



State of Libya
The Libyan Academy/ Misurata Branch
School of languages
Department of English/ Applied linguistics

**Difficulties Encountered in Pronouncing
English Consonant Clusters By EFL Libyan
Students of the English Department in the
Faculty of Education/ Misurata**

**A Dissertation Submitted to the Department of English in
Partial Fulfillment of the Requirements for the Degree of
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By
Hanaa Mohammed Mukhtar Zabiya

Supervisor
Prof. Bashir Mohammed Shawish

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أنا الطالبة هناء محمد مختار زعبية المسجلة بالأكاديمية الليبية /
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أقر بأنني التزمت بكل إخلاص بالأمانة العلمية المتعارف عليها
لإنجاز رسالتي المعنونة ب

**Difficulties Encountered in Pronouncing English Consonant Clusters
By EFL Libyan Students of the English Department in the Faculty of
Education/ Misurata**

لنيل الدرجة العلمية الماجستير وأنني لم أقم بالنقل أو الترجمة من
أية أبحاث أو كتب أو وسائل علمية تم نشرها داخل ليبيا أو خارجها
إلا بالطريقة القانونية وبتابع الأساليب العلمية في عملية النقل أو
الترجمة وإسناد الأعمال لأصحابها، كما أنني أقر بعدم قيامي بنسخ
هذا البحث من غيري وتكراره عنوانا أو مضمونا.
وعلى ذلك فإنني أتحمل كامل المسؤولية القانونية المترتبة على
مخالفتي لذلك إن حدثت هذه المخالفة حاليا أو مستقبلا بما في ذلك
سحب الدرجة العلمية الممنوحة لي.

والله على ما أقول شهيد

الإسم:

التوقيع:

التاريخ:

Dedication

**To the soul of my beloved father, the person who made me what I am
now.**

List of Abbreviations

C (consonant)

CC (two consonant clusters)

CCC (three consonant clusters)

CCCC (four consonant clusters)

EFL (English as a Foreign Language)

IPA (International Phonetic Alphabet)

L1 (First Language)

L2(Second Language)

MSA (Modern Standard Arabic)

LA (Libyan Arabic)

RP (Received Pronunciation)

V (Vowel)

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ABSTRACT

The difficulties of pronouncing English consonant clusters are a common barrier amongst Libyan learners. Therefore, the present study is conducted to investigate the phonological phonotactics in English syllable-initial and syllable-final consonant clusters by Libyan learners of English. The study is conducted in the Faculty of Education/ Misurata on forty Libyan students who study in the English Department, and on twelve teachers who are asked to respond to a questionnaire, and four of them are observed during their classes.

The present study deals with the syllable structure of English as well as the syllable structure of Arabic (Standard Arabic, Libyan Arabic), then a comparison between English syllable structure and Arabic syllable structure is illustrated.

The results show that the subjects of the study seem to have difficulties in pronouncing English consonant clusters. Besides, the results show that Libyan learners have tendency to insert vowel sounds in the English consonant clusters. The results further reveal interesting phenomena in the production of pronunciation in syllable-initial and syllable-final consonant clusters produced by Libyan learners of English, such as reduction, substitution and deletion.

The results of the questionnaire as well as the classroom observation show that teachers face difficulties in teaching English consonant clusters. Time allocated for teaching phonetics is not enough to deal with each student' pronunciation. Teachers need to listen more to their students to encourage them to speak in order to overcome the difficulties of pronouncing English consonant clusters.

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Chapter One

Introduction

1.1 Introduction:

According to the advanced Oxford dictionary , consonant clusters are a sequence of adjacent consonants, especially those occurring initially or finally in the same syllable. Pronunciation of consonant clusters is one of the challenges that face learning English as a foreign language. Speakers probably do not recognize their mispronunciation of English consonant clusters. It is common for students to feel uneasy when they hear themselves speak with the rhythm of a second language. They find that they sound foreign to themselves and this may cause troubles for them.

Words may create some difficulties for the learners, when the words which are different in their phonological system are learnt. Therefore, every language has its own phonology which may be similar to other languages in some respects but at the same time may be different, in some other respects.

The ultimate goal of most foreign language learners is to attain native-like fluency. They want to be indistinguishable from native speakers. However, for many learners, this has remained a dream especially in the area of pronunciation as native interlocutors usually identify individuals as non-native interlocutors because of their accent. Moreover, a large number of foreign language learners believe that the main difficulty they encounter when speaking the foreign language is pronunciation and consider this difficulty as the main source of their communication problems.(Lin, 2014).

The present researcher noticed that students learning English in schools, even English specialized ones, find difficulties in pronouncing English consonant clusters.

This observation motivated the present researcher to undertake this study and to examine the cause of such mistakes.

1.2 Aim of the Study:

The aim of this study is to identify and discuss pronunciation difficulties experienced by EFL Libyan learners regarding English consonant clusters.

1.3 Identifying the Problem:

Since the present researcher has been teaching secondary school students in Misurata for many years, she noticed that EFL Libyan students pronounce English syllable-initial consonant clusters as well as syllable-final consonant clusters incorrectly. This may refer to the negative interference of their native language.

