

## The Cruciality of Mastering English Phonotactics of Final Consonant Clusters for Sudanese EFL Undergraduates

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### Abstract

*This study is carried out to identify the cruciality of mastering English phonotactics of FCCs for Sudanese EFL undergraduates. The researcher adopts a mixed design to analyse the data which is obtained by two instruments. The first one is a test composed of 24 pseudo-words involving the three elements of FCCs; two, three and four CCs. the second tool is a semi-structured interview with three open-ended questions. The participants of this study are university EFL instructors and students. The first instruments is undertaken by 60 fourth year students from Al-Neelain University (30 students), Sudan University of Science and Technology (30 students), Nahda College (20 students) and Almughtaribeen University (20 students). Four experienced EFL instructors on teaching both phonetics and phonology participate in the interview from the same above mentioned universities and college; one from each. The findings of the current study reveal that Sudanese EFL undergraduates encounter significant difficulties in mastering the licit and illicit English words involving FCCs. It also shows that four FCC is the most problematic group for them. In addition to that, the results demonstrate that EFL teachers rarely acquaint their students the differences between their MT and TL phonotactic system. Finally, the researcher recommends that EFL students likewise instructors should be aware of the differences between their TL and MT. It's also highly recommended that EFL teachers should acquaint their students*

*the phonotactic differences between both languages especially those related to CCs and more particularly FCCs.*

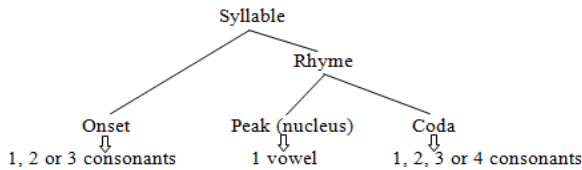
**Key words:** Phonology, phonotactic constraints, consonant cluster, FCCs, Sudanese EFL undergraduates.

## 1. BACKGROUND OF THE STUDY

The importance of pronouncing and mastering CCs (hereafter, CCs) correctly arises due to three crucial reasons in every EFL learners endeavour to speak clear English and not be misunderstood. First of all, CCs are in so many English words; basic and advanced vocabulary. If someone mispronounces one, no doubt s/he mispronounces many. Secondly, CCs distinguish between words. Mispronouncing CCs can mean another word for listeners which in turn lead to misunderstanding. For instance, if a speaker omits the /l/ in 'belt /bɛlt/' it becomes 'bet /bɛt/' and the /r/ in 'tree /tri:/', it becomes 'tea /ti:/' which are totally different words in English with different meanings. Thus, CCs are crucially important in telling one word from another. The last reason is that, CCs are essential for pronouncing tense and plural markers. For example, if someone leaves out the /t/ in 'stopped /stɒpt/', it becomes 'stop /stɒp/' which lead to miscommunication and the listener doesn't know the action happened in the past. One and the same, leaving plural 's' off as in 'client /klaɪənt/' instead of 'clients /klaɪənts/', is also obvious grammatical mistake. Thus, pronouncing and understanding CCs are essential for speaking clear English that easily understood by others.

The current study is concerned with the phonological aspect of English and Arabic because phonology is considered as the vein of pronunciation beside phonetics. Yule (2010, p.42) defines phonology as "the description of the system and pattern of speech sound in a language". Thus, this study in particular is concerned with the nature of phonotactic system of English and Arabic syllable structure of words involving CCs and its mastering by Sudanese EFL undergraduates. Phonotactics in phonology is defined as "the arrangements of the distinctive sound unit or phoneme" (Richards and Schmidt 2010, p.444). English syllable is composed of two elements

the onset (at the beginning of the word) with one, two or three consonants and the rhyme which is divided into peak (nucleus) usually vowel and coda (at the end of the word) with one, two, three or four consonants (in small cases), hence the syllable must consist of a peak but it may have no onset (zero onset) or coda (zero coda) and may be both as shown in the following figure (Roach 2009, pp.56-60):



