

Assessing Iraq EFL University students' production of consonant clusters in inflectional suffixes

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Abstract

One of the aims of every EFL teacher is to establish proficiency in spoken English of his learners. This study investigates the production of consonant clusters among EFL learners, with special emphasis on inflectional suffixes. The study was conducted in EFL setting, specifically, university of Baghdad. Twenty-five students from multidisciplinary background were engaged in a pronunciation task. This approach was conducted through mixed methods. The aim of the study was to find out what consonant clusters give problem to EFL students in Iraq university. Similarly, error analysis theoretical model was applied to identify the problem. The study revealed that the EFL learners are having problem with some consonant clusters, insertion and replacement of some sounds because Arabic language rarely has complex consonant clusters. The study also highlighted the implication that since English is a global language, there is the need to expose these EFL learners to be conversant with the complexity of English consonant clusters so that they will become proficient in their speeches and pronunciation practice.

Keywords: *EFL learners, consonants, consonant clusters, inflectional suffixes*

1.0 Introduction

EFL students often face obstacles in learning English as a foreign language. One of such problems is the aspect of pronunciation. The ability to pronounce English consonant clusters similar to English native speakers is of importance to EFL learners (Dwiningrum, (2016). Generally, pronunciation is the act of producing words where aspects like articulation, intonation and emphasis are stressed. It is a way where a language or a specific word is uttered. The main aim of exposing students to pronunciation practice is to help them to develop the ability to attend efficiency to speak like the native speakers of English in such a way that the listener can perceive the word produced by the speakers. According to Bouchiouna (2019) some people think that

when students make mistakes in the process of pronunciation, it does not matter if the mispronounced word will be understood by the listener but this will seem to cause miscommunication to others. Usually, the problems that cause students to face difficulty in pronunciation is the difference in pronunciation accents, styles and the differences in sound system between the primary language and the target language which is English (Gilakjani & Ahmadi, 2011).

One of the possible causes of problem in pronouncing consonant clusters by EFL learners is that, these sounds is the immediate succession of the syllable in a single word, which seems to appear rarely in the Arabic language (Barrios, 2018) This is because, if the clusters are separated, they become independent, may be difficult to pronounce and they may have no meaning in themselves. So, the consonant clusters are always dependent elements within a word Pusfarani et la. (2021). Because of their distinct nature, the consonant clusters require a vowel sound to be pronounced and understood (Azizah, 2019). For instance, the consonant clusters /gr/, /bl/, /br/ and /sp/ all need a combination of vowel sounds to become pronounceable, hence, Gray, Blue, Bread, and Spend (Azizah, 2019). From the foregoing, it can be concluded that vowel sounds are the main substance in producing the consonant clusters. The consonant clusters cannot be pronounced when they stand alone, thus, the they are termed as dependent sounds. Hassan (2023) views that sounds in English and Arabic are quite distinct. The significant differences are in their phonetic registers, phonological structures and the rules regarding syllables. However, as argued by Pusfarani et la. (2021), students who are not familiar with English words and their pronunciation may face serious difficulty in their pronouncing tasks. The first stage for students to become proficient in the pronunciation of consonant clusters is to be proficient in phonological tasks. Phonological errors which often occur as a result of learning transfer are more obvious in EFL and ESL settings (Komariah, 2018).

1.1 Problem statement

In an EFL setting, students often encounter errors in their attempt to learn second language. This is particularly true when it comes to learning sounds. Because of the structural differences, the transfer of these techniques especially in consonant clusters, is broadly obvious. In line with above brief background, it has been established that EFL learners mainly have problems in pronouncing English sounds and more specific, is the pronunciation of inflectional consonant clusters. Inflectional consonant clusters are the basic suffixes or endings that are attached to the base of a lexical term. This will result to producing clusters of consonants in the boundary of a word. These consonant clusters differ depending on the structure of a language and other related phonological rules. English language has clusters that usually form plural forms, possessive

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forms, past tense as well as third person singular. This study is interested to explore Baghdad university students' problem in pronouncing consonant clusters at inflectional level. It specifically seeks to find out the major problems these students face regarding their phonological practices. Hassan (2023) narrates that Iraq EFL learners have challenges in producing English consonant strings. This study will build upon this existing literature to advance understanding regarding consonant clusters.

