English Consonant Clusters Difficulties for EFL Iraqi Learners

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Abstract: The consonant strings, one of the most important phonological phenomena, are the subject of this study. Consonant strings are the various combinations of sounds that can begin or end a syllable in a language. The majority of Iraqi EFL students have trouble creating some English consonant strings. The purpose of this study is to analyze the challenges faced by Iraqi EFL learners and to provide sufficient background information on the concepts of phoneme, consonant strings, and phonotactics.

Keywords: Consonant, String, Phoneme, Phonology, and Phonotactics.

1. INTRODUCTION

One of the most important subjects covered by the study of phonology is the consonant string. Some phonological definitions are worthy of attention. Phonology is "the study of the sound systems found in human languages," according to Carr (2008: 130). According to him (ibid), phonology is the "science of the functions of speech sounds." Phonology is "functional phonetics" in light of this. Other linguists have a more cognitive understanding of what phonology encompasses; they see sound patterns as objects that humans represent in their thoughts. So, according to Lodge (2009: 14–15), phonology is concerned with distinctions in sense that are indicated by sound. It should also relate to similarity and recognition.

Section One
Theoretical Framework
1.1 Concept of Phoneme
According to Ladefoged (2011:34), a phoneme is the name for a series of sounds rather than a single sound. For instance, English has a number of /t/ sounds and a number of /l/ sounds. A phoneme is a distinctive or contrastive sound unit in a language, as noted by Carr (2008:123). In this context, "distinctive" refers to a sound that contributes to communication and changes the meaning. Different phonemes in words create contrast. For example, the letters /n/, /l/, and

/t/ are all phonemes because they are used to contrast words, as in the phrases nab (/naeb/), lab (/lb/), and tab (/tb/).

In this instance, According to Roach (2002: 72), the term "phoneme" refers to the basic unit of phonology, which has undergone numerous definitions and usages. Almost all phonological theories agree that spoken language can be divided into a series of sound units (called phonemes), and that each language has a limited number of these phonemes that are largely stable. This "building-block" approach to pronunciation is today viewed as an unhelpful oversimplification. It was once believed that learning the pronunciation of a language depended on memorizing the particular phonemes of the language.

Therefore, according to Bybee (2001: 53), phonemes can be thought of as collections of variants that are phonetically similar, known as allophones. These allophones are then threaded together to form what are known as salient contextually determined prototypes. According to Katamba (1989: 18), phonemes are groups of sounds that are treated equally in the language in question.

Allophones (or variants) of a particular phoneme are the different physically distinct sounds that are considered to be executions of that phoneme, according to him (ibid). A letter symbol enclosed in slant lines typically serves as the representation of a phoneme. As a result, the voiceless stops that can be produced in English by making contact between the tongue and palate are combined into two phonemes, /t/ and /k/, each of which has a variety of allophones that differ somewhat from one another.

Overview of phonotactics
According to Ashby and Maidment (2005: 146) the term "phonotactics" refers to a list of the legal ways to combine phonemes into structures (often the syllable). Therefore, it is frequently seen that various consonant ranges can be utilized at the onset and coda positions (a common pattern is for there to be a wide range of choice in the onset position, but just a few possibilities for the coda). And if long consonant sequences are allowed in   According   to Brinton (2000: 54), phonotactics are the limitations on the places and successions of sounds in a language. Phonotactics are always language-specific, meaning that some combinations of sounds could be acceptable in one language but not in another, such as starting a word with [pn] in English.

It is important to note that syllables are a technique of grouping sounds around a sonority peak, such in pin. The sequence starts with the vowel //, which is followed by less sonorous consonants. Consequently, there is just one peak and one syllable (Fasold and Connor-Linton, 2014:35). According to Gut (2009:75), a syllable can be broken down into an onset and a rhyme, which can then be broken down into a nucleus and a coda.