The nature of syllable structure of words involving CCs of both languages is different; English has far more CCs than Arabic (Kenworthy 1987, p.125). In the onset syllable or initial CCs (ICCs), English ICCs can be made of either two ICCs as in stick /stik/ or three ICCs hence, usually the first consonant sound is /s/ such as street /stri:t/ (McMahon 2002, p.106) and in the coda syllable or final consonant clusters (FCCs) English FCCs can be made up of two FCCs as in help /help/, three FCCs such as next /nekst/ or four FCCs as in texts /teksts/ (Cruttenden 2014, pp. 260-263). On the other hand, Arabic language syllable structure does not permit ICCs at all (Swan & Smith 2001, p.197). Thus, any Arabic onset syllable consists of consonant (C) and vowel (V) as in /kitab/ book, in the coda syllable or FCCs Arabic has only two FCCs such as /bint/ girl (Swan & Smith 2001, p.198). Table 2.1 below summarises the typology of English and Arabic syllable structure.

**Table 2.1 English and Arabic syllable structure**

Language	Onset	Onset Clusters	Nucleus with Syllabic Consonants	Coda	Coda Clusters	Inventory
English	O	O	O	O	O	(CCC) V (CCCC)
Arabic	R	P	P	O	O	C V (CC)

**O** = optional **P** = prohibited **R** = required

Al-Hattami (2010, p.360) states that the difference between English and Arabic phonotactic system is likely to create problems of pronunciation to native speaker of Arabic learning EFL. O'Connor (1998, p. 2) attributes these difficulties to the age in which the learner

picks up the characteristic sound of the target language (TL) as well as to the native language of the learner and its different characteristics from the TL which are quite strong and very difficult to break. Brown, on the other hand, (2007, p.3) views these errors as an important indicator of the learning process.

The study at hand, however, is delimited to explore Sudanese EFL undergraduates' mastering of English FCCs. Presumably, future research tackles English ICCs.

The main objective of this study is to identify the magnitude of Sudanese EFL undergraduates mastering of English phonotactics of FCCs and Sudanese EFL teachers' acquaintance their students the differences of English and Arabic phonotactic system. To this end, this study seeks to answer the following questions:

- A. To what extent do Sudanese EFL undergraduates know the licit and illicit English CCs involving FCCs?
- B. Which FCCs are problematic for Sudanese EFL undergraduates?
- C. To what extent do Sudanese EFL teacher acquaint their students the differences between English and Arabic phonotactics of FCCs?

## **2. THE PROBLEM**

Sudanese EFL students perform a large number of pronunciation errors particularly in the phonotactic system of syllable structure involving FCCs based on their lack of English phonotactics knowledge. Thus many Sudanese EFL undergraduates fail to master the licit and illicit English CCs involving FCCs.

## **3. THE SIGNIFICANCE**

This study is significant in that it gives a vivid image of the cruciality of English CCs particularly FCCs for both EFL students and teachers likewise. It's also significant in that its results provide some insights on the learning and teaching of EFL in the context of Sudan. Theoretically, this study provides English language teaching specialist and curriculum designers/developers some implications for

improving the quality of teaching and learning English more particularly areas of CCs.

#### **4. REVIEW OF RELATED LITERATURE**

##### **Phonotactic Constraints (Phonotactics)**

It's well known that as languages vary in their sound inventories (how many sounds do they have), they also vary in the sound sequences they allow; which sounds are allowed to occur next to each other (Zsiga, 2013, p. 199; Abobaker, 2006, p. 83-84). Thus, when a person knows a language, s/he also needs to know how the sound system of that language functions. Therefore, languages are subject to phonotactic constraints which is a term used to refer to the licit and illicit sequences of phonemes in a language. Fasold and Linton (2006/2013) indicate that these strings are not random: rather they are systematic and predictable and they are governed by the languages' phonotactic constraints (p. 41).