1.2 Aim of the study

The following serve as the objectives of this study:

- To identify the English consonant clusters that give difficulty to the Baghdad university students in their pronunciation tasks.
- To find out the reasons or cause of this difficulty face by Baghdad university students in comparison with Arabic language.
- To proffer suggestions on ways that can remediate the difficulties face by Baghdad university students in pronouncing English consonant clusters.

1.3 Research questions

With the above-mentioned objectives, the study strives to answer the following questions:

- What are the consonant clusters that give difficulty to Baghdad university students in their pronunciation tasks?
- Why do Baghdad university students face difficulty in pronouncing English consonant clusters in comparison to Arabic language?
- What are the possible solutions to the difficulty face by the Baghdad university students in pronouncing English consonant clusters?

2.0 Literature Review

Pronunciation refers to the collection of actions developed through consistent and correction of sound production (Smith, 2019). Through pronunciation, meaning is created in the production of sound which requires the learner to focus on some sounds and the suprasegmental aspects of speech, which include intonation, rhythm and stress. Pronunciation is one of the essential

components of English (Diver, 2012). EFL learners are expected to intensify their efforts towards becoming proficient in pronunciation. Fatemi (2012) affirms that excellent grammar can be marred by students' inability to pronounce words correctly. This signifies that students should make extra efforts towards producing better lexical items. Pronunciation can also be referred to the way students produce a series of sounds that eventually produce meaning in speaking (Jabeen, 2012).

Studies were conducted on problems faced by EFL learners in their pronunciation tasks. El-saghyer (2014) conducted a study on interference towards L2 in Arabic setting, the result indicates that the Arab speakers replace the sound /p/ with /b/ and on rare instances, /p/ with /b/ sound. This replacement was consequent upon the interference of their native language. The /p/ sound is nonexistent in their primary language (Jamila & Kaigama, 2015). In the process of producing consonant clusters, it was observed that when consonants generate inconsistency in the place or manner of articulation, the production of less constrained consonant is controlled, because it is much freer in its place or manner it requires as a result it is possible to change (Recasens & ., 2015). Arabic EFL learners often face problem in pronouncing consonant clusters that occur at the end of words, especially when this involves multiple different sounds and no vowels appear in-between. Similarly, Arabic language does not have some specific consonant sounds such as /P/ in stopped lexical item 'stopped' or the sound /v/ as in 'loved' (Alenazi, 2016) and this usually adds to their predicament. In order to enhance this pronouncing situation, it is crucial to focus on syllable separation and vowel insertion as well as slow exposure to complex clusters (Hassan, 2023).

Consonant clusters refer to the appearance of two or consonant sounds within a syllable. In the process of language acquisition and second language learning these aspects should be given deserved attention. Consonant clusters are pervasive in most languages for instance, German, English, Arabic and Russian but they differ in the way they appear and their complexity (Al-sammer, 2014). To examine consonant clusters means to illuminate the ley linguistic principles regarding phonotactics, phonological processing and syllable structure (Barrios, 2018). Moreso, perception of consonant clusters can assist in addressing challenges encountered by language learners specifically EFL/ESL students (Alenazi, 2016). Consonant clusters in Arabic are highly rare compared to English language. The phonotactic rules broadly do not allow the existence of these complex clusters to exist at the beginning or end of a word (Al-Sammer, 2014). The appearance of consonant clusters in Arabic are simpler in relation to English and usually at medial positions or more simple owing to vowel insertion. Conversely, there are limited

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instances where consonant clusters occur in Arabic in some unique dialects or because of phonological techniques such as gemination or in loan words as exemplified below:

In the following examples, the existence of consonant clusters is totally avoided at the word initials, but two consonant clusters may appear in the middle of at the final syllable of words.