In this context, Crystal (2011: 417) provides the following definitions of the terms "onset," "rhyme," "nucleus," and "coda":
An onset is the initial consonant sequence.
-        A rhyme is a single constituent of syllable structure comprising the nucleus.
-        A nucleus is the non-consonantal segments.

-        A coda is the final sequence of consonantal segments.

Therefore, phonotactic constraints are limitations on the sequence of sounds that can occur in a particular position in a syllable, as suggested by Carr (2008:130). These limitations differ from language to language. For instance, there are restrictions on the types of consonants that can appear in the first and second positions of a branching onset in the majority of forms of English. Only one of the following approximants—/r, l, w, j/, as in tray, play, twice, and cure—can occur in the second place if a stop consonant takes up the first position in a branching onset (ibid).

1.3 What is meant by Consonant Strings?
In terms of phonetics, consonants are created when the vocal tract closes or narrows, either entirely blocking the sound or restricting it enough to cause audible friction. From a phonological perspective, they are units that work alone or in strings at the ends of syllables (Crystal, 2011: 103).
Consonant strings are described by Ashby and Maidment (2005: 147) as a series of consonants at the beginning or end of a word. Additionally, according to Crystal (2011: 81), consonant strings are any groups of adjacent consonants that appear first or last in a syllable, such as /br-/ in bread and /-st/ in best. According to Brinton (2000: 55), consonant strings are the many combinations of sounds that might start or end a syllable in a language.

1.3.1 Initial Consonant Strings
Initial consonant strings typically have two or three consonants and look like this:
Initial Strings with Two Consonants
The following examples from Dang and Ruiter (2005: 182) show how beginning two-consonant strings can be:
• They could start off with fricatives like "fling," "shrink," etc.
• They might start with a stop like "black," "brown," "green," "tree," "please," etc.

Initial Strings with Three Consonants
The three-consonant string must be one of the following: /spl, spr, spj, str, stj, skl, skr, skj, skw/, which means that the first element is always /s/, the second element is always one of the three fortis plosives, /p, t, k/, and the third (or final) element is once more always one of (Skandera and Burleigh, 2011: 68).

1.3.2 Medial Consonant String
• A word may have zero to four consonants between two vowels, according to Kreidler (2004:96). There are more consonants that can be used than at the beginning or end of a word, and there are also more different sorts of strings, like in the words problem (/prblm/) and subside (/sbsad/).
• Final Consonant Strings, 1.3.3
• As described below, they can consist of two, three, or four consonants:
• The Last Two Harmonic Strings

- According to Dang and Ruiter (2005: 182), final two-consonant strings can be any of the following:
- They may begin with a stop such as, hits, wept, etc.
- They may begin with a fricative or stops such as, left, gasp, must, etc.
- They may begin with nasal such as, chance, wand, can't, etc.
- They may begin with a liquid such as, milk, pork, etc.

Final Three-Consonant Strings

Roach (2009:59) claims that there are two types of final three-consonant string; the first is pre-final plus final plus post-final, as shown in table (1):

Table (1)

	Pre-Final	**Final**	**Post-Final**
Banks	ŋ	k	s
Bonds	n	d	z
Twelfth	l	f	θ
Helped	l	p	t

While the second type states how more than one post-final consonant can exist in a final string: final plus post-final 1 plus post-final 2. Post final2 is again one of these phonemes /s, z, t, d, θ/.

Table (2)

	Pre-Final	**Final**	**Post-Final1**	**Post-Final2**
fifths	-	f	θ	s
next	-	k	s	t
lapsed	-	p	s	t

Final Four-Consonant Strings

The majority of four-final consonant strings have a pre-final, a final, and then post-finals 1 and 2. A tiny number of four-final consonant strings also contain a final consonant with no pre-final and three post-final consonants, as seen in the following examples (ibid: 59–60):

Table (3)

	Pre-final	**final**	**post-final 1**	**post-final2**
texts	k	s	t	s
sixths	k	s	θ	s
prompts	m	p	t	s
twelfths	l	f	θ	s
thousandths	n	d	θ	s

Section Two
Data Analysis
2.1   Introduction
The current part analyzes the responses provided by EFL learners from Iraq and looks at their challenges when producing and recognising English consonant strings. Twenty second-year students from the Department of English, College of Education for Humanities, and University of Thi-Qar served as the study's sample during the 2022–2023 academic year. For the current study's model, the researcher will use Roach's (2009) model.