Phonotactics, the broad term for phonotactic constraints, is a branch (subtitle under the umbrella) of phonology and dividing this term into its morphological components, it gives its actual meaning as (phono = sound, tacti = touching and cs = pertaining to the study of). So, phonotactics is concerned with the study of the permissible strings of phonemes in a language. According to Crystal it's "the sequential arrangements of phonological units which occur in a language" (2008, p.366).

One of the most widespread phonotactic restrictions across languages for final CCs as stated by Zsiga (2013, p. 223) is that "Nasal must agree in place of articulation with a following plosive". Despite the fact that there are some exceptions, the final consonants of the words /kæmp/ 'camp', /peɪnt/ 'paint' and /wɪnd/ 'wind' follow a general pattern of bilabial plosive preceded by bilabial nasal and alveolar plosives preceded by alveolar nasal. With regard to velar plosives, although the word /θɪŋk/ 'think' is written with the alveolar nasal /n/ followed by velar plosive /k/, it's actually pronounced with the velar nasal /ŋ/ followed by velar plosive /k/ (ibid). Hence, the voiced bilabial and velar plosives are excluded in this generalisation due to two-consonant final cluster constraints (see Final Consonant Clusters Constraints below for the permissible FCCs). Those exceptions occur

only when affixation process is applied, but there is no a monomorphemic word (a word with only one part) in English that violates this generalisation. For instance, English has the words /blɪnk/ 'blink' and /ræmp/ 'ramp', but it does not have \*/blɪmk/ \*'blɪmk' as compared with blink and \*/rænp/ \*'rænp' as compared with ramp. As it is asserted by Zsiga (ibid), this case is called positional neutralization; nasals do not contrast in place of articulation when they are followed by plosives in two FCCs.

Another similar constraint in one syllable is that strings of obstruents must agree in phonation with the following sounds whether in two or three FCCs; i.e. voiceless + voiceless (+voiceless) or voiced + voiced (+voiced) (Yavaş, 2011, p. 145). Abobaker (2006, p. 85) states that Arabic phonotactics also restricts the occurrence of some consonant sounds to touch each other. For instance, neither the sounds 'ج' /dʒ/ and 'ق' /q/, nor the sounds 'غ' /ɣ/ and 'ع' /ʕ/ occur next to each other in one word.

### **Consonant Constraints**

Another example of English phonotactic constraints is that; all English consonants can occur in the onset of a syllable except the velar nasal /ŋ/ and the post-alveolar fricative /ʒ/ never starts English word. But, the post-alveolar fricative /ʒ/ does occur in words borrowed from other languages especially names; no native English words begin with /ʒ/ (Cruttenden, 2014, p. 259-60; Kreidle, 2004, p. 88-9). Biologically, however, these two sounds may easily be pronounced in an onset position, but the sound pattern of English (i.e. the speaker's knowledge of English phonotactics) restricts him/her to pronounce such forms and the speaker doesn't ingest words containing such kinds of sounds in that position (Hazen, 2015, p. 84). Furthermore, any consonant may occupy final position except /h, j, w/. Collins and Mees (2013, p. 79) include /r/ to the previous three sounds as it is never pronounced in final position except in some English varieties whose /r/ is rhotic such as American and Scottish English. Arabic phonotactic constraints as in many other Semitic languages, on the other hand, allow all consonant sounds to occur as an onset of syllable, but never allow a vowel to take that position (Hayes, 2009, p. 257 and Ghedor, 2008, p. 160). Alternatively, as it is stated by

Abobaker (2006, p. 84), Arabic permits its sounds both consonants and vowels to occupy final position.

### **Final Consonant Clusters Constraints**

As stated by O'Connor (1980/2013, p. 67), FCCs are more diverse than their initial counterparts. This is mainly because of three reasons; the appending of (a) /s/ or /z/ as plural, possessive and third person singular present simple markers, (b) /t/ or /d/ as past and past participle markers, and (c) /θ/ ordinal number marker. As stated earlier, the possibility of FCCs can form up to four consonants at the end of a syllable. As for two-consonant final cluster, it can be divided into two sorts; suffixed and non-suffixed.