- /ʃabr/ means patience, final cluster /br/.
- /ʃukr/ means gratitude, final cluster /kr/.
- /qadr/ means fate or destiny, final cluster /dr/
- /ðikr/ means remembrance final cluster /kr/.
- /dars/ means lesson final cluster /rs/.
- /bakr/ a proper name, also means cow final cluster /kr/.
- /ʃams/ means sun final cluster /ms/.

Some English syllables are complex in nature especially those that consist of CCs within the onset and coda positions. These types of syllables have been greatly discussed by scholars, for instance in China, Spain, Korea, Saudi Arabia and Yemen (AL-Athwary, 2021). These deal with interlanguage phonology within the non-native paradigm. Problems are usually identified when L2 learners attempt to pronounce the CCs syllables. As a result of this, researchers begin to analyse errors committed by learners in articulating clusters as well as making efforts to investigate the flexible strategies applied by L2 speakers. Most of these studies are directed on the impact of transfer as the only way to address all the phonological errors committed by these learners. There was a concern by Jabeen et al. (2012) regarding Punjabi speakers who adopt the phonological process of inserting vowel to cater for the clash between problem of native language and target language. This and other similar studies are in consonance that EFL learners mostly add vowel sound at the beginning or end of a cluster and hence, result to mispronunciation (Al-Athwary, 2021)

2.1 Theoretical framework

The error analysis will serve as the basis of this study. Errors are counted as important parts of learning (Maruti, 2023). Language learning is not different from human learning which seems to be a process that is related to committing errors. To understand how L2 learning takes place, there is the need to understand how errors are committed and how they should be examined. Error analysis is the process grounded in dealing and analysing mistakes produced by learner (Maruti, 2023). This procedure is common in L1 interference and interlingual effect (Anefnaf,

2017). This framework stresses that students commit error as a result of their strong linguistic background. The L1 often have strong production effect. This assertion has been confirmed in several studies on Arabic EFL learners. Although the use of contrastive analysis was highly dominant in the previous years, error analysis happens to take over this position owing to its efficiency in analysing students' errors especially in the production of sounds (Fatemi, 2012). According to this paradigm, several errors cannot be easily perceived through contrastive analysis, but error analysis can reveal and predict the majority of such errors committed by students. One of the major findings of error analysis is that most learners' errors are committing wrong inferences about the extant rules of the target language (Chen, 2003). Scholars recommend the adoption of error analysis because of its efficiency in language teaching, strategies and measures to be recommended in the domain of second language learning. These majors are multifaceted which involves more than mere analysing the errors committed by learners but it sets out to identify all major sources of errors (Chan, 2003). The author argues that error analysis is one of the most effective methods of identifying errors committed by students in both written and spoken tasks. This study, therefore, will address the potential problems in this study through this theoretical model.

3.1 Methodology

This section describes the research design, the population of the study, sample and sampling techniques and the data analysis procedure. The study used mixed methods approach. This is an approach that looks at phenomena or events that occur at present time (Creswell, 2012). This approach combines both numbers and deeper explanation about a situation (Creswell, 2014). From the qualitative approach, the descriptive method is adopted. The purpose of this method is to explain the phenomenon in detail and in a systematic manner. This study is on Baghdad university students and all students are qualified for this study.

3.2 Sample

The study is not restricted to only English students. All students are qualified for the task. The population of this school is around 3,000, but for the purpose of this study, 25 students were selected from five departments to participate in this task. The study seeks to find out the problems that consonant clusters pose to these students. To select the required sample, the researcher adopted purposeful sampling technique.

3.3 The research procedure

The initial procedure involved in this study was pronunciation test. In order to identify the problem, the students were provided with general consonant sound test and later, they were offered words containing consonant clusters. As already known, the consonant clusters may appear in three different positions, the initial, the medial and the final positions. This study did not restrict the type of consonant to be employed, but rather all the three types were provided. The study is restricted to two types of consonant cluster types, this is because, the consonant cluster is a broad field of endeavor. These types of consonant clusters are complex consonant cluster and sonority consonant cluster.