1.4 Significance of the Study:

This study gains its significance from the importance of the mastery of pronunciation as part of oral proficiency for intelligible communication. Moreover, there are many careers in which native speaker- like pronunciation is important. Mispronunciation of English consonant clusters by EFL Libyan learners is a serious problem and I did not come across a research which has been conducted in Libya to solve this problem.

1.5 Research Questions

To achieve the objectives, the present study attempts to address the following research questions:

1. Do Libyan learners of English at the Faculty of Education/ Misurata face difficulties in pronouncing English consonant clusters?

2. If yes, what are the patterns of phonotactics produced by Libyan learners of English at the Faculty of Education/ Misurata in the production of English syllable-initial consonant clusters while speaking English.
3. What are the patterns of phonotactics produced by Libyan learners of English at the Faculty of education/ Misurata in pronunciation of English syllable-final consonant clusters while speaking English?
4. To what extent does language transfer exist i.e. the phenomenon of vowel insertion in the pronunciation of English syllable-initial and syllable-final consonant clusters by Libyan learners of English?
5. If Libyan learners face difficulties in pronouncing English consonant clusters, what are the strategies that they employ to simplify the pronunciation of sequences of consonants?
6. In what context do EFL Libyan learners have the most difficulty with English consonant clusters? Are they more accurate in word-initial position or in word-final position?

1.6 Methodology:

This research will be carried out in the English Department in the Faculty of Education/ Misurata within a framework of qualitative and quantitative research. There is an obvious need for the use of multiple data- collecting devices. Classroom observation, audio recording and a questionnaire for teachers. Treatment of data, questions to be given to the teachers about their experience of teaching English consonant clusters.

1.7 Context:

As pointed out earlier, this study will be carried out in the Faculty of Education /Misurata , where the phonetics course is one of the subjects taught in the English Department.

1.8 The Procedure of the Study:

In this study, some of the previous studies which are related to the difficulties of pronouncing English consonant clusters are presented in Chapter Two (Literature Review). A description of the syllable structure of both languages Arabic and English and a comparison between them is discussed in Chapter Three.

In Chapter Four, some students of the English Department of the Faculty of Education/ Misurata will be selected randomly and asked to pronounce words of syllable-initial consonant clusters as well as syllable-final consonant clusters.

A questionnaire will be given to twelve teachers of English Department of the Faculty of Education / Misurata to know the difficulties that face those teachers, and the activities and techniques they use in teaching consonant clusters.

Classroom observation of four teachers will be used to obtain the methods they use during their classes. The students' test, teachers' questionnaire and classroom observation are analyzed and the results obtained are summarized and presented in Chapter Five.

1.9 Definition of Terms:

In this section, terms that are used later in this thesis are defined:

1.9.1 Consonant Cluster:

A Consonant cluster is a group of two or more consonant sounds that come either as a syllable-initial or syllable-final. The combination /st/ is a consonant cluster (CC) used as syllable-initial consonant clusters in the word *stop*, and as syllable-final consonant clusters in the word *post*. There are many CC combinations permitted in English phonotactics, as in *black, books, bread, trick, twin, flat, breaks* and *throw*. . .

1.9.1.1 Two-consonant Clusters:

In CCV syllables there is a sequence of two consonants without an intervening vowel. Sequences such as these are called clusters (sometimes known as blends). As one might expect, there are restrictions on which consonants can combine to create these two-consonant clusters.

1.9.1.2 Three-consonant Clusters:

In CCCV syllables the restrictions are even greater. English syllable-final consonant clusters are more varied than syllable-initial consonant clusters. This mainly happens because /-s/ or /-z/ for plural, and /-d/ or /-t/ for the past simple tense. The sound /θ/ is used also to form nouns like *twelfths* / twelfθs/.

1.9.2 Epenthesis:

Epenthesis is the insertion of a vowel between two consonants, for example: /fækit/ in *fact*.

1.9.3 Language Transfer:

Language transfer is the influence resulting from similarities or differences between the target language and any other language that has been acquired. Richards et al (1992: 205) define it as "the effect of one language on the learning of another".

1.9.4 Phonotactics:

This term, according to Dobrovolsky and Katamba (1996: 84), means "the set of constraints on how sequences of segments pattern; form part of a speaker's knowledge of the phonology of his or her language". Richards, et al (1992: 275), on the other hand, define it as "the arrangements of the distinctive sound units (PHONEMES) in a language".

1.9.5 Syllable:

Kreidler (2004) defines the syllable as "a unit of spoken language that is bigger than speech sound and consists of one or more vowel sounds alone or of a syllabic consonant clusters alone".