The first group is formed with nasal, lateral approximant, or voiceless alveolar sibilant as the first consonant followed by any other consonants except /g, v, ð, ʒ, ŋ/ and those which are illicit to occur finally (see Consonant Constraints above for the licit and illicit final consonants) as the second ones (Cruttenden (2008, p. 262).

Yavaş (2011, p. 143) and Cruttenden (2008, p. 262) agree upon the second group which emerges due to the appending of /s, z, t, d, θ/ as morphological process of suffixation to form plural, possessive, third person singular present simple, past and past participle, and ordinal number respectively. Thus, this form can be formed with all possible final English consonant sounds (see Consonant Constraints above for the licit and illicit final consonants) as the first consonant plus /s, z, t, d, θ/ as the second one. The voiceless dental fricative occurs in some words not as ordinal marker, but as noun marker such as /depθ/ 'depth'. There are also some monomorphemic words which involve the sounds /s, z, t, d, θ/ as a second consonant, actually they are part of the word's stem not suffixes as in /læps/ 'lapse', /ædz/ 'adze', /æks/ 'axe', /ækt/ 'act', /lɪft/ 'lift', /bend/ 'bend', /brɒnz/ 'bronze', /rest/ 'rest', /fi:ld/ 'field'. Hence, two suffixed FCCs consists of obstruent must agree in voicing with the following sound. Notice, as it is pointed out by Roach (2009) the pronunciation of a two suffixed FCCs of plosive plus plosive such as /gd/ in /bægd/ 'bagged' and /kt/ in /bækt/ 'backed' the first plosive is usually pronounced without plosion (p. 59). Three FCCs are also categorised by Cruttenden (2008, pp. 261, 262) into two groups. The first group involves his first classification of two FCCs, i.e. /m, n, ŋ, l, s/ as C<sub>1</sub> plus any licit final consonants as C<sub>2</sub> plus

plural, possessive, third person singular present simple, past and past participle, or ordinal number morphemes /s, z, t, d, θ/ as C<sub>3</sub>. There are a few monomorphemic words which violate this generalization such as /mʌlkt/ 'mulct' and /kælx/ 'calx'.

The second group involves his second classification of two FCCs plus the plural marker morpheme as C<sub>3</sub>. Hence, his exceptions for two FCCs are included in this sequence too. For this sequence also, there are two common words (next and text) which are excluded for this generalization, pronounced as /nekst/ 'next' and /tekst/ 'text' respectively (ibid). But, applying phonological process termed as reduction, these two words are reduced to be pronounced without the final voiceless alveolar plosive as /neks/ and /teks/ (ibid).

As for four FCCs which occur rarely, it exists as a result of the suffixation process to three FCCs with /t/ and/or /s/ morphemes (Cruttenden, 2008, p. 262). As for more clarification, four FCCs can be divided into two sorts. The first sort is composed of three non-suffixed FCCs plus plural or present simple third person singular marker and past or past participle marker while the second one is made up of three suffixed FCCs with /θ/ plus plural marker.

### **Syllable Constraints**

In addition to having constraints concerning which particular sounds are permitted to occur in certain positions, languages have phonotactic constraints regarding syllable structures and types. A syllable is composed of an onset (a C or CCs) and rhyme, the latter is divided into two parts known as the nucleus which is the heart of a syllable and coda (a C or CCs) (Collins & Mees, 2013, p. 77). Almost all languages, as in English, oblige their syllables to have a nucleus which is usually a vowel (Hayes, 2009, p. 251; Ghedor, 2008, p. 156; Kreidler, 2004, p. 71), they also restrict their syllable to have limited types of syllable as well as limited numbers, types and order of consonants and CCs in both initial and final positions. One of the most common type of syllable across languages is the one which is made up of a consonant followed by a vowel (CV) (Hazen, 2015, p. 82; Collins & Mees, 2013, p. 78; Hayes, 2009, p. 257) as in /nəʊ/ 'know' in English and /kætəbæ/ 'he writes' in Arabic which has three CV syllable.



