])
54	Own	/oʊn/	[ɔːn] (Monophthongization)
55	Party	/ˈpɑːti/	[ˈpɑːɾti] (trilled or tapped [r])
56	Planning	/ˈplænɪŋ/	[ˈblænɪŋ] (Substitution of [p] with [b])
57	Play	/pleɪ/	[bɬeɪ] (Substitution of [p] with [b]; dark [ɬ] instead of light [l])
58	Put	/pʊt/	[buːt] (Substitution of [p] with [b]; lengthened vowel /uː/)
59	Question	/ˈkwɛstʃən/	[ˈkwɛʃən] (Substitution of [ʧ] with [ʃ])
60	Real	/rɪəl/	[ɹɪɬ] (dark [ɬ] instead of light [l])
61	Run	/rʌn/	[ɾʌn] (Trilled or tapped [r])
62	Sad	/sæd/	[sɑːd] (Exaggerated /ɑː/ vowel in the middle)
63	Said	/sɛd/	[sɛd] (No significant deviation)
64	Says	/sɛz/	[sɛz] (No significant deviation)
65	School	/skuːl/	[skuːɬ] (dark [ɬ])
66	Seven	/ˈsɛvən/	[ˈsɛfən] (Substitution of [v] with [f])
67	Shirt	/ʃɜːt/	[ʃɜːɾt] (trilled or tapped [r])
68	Stood	/stʊd/	[əstuːd] (Insertion of extra sound [ə]; lengthened middle vowel /uː/)
69	Student	/ˈstjuːdənt/	[ˈsɪtjuːdənt] (Vowel insertion)
70	Sugar	/ˈʃʊgə/	[ˈʃʊgɚ] (Rhoticity, adding /r/)
71	Table	/ˈteɪbəl/	[ˈteɪbɬ] (dark [ɬ] instead of light [l])
72	Took	/tʊk/	[tuːk] (Lengthened /uː/)
73	Viber	/ˈvaɪbə /	[ˈfaɪbəɹ] (Substitution of [v] with [f])
74	Wheel	/wiːl/	[wiːɬ] (dark [ɬ] instead of light [l])
75	World	/wɜːld/	[wɜːɾld] (trilled or tapped [r])

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