Test: Definition
Tests will be employed as a research tool in this investigation. However, two types of tests will be illustrated, namely the recognition test and the production test, as shown below. According to Bachman)1999: 20(, the term test is "a systematic method and means of checking the students' answers through the elicitation of certain behavior to make inferences about certain characteristics of an individual."

2.2   Analysis of Data
Recognition Test
1) Distinguish whether the following words contain two, three or four-final consonant strings:

Table (1)

No.	Items	Correct answer	Incorrect answer	No answer
1	send	20	0	0
2	photographs	20	0	0
3	wings	16	4	0
4	months	14	6	0
5	performed	20	0	0
6	chance	20	0	0
7	texts	15	5	0
8	next	20	0	0
9	mentioned	20	0	0
10	Brings	17	3	0
Total		**182**	**18**	**0**
Percentage		**91%**	**9 %**	**0%**

2) Determine whether the following words have two or three-initial consonant strings:

Table (2)

No.	Items	Correct answer	Incorrect answer	No answer
1	spring	20	0	0
2	drunk	20	0	0
3	cream	20	0	0
4	grades	20	0	0
5	string	20	0	0

6	crying	20	0	0
7	structure	20	0	0
8	drive	20	0	0
9	fly	20	0	0
10	bloom	20		0
Total		**50**	**0**	**0**
Percentage		**100%**	**0 %**	**0%**

Production Test
3) Identify the consonant strings in each of the following words:

Table (3)

No.	Items	Correct answer	Incorrect answer	No answer
1	string	20	0	0
2	helped	18	2	0
3	next	16	4	0
4	smoke	20	0	0
5	texts	16	4	0
6	speak	20	0	0
7	sing	20	0	0
8	prompts	18	2	0
9	prey	20	0	0
10	mentions	20	0	0
11	street	20	0	0
12	chance	20	0	0
13	told	20	0	0
14	people	20	0	0
15	weeks	20	0	0
16	months	18	2	0
17	schools	20	0	0
18	classes	20	0	0
19	grandmother	20	0	0
20	rings	18	2	0
Total		**384**	**16**	**0**
Percentage		**93%**	**7 %**	**0%**

2. RESULTS

From the proportion in table 1, it can be seen that the majority of pupils have no trouble speaking words with final consonant strings. This demonstrates that students are well-versed in final consonant strings, such as two, three, or four final consonant strings.

Regarding table (2), it has been observed that pupils pronounce strings of two or three initial consonants without any difficulty. Therefore, the percentage of test results (100%) represents perfect understanding of these kinds of consonant strings.

Regarding table (3), it can be seen that the students' production-level responses once more show that they have sufficient knowledge of whether to use two or three first consonant strings as initial consonant strings.

3. CONCLUSION

It has revealed the following points:

1. Phonemes are collections of allophones, or variants that are phonetically similar and are grouped together, so that the allophones we study serve as prominent, contextually determined prototypes.

2. The permissible pairings of phonemes into structures are stated in phonotactics (often the syllable). It also has limitations on the combination of sounds that can be heard in a certain syllable position.

3. Syllables are a way of grouping notes around a sonority peak, like in pin. It consists of an introduction and a rhyme, which can be further broken down into a core and a conclusion.

4. Consonants are units that serve as syllable margins, either alone or in strings.

5. Consonant strings are the various combinations of sounds that can start   or finish a syllable in a language. There are three types of consonant strings: start, medial, and final.

6. Lastly,our hypothesis cannot be supported, i.e. English consonant strings present a challenge for Iraqi EFL college students.

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