## 5. PREVIOUS STUDIES

To have a comprehensive insight of the problem at hand, this section reviews some studies carried out in the context of phonology and more particularly works conducted in the area of English CCs on EFL Arab and non-Arab students.

Al-Gamal's (2018, p. 38) study reports the effect of explicit teaching of English phonotactic constraints on Yemeni EFL undergraduates' achievement in double onset and coda CCs. This study aims to examine the effectiveness of explicit teaching in raising the awareness of such kinds of constraints. The participants of this study are divided into two groups; 5 native and 76 non-native speakers of English. The non-native group is further divided into 38 control group and 38 experimental one. The non-native groups are third-year students from the Department of English Language, Faculty of Education at Thamar University in Yemen. The three groups are pre-tested using double onset and coda tasks designed by the researcher in a form of a questionnaire. The non-native group, however, is post-tested within 8 weeks after receiving training consisting an explicit teaching of relevant phonotactic constraints. The results of this study reveal that the experimental group gains a significant achievement in both double onset and coda CCs as compared to their pre-test score.

The above study confirms that CCs cause difficulties for EFL students which is proved by the pre-test and goes in the line with the problem of this study.

Gashaw (2016, p. 1 & 3) conducts a study on the perception of English CCs by Ethiopian learners. This study is an attempt to examine the perception of Amharic speaking Ethiopian EFL learners while listening to English words with CCs and to come up with some practical recommendations to improve the perception of English CCs. The researcher utilizes a mixed approach to analyse the data. Native speaker recordings from O'Connor (1980) and Roach (1991) are used in the dictation materials. These recordings include nine words purposely selected to demonstrate the different phonological patterns of English CCs. Five (two females and three males) EFL learners speaking Amharic as first language participate in this study by completing a forced dictation task in which audio recorded speech of

target words by English native speakers are presented for transcription. The findings reveal that most of the learners' transcriptions are found to be semantically different as compared to the original ones. It also demonstrates that the learners have perception problem of consonant cluster of all kinds at all positions both at word and phrase levels especially with clusters comprised of dental fricatives which are lacking in the learners MT. moreover, the results show that three and four CCs are critical for the learners particularly when they are presented across words in connected speech. Emphasizing the importance of CCs, Gashaw comes out with a constructive recommendation for teachers to make learners familiar to English CCs so that learners improve comprehension abilities of such clusters.

Again this study which is carried in a different context of learners (Amharic speaking not Arabic as in the case of this study) confirms the exciting and crucially of English CCs to EFL students.

In a relatively surprising context; Nigerian, Oluomachi (2016, p. 3) investigates phonotactic constraints in the pronunciation pattern of Igbo-English bilingual students. Emphasizing the significance of phonotactic constraints on pronunciation, Oluomachi sheds a light on the crucial role of CCs on performance of EFL learners. This study adopts a descriptive survey design to investigate the phonological phonotactic patterns of the permissible CCs in both English and Igbo languages and their influences on the Igbo speakers of English. A mixed method is used to analyse the data of the study. Two Labovian models of passage and word list reading tests are utilized as data collection tools. The participants of this study are 97 secondary school students from three secondary schools in Owerri municipal council of Imo State. The findings of this study reveal that participants insert vowels and delete segments (sounds) in English CCs so as to harmonize English words with Igbo phonotactic structure which are lacked in their MT CCs inventory. It also shows that phonological phonotactic structures are language specific which may sometimes interact with other languages' structure or violated by second language learners. Based on these findings, Oluomachi recommends that curriculum designers should include phonotactic learning in school curriculum so as to familiarise students with the constraints of the TL which eventually leads to self-assessment. She also

recommends that teachers need to pay attention to the learners' MT and highlight the areas that are problematic in their endeavour to acquire the TL.