- i. The complex consonant cluster: this consonant cluster has two element clusters. Teaching this type of consonant clusters will change learners' sound repertoire and their intelligibility. The following are the examples displayed to the students /skw/spr/ /str/, /skr/, /spl/, /sl/, /fl/, /fr/, /shr/ and /thr/.
- ii. The sonority sequencing approach for clusters is established in linguistic research. This system describes that onset, which include word initial sounds may rise in sonority and codas, that is the ending sounds. The sonority refers to the inherent aspect of loudness in sounds that is relative to the other sound. These sounds are voiceless fricative + nasal as in /sm/ /sn/ /mj/, sonoritydistance = 3
voiceless fricative + liquid /fl/ /fr/ /θr/ /sl/ /ʃr/ /sr/ (Fleming, 2007).

4.0 Result

The following result was generated through the students' exposure to the consonant clusters. The EFL learners face challenges regarding the pronunciation of consonant clusters this is because the Arabic language contain more restrictive phonotactic rules compared to English language. There is an avoidance of complex clusters in Arabic, especially at the initial part of words and usually apply vowel sounds to separate consonants. The following are the consonant clusters that tend to be difficult to students of Baghdad university based on practical task. These clusters are difficult to them when they appear at the beginning or end of the word.

The table below shows the result of pronunciation tasks given to the students. The students are 25 in number. The P as used in the table, means participant, and the CC represents Consonant Cluster. The [+] symbol means there is insertion or mispronunciation of the consonant cluster, while the [x] means no insertion or the word was pronounced correctly by the participant.

Table 1

C C	P 1	P 1	P 3	P 4	P 5	P 6	P 7	P 8	P 9	P1 0	P1 1	P1 2	P1 3	P1 4	P1 5	P1 6	P1 7	P1 8	P1 9	P2 0	P2 1	P2 2	P2 3	P2 4	P2 5
St	×	+	+	+	+	+	+	+	+	+	+	+	+	+	X	+	+	+	+	+	X	X	+	+	+
S p	+	+	+	+	+	+	+	+	+	+	X	X	+	+	+	+	+	+	+	+	+	+	X	+	+
fr	+	+	X	X	+	+	+	X	+	+	+	+	+	+	+	+	+	+	+	+	X	+	+	+	+
sk	+	+	+	+	+	+	+	+	+	+	+	+	X	X	X	+	X	+	+	+	+	+	+	+	+
T r	X	X	X	X	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	X	+	+
Pl	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Pr	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Fl	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
gr	X	X	X	+	+	+	+	+	+	+	+	+	+	+	X	X	+	+	+	+	+	+	+	+	+
B l	X	X	X	X	X	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	X	+

Students = [f' Student {i+1} ' for i in range (25)]

Scores = [75, 58, 75, 55, 90, 70, 55, 75, 43, 85, 66, 85, 72

76, 83, 58, 83, 72, 91, 58, 76, 63, 81, 66, 82]

('Pronunciation Accuracy (35%))'

(Pronunciation Task on Consonant Cluster Scores')

1. What are the consonant clusters that give difficulty to Iraq university students in their pronunciation tasks?

The following consonant clusters give difficulty to the students:

1. /sp/ as in the word sport pronounced with insertion at the initial position
2. /st/ as in the word study pronounced with insertion at the initial position
3. /sk/ as in the word school pronounced with insertion at the initial position
4. /tr/ as in the word train pronounced with insertion at the initial position
5. /pl/ as in the word play pronounced with insertion at the initial position and change of sound from /p/ to /b/.
6. /pr/ as in the word price pronounced with insertion at the initial position and change of sound from /p/ to /b/.
7. /fl/ as in the word fly pronounced with insertion at the initial position and change of sound from /f/ to /b/.
8. /fr/ as in the word friend pronounced with insertion at the initial position and change of sound from /f/ to /b/.