Thus, the above mentioned studies confirm the cruciality of English CCs not only for Arab students but also for so many EFL students.

## **6. METHODOLOGY**

This study adopts a mixed approach of data analysis. The researcher designs a test and a semi-structured interview. The test consists of 25 pseudo-words which are formed by taking into account the violation and conformity of English phonotactic system to collect the data. These 25 pseudo-words consist of two, three and four FCCs. It's worthy to mention that these pseudo-words are divided into three groups; 15 with two FCCs, 6 with three FCCs and 3 with four FCCs. For this test, the participants are asked to decide whether the pseudo-words are potentially possible (P) or impossible (I) English words; 11 are impossible words while the rest are potentially possible English words if someone decides to use them. The interview, on the other hand, is an in-depth semi-structured interview with three open-ended questions. This in-depth semi-structured interview is designed to elicit a vivid picture of the participant's perspective and experience on the research topic. The participants of this study are 100 females and males fourth year university students from four universities in Khartoum, Sudan; Al-Neelain University (30 students), Sudan University of Science and Technology (30 students), Nahda College (20 students) and Almughtaribeen University (20 students). Four EFL teachers participate in the interview from the same above mentioned universities and college one from each. All teachers have experience on teaching both phonetics and phonology to EFL undergraduates. It's also worthy to mention that the first two universities are public while the other two are private ones.

## **7. RESULTS AND DISCUSSION**

As mentioned earlier the aim of this study is to identify the magnitude of Sudanese EFL undergraduates mastering of English

phonotactics of FCCs and Sudanese EFL teachers' acquaintance their students the differences of English and Arabic phonotactic system and to achieve this goal three questions have been asked. Therefore, this section is meant to view the answers obtain by both the test and interview.

### Results and Discussion of Research Question One

A. To what extent do Sudanese EFL undergraduates know the licit and illicit English CCs involving FCCs?

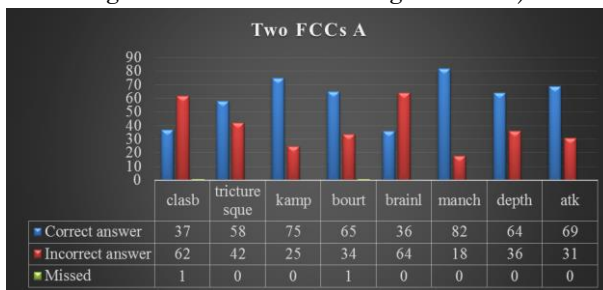
Table 2 below illustrates the mean score of the correct and incorrect answers of two FCCs.

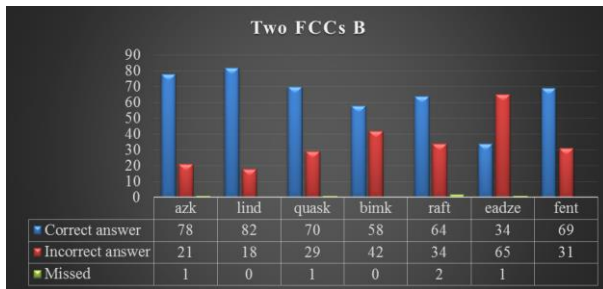
Statistics	Correct answer	Incorrect answer
Mean	9.41	5.54
Mode	10	5
Std. Deviation	2.085	2.095
Minimum	4	1
Maximum	14	11
Mean Difference	-5.590	
Sig.	0.000	

Table 3 below illustrates the mean score of each item of two FCCs.

Two FCCs Pseud-words	Mean	Std. Deviation	Words	Mean	Std. Deviation
clasb	.39	.510	Azk	.80	.426
trictresque	.58	.496	lind	.82	.386
kamp	.75	.435	quask	.72	.473
Bourt	.67	.493	bimk	.58	.496
brainl	.36	.482	ratf	.68	.510
manch	.82	.386	eadze	.36	.503
dethp	.64	.482	fent	.69	.465
Atk	.69	.465			

Figure 1 & 2 below show the percentage of each item of two FCCs (divided into two figures for the sake of organisation).





According to the above tables and figure, the results of two FCCs indicate that the mean and percentage of the incorrect words are high in which the mean difference (-5.590) is extremely high as compared to the Sig. (0.000) that hypothesises by the researcher. This hypothesis says that all participants should answer the 15 pseudo-words correctly as possible (P) and impossible (I) words.

With regard to the data gathered through the interview by the same research question, two instructors believe that two FCCs are to some extent difficult to master by Sudanese EFL undergraduates while the other two assert that their EFL students rarely face problems with two FCCs.

Thus, these results assert that Sudanese EFL undergraduates face crucial difficulty in mastering the licit and illicit phonotactics of English words involving FCCs. The figures above show that the participants fail to correctly answer all pseudo-words as licit or illicit English words according to the phonotactic system of English phonology. More than that, the participants score more than 50% in only two pseudo-words out of fifteen.

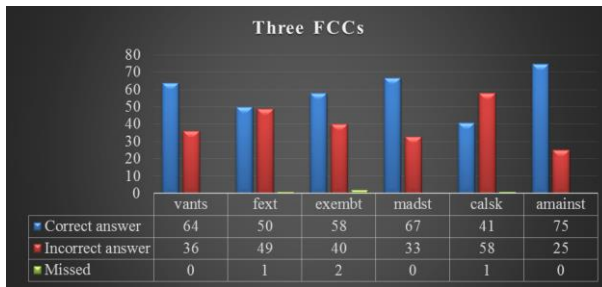
Table 4 below illustrates the mean score of the correct and incorrect answers of three FCCs.

Statistics	Correct answer	Incorrect answer
Mean	3.51	2.46
Mode	4	4
Std. Deviation	1.227	1.20
Minimum	1	0
Maximum	6	5
Mean Difference	-2.490	
Sig.	0.000	

Table 5 below illustrates the mean score of each item of three FCCs.

Statistics	Three FCCs					
	vants	fext	exembt	madst	calsk	Amainst
Mean	.64	.52	.62	.67	.43	.75
Std. Deviation	.482	.522	.528	.473	.517	.435

Figure 3 below shows the percentage of each item of three FCCs.



The results of three FCCs in the tables and figure above demonstrates that the mean score and percentage of incorrect answers are lower than those of the correct in which the mean difference (-3.540) is high in comparison with the Sig (0.000) that hypothesises by the current study. This hypothesis assumes that all participants should answer the 6 pseudo-words correctly as P or I English words.

As for the interview results regarding this group, all participants agree that three FCCs embody difficulties for Sudanese EFL undergraduates to know the phonotactic constraints of the licit and illicit English words with CCs.

As with regard to three FCCs, the above mentioned results reveal that thee FCCs also embody cruciality to Sudanese EFL undergraduates. Although as compared to two FCCs, it seems that three FCCs performance is better than its two FCCs counterpart. Figure 3 above shows that the participants score 50-75 in five items. Again, according to the hypothesis of the study and the level of the participants as fourth year students it supposed to answer all items correctly.

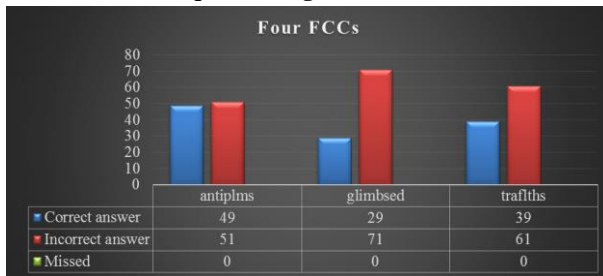
Table 6 below illustrates the mean score of the correct and incorrect answers of three FCCs.

Statistics	Correct answer	Incorrect answer
Mean	1.18	1.83
Mode	1	2
Std. Deviation	0.770	0.76
Minimum	0	0
Maximum	3	3
Mean Difference	-1.82	
Sig.	0.000	

Table 7 below illustrates the mean score of each item of three FCCs.