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9. /bl/ as in the word black pronounced with insertion at the initial position.

10. /gr/ as in the word green pronounced with insertion at the initial position.

2. Why do Baghdad university students face difficulty in pronouncing English consonant clusters in comparison to Arabic language?

Some of the reasons that pose difficulty to these students in pronouncing the above consonant clusters is connected to the fact that Arabic language does not allow initial clusters in its words, as a result of this, the Arabic EFL learners have to struggle consistently when pronouncing English words that contain clusters. As indicated above, it will be less stressful for them if they insert a vowel before or between the clusters to make the word pronounceable. However, the medial cluster according to this study are less difficult to the students especially when it involves sounds that are uncommon in Arabic language or those words with syllable structure that are not native to EFL Arabic learner. For instance,

/str/ as in the word instruction

/mpl/ as in the word example

/lk/ as in the word milk

In addition, there is rare occurrence of final clusters in Arabic language, especially those words with three or more consistent consonants. Hence, the students may simplify or omit some words when it appears in English final clusters or they will attempt to insert a vowel sound to distinguish the cluster. As in this example:

- i. /ks/ as in the word books where some students pronounced as book-es
- ii. /ts/ as in the word cats where some students pronounced as cat-es
- iii. /ps/ as in the word stops where some students pronounced as stop-es/stob-es
- iv. /nd/ as in the word friend where it was pronounced as fren-ed/ bren-ed
- v. /pt/ as in the word kept where it was pronounced as kebt/
- vi. /kt/ as in the word looked where it was pronounced look-et

4.1 Contributions to the field of applied linguistics

This study will contribute to the field of applied linguistics through the enhancement of phonological theory, language learning and acquisition, second language learning pedagogy and speech production. Other key contributions may include advancement in phonotactic rules. In this case, insights will be gained through acceptable sound combinations within the language parameters. It will also help in shaping general phonological models. Since this study deals with

consonant sounds, it will identify how languages shape sounds according to the realistic hierarchy and shape students' perception on syllable construction across languages (Bouchhioua, 2019). Similarly, research in consonant cluster has exposed how students' native consonant sounds influence their target language pronunciation, a term, central to interlanguage sound structure. For example, Arabic learners of English language usually struggle towards learning English consonant clusters, which rarely exists in their mother language, which leads to processes like vowel addition or cluster simplification. So, recognizing these approaches will allow instructors to foresee normal pronunciation difficulties and address possible interventions. Finally, when teachers recognised difficulties related to consonant clusters pronunciation teaching, it will inform unique teaching strategies towards teaching pronunciation and provide basic phonetic training programmes on specific exercises (Keshavarz, 2017). The study will also enrich the field of applied linguistics by connecting phonological constructs, second language acquisition, error analysis and language teaching. Through the perception of consonant clusters, teachers of second language can produce more efficient language teaching approaches and improve assessments techniques.

4.2 Discussions

This study addressed the findings of this study through error analysis theory. The errors were finally identified and similar studies will be used to explain more about this problem. Puspita (2021). There are various sort of errors in pronunciation practice. Some of these errors may include phonological errors and mispronunciation of some consonants as well as diphthongs. Komariah (2018) analysed data to compare English sounds and students' pronunciation. The study found out that most of the students have problem in pronouncing some English sounds. Similarly in this study, related problems were identified especially in regards to some consonant clusters. This shows that, these types of problems have been established among EFL learners. In another related study, Umantari et al. (2016) focused on identifying the problems faced by Indonesian students to understand the differences between English and Indonesian phonological systems, the study generally focused on consonants. The study established that Indonesian learners of English language are experiencing errors in their pronunciation tasks. This study seeks to advance further investigation of problems faced by Iraq EFL learners in a similar area of consonant cluster pronunciation.