Statistics	Three FCCs		
	glimbsed	tralfths	antiplms
Mean	.29	.39	.49
Std. Deviation	.456	.490	.502

Figure 4 below shows the percentage of each item of four FCCs.



The above tables and figure show the significant difference between the correct and incorrect answer of four FCCs in both mean and percentage scores. With regard to the mean difference as compared to the Sig. value, the gap still high.

The interview results regarding four FCCs indicate that Sudanese EFL undergraduates encounter significant challenges in knowing the possible combination four FCCs and this statement is shared by all instructors interviewed in this study.

With respect to the results of four FCCs, it's apparent that Sudanese EFL undergraduates encounter tremendous cruciality in mastering English words involving four FCCs. All three words of this group are answer 52% of incorrect answers.

### **Results and discussion of research question two**

B. Which FCCs are problematic for Sudanese EFL undergraduates?

Accompanying the above results and discussion, it's clear that four FCCs are the most problematic clusters for Sudanese EFL undergraduates. Bearing in mind the nature of both the students' MT and the TL's phonotactic system, it's not surprise that these students face this magnitude difficulty in mastering FCCs especially those with four consonants at the coda position.

### **Results and discussion of research question three**

C. To what extent do Sudanese EFL teacher acquaint their students the differences between English and Arabic phonotactics of FCCs?

To answer this question the researcher formalises the following interview questions:

1. What are the differences between the phonotactic system of English and Arabic?
2. To what extent do you acquaint your students these differences?
3. To what extent do you think being aware of these differences affect their mastery of the L2 phonotactic knowledge?

Regarding the first interview question '*What are the differences between the phonotactic system of English and Arabic?*', two of the interviewees have no idea about the differences between English and Arabic phonotactics. Although, they all know that English permits up to four FCCs. The other two instructors respond that English and Arabic have different phonotactic system regarding CCs. One of these instructor states that standard Arabic language permits up to two FCCs in a very rare words. He also asserts that some colloquial Arabic such Lebanese Arabic permits two FCCs freely.

As for the second interview question '*To what extent do you acquaint your students these differences?*', only one instructor explicitly acquaints his students the difference between English and Arabic phonotactic system, while the other three never tackle these differences in their lectures.

The answer for the third interview question '*To what extent do you think being aware of these differences affect their mastery of the L2 phonotactic knowledge?*', two instructors out of the total for positively think that being aware of the differences between ones MT and TL would positive affect their mastery of the TL's phonotactics. While the



other two state that being of such differences give no significant different for the mastery of the phonotactic system of the TL.

Based on the above responds, it's clear that even some instructor fail to grasp the phonotactic differences between their students MT and TL which they specialised at. The lack of this knowledge also leads to neglect acquainting EFL students these differences and being aware of phonotactic constraints of the TL.

## **8. CONCLUSION**

This study is carried out to identify the cruciality of mastering English phonotactics of FCCs for Sudanese EFL undergraduates. Using two instruments to collect the data and having two views from the real stakeholders of the currents study, the findings reveal that Sudanese EFL undergraduates face a real challenge mastering the phonotactic system of English FCCs. It also demonstrates that the most problematic group of FCCs is FCCs involving four consonants. Moreover, the results show that Sudanese EFL instructors rarely acquaint their students the differences between the phonotactic system of English and Arabic which are extremely different in terms consonant members that occupy the coda position. Although now a days language teaching is being directed towards no use and benefit of using students' MT, students first language still plays a crucial role in mastering a second language specially on such areas of differences. Further to this conclusion, the researcher recommends that EFL students likewise instructors should be aware of the differences between their TL and MT. It's also highly recommended that EFL teachers should acquaint their students the phonotactic differences between both languages especially those related to CCs and more particularly FCCs. Finally as a suggestion for further studies, studies might be conducted on the other group of CCs i.e. ICCs and/or using technology such as Praat.

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