This study becomes necessary to be investigated and address the problem because English has become a global language and becoming proficient in it may avail more opportunities to these EFL learners. The study may also strengthen the teaching and learning of English language in

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other Iraq institutions of learning. It is crucial to identify such problems faced by these EFL learners in pronouncing English letters in comparison to Arabic letters. One important study realized that EFL learners do not palatalize /r/ sound because is highly restricted by the demand to produce it. In other series, the tongue body formations of the initial and the following consonants in a cluster may be more related; in the series /ŋf/ the body of the tongue raises to front for /f/ is freely predicted because the alveolar nasal /n/ is not in a very exact lingual formation. The present study may demonstrate why certain variations exist more than others, and how a production-inclined clarification is more conceivable than one in terms of nonconcrete phonological principles.

So, this study highlights that consonant clusters play a significant role in syllable structure and morphophonemic processes. Through such studies, it was realized that English agrees with complex clusters formation owing to historical phonological advancements, but languages such as Arabic and Spanish have related and simpler phonotactic rules which require a vowel to distinguish the consonants. Further, the acquisition and production of consonant clusters seem to be distinct depending on learners' first language structure. Not only Arab learners, other learners especially in second language context may encounter problems with consonant clusters because their native phonology may lack certain blends, especially in coda position. Like the Arabs, Japanese, Romance, Italians and Romance tend to add or insert epenthetic vowels 'stop' to pronounce it as [estop] to disintegrate the clusters that prove challenging or unversed.

4.3 Challenges identified in this study

1. Epenthesis or vowel insertion: it was found out that most of the students usually add vowels to disintegrate the clusters, especially at the initial and final parts of the words. This often make their pronunciations easier.
2. Cluster reduction: the participants may omit a single consonant within a cluster, especially when the cluster is longer, for example, 'firs' as in 'first'.
3. Sound substitution: when a sound is not obtainable in Arabic, especially in the sounds /p/ and /v/, the students may substitute these sounds with similar ones for instance /b/ for /p/ and /f/ in place of /v/.

3. What are the possible solutions to the difficulty face by the Baghdad university students when pronouncing English consonant clusters?

4.4 Solutions, Implications and recommendations

A critical understanding of students challenges regarding consonant clusters especially of Arabic EFL learners can influenced language teaching and learning, particularly in English as a second or foreign language context. Emphasis is placed by instructors in pronunciation practice as a result of their significance. Some of the key methods applied may include:

- i. Explicit phonotactic training: in this case emphasis is placed on rules of English and practice of consonant clusters in various syllabic positions and this will assist learners to become aware of the appropriate cluster combination.
- ii. Pronunciation drills: specific pronunciation tasks by the application of minimal pairs for instance, (break and bend, plane and pane) may help the students to distinguish and practice clusters in meaningful domains.
- iii. Since these participants often add vowels to break up complex clusters, teachers' pedagogical approach can be centered towards slow exposure and pronunciation practice.

5.0 Conclusion

This study explored the problems faced by Arabic EFL learners in university of Baghdad, Iraq. Three distinct questions were raised and addressed. The study finally found out that consonant clusters are a tricky feature of phonology that consistently pose serious challenges to EFL and ESL learners. This study provides a significant insight into the phonotactic principles that affects language structure and serve as a practical tool to be applied for language pedagogy. While these clusters are normal part of English language, they are quite uncommon in some languages. This led to the serious obstacle to non-native language learners especially to those with rare clusters in their mother languages. As advances are made in research, more understanding will be found on the application of clusters and this will improve pronunciation training methods and support learners towards overcoming language-inclined phonological hinderances. This study also found out that Arabic EFL learners can easily adapt to English words which contain clusters, by adding vowels to disintegrate the clusters although some words may contain the cluster in their borrowed forms. While it has been acknowledged that consonant clusters rare exist in Arabic compared to English, they do occur. So, the rarity of these clusters has added to the challenges of the participants in the present study.

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Limitations of the study

This study was only conducted on a limited number of students but other studies have established that consonant clusters are part of EFL learners' problem, especially the Arab students. More studies need to be conducted using different approaches to affirm the findings recorded in this study.

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