According to the advanced Oxford Dictionary (2016) the definition of syllable in English is "A unit of pronunciation having one vowel sound, with or without surrounding consonants, forming the whole or a part of a word; for example, there are two syllables in *water* and three in *inferno*." A syllable is a unit of organization for a sequence of speech sounds. For example, the word *water* is composed of two syllables: *wa* and *ter*. A syllable is typically made up of a syllable nucleus (most often a vowel) with optional initial and final margins (typically, consonants). The structure of the syllable of words *cat* and *sing* can be illustrated by the following figure:

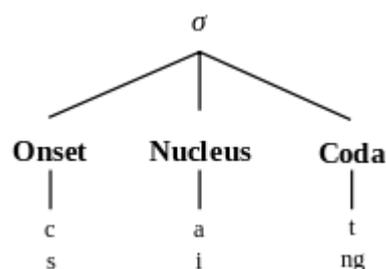


Figure One

1.9.5.1 Coda

The coda is the part of a syllable that follows the vowel sound. This term is defined by Richards et al (1992: 367) as "the end" of the syllable. For instance, *texts*, *except* and *term*; the coda is /ksts/, /pt/ and /m/ respectively. Crystal (1997:66) defines it as "a term used in phonetics and phonology to the element of a syllable which may follow the vowel, e.g. /p/ of /tɒp/".

1.9.5.2 Nucleus:

The nucleus is the central part of the syllable, in most languages it is a vowel. In addition to the nucleus, a syllable may begin with an onset and end with a coda.

1.9.5.3 Onset:

This term means, according to Richards, et al (1992: 367), "the beginning" of the syllable. For instance in *stress*, *star* and *pen*; the onsets are /str/, /st/ and /p/ respectively.

1.9.5.4 Rime:

A rime refers to the part of a syllable which follows the onset and consists of nucleus and the coda.

1.10 Conclusion :

This introductory chapter has described the aim of the study. The statement of the problem of the study, the significance of the study and the hypothesis of the study. The methodology and context as well as the procedure of the study have been explained. The terms involved in the study have been explained and research questions have been stated. The next chapter will review the previous studies which are related to the difficulties of pronouncing English consonant clusters.

Chapter Two

Literature Review

This chapter deals with the works which are related to the difficulties of pronouncing English syllable-initial consonant clusters and syllable-final consonant clusters and whether these difficulties are encountered because of the differences of the syllable structure of the speaker's first language and target language which is called the effect of mother tongue of the learner.

Despite the fact that nowadays most human beings have writing systems to record their languages, people still communicate through speaking more than they do through writing. Therefore much attention is to be paid to pronunciation, as it contributes to conveying the right message in oral discourse. If the message is not properly articulated, communication might be hindered or it may lead to misunderstanding of what is said. However, many English language learners (ELLs) confront difficulties when learning English pronunciation (Gilakjani, 2011). Problems in pronunciation weaken their communicative competence (Guma 2003).

In phonology, consonant clusters are sequences of two or more consonants at the beginning or end of a syllable. Swan & Smith (1987) and Alkhuli (1989) state that in English, two or more consonants may cluster in the same syllable, but in Arabic this cannot occur. For example, a Saudi student will pronounce "first" with two vowels, i.e. /firist/. Al-samawi, (2014), for instance, made a comparison between Arabic and English syllable structure. According to him, an Arabic syllable may start with a consonant or a vowel and also ends with a consonant or a vowel. In Standard Arabic, the onset of any syllable, however, should have only one consonant, while a coda may have up to two consonants only, Alkhuli gives an example as in /kalb/

(dog). But these rules of phonotactics are different in Arabic vernaculars as in Libyan colloquial Arabic as we will see in chapter three.

Epenthesis is the insertion of a vowel or a consonant segment within an existing string of segments. Many scholars have discussed this strategy of epenthesis. Celce-Murcia, et al: (2003:164,165) raise an example of internal epenthesis in words like “film”/filim/; “please” /pili:z/ or word-external epenthesis as in “sport” /ispɔ:t/ by Arab speakers . Learners insert a short vowel to break down the long consonant clusters. This insertion of vowel could be before or within the syllable.

Parker & Riley (2009) explain the external epenthesis, that Arab students learning English will insert the vowel /i/ in the following forms: *floor* /iflɔ:/, *snow* /isnɔ:/ and *plane* /iplein/. The Arabic language allows more simple syllables than complex ones.

This kind of insertion at the beginning of a syllable (external epenthesis) clearly occurs when the stems have onset consonant clusters for the purpose of making the articulation conform to Arabic syllable structure. Na'ama (2011:146) states that "Arab students usually tend to follow the strategy of epenthesis in English clusters .It is the insertion of a vowel within an existing string... English consonant clusters are the most difficult aspect in pronunciation that Arab students face."

El Zarka (2013:33) says "vowel insertion occurs when a learner inserts a vowel within consonant clusters. The word *documents* is a good example. The proper pronunciation is /'dɒkjɒmənts/, while some learners pronounce it as /'dɒkjɒmɪntɪs/ adding the short vowel /i/ to split the final consonant clusters".

As mentioned above, many scholars have studied the strategy of epenthesis. Aquil (2013: 261) states that "Arabic does not allow a cluster of three consonants;

therefore, if such a cluster is generated through concatenation of words, an epenthetic vowel is inserted."

The issue of pronouncing consonant clusters whether syllable- initial consonant clusters or syllable-final consonant clusters in a target language when such forms may not be permitted in the native language has been explored by some studies. Other studies exploring how English consonant clusters are pronounced by native speakers of other languages have been conducted by numerous linguists. Karimi (1987), for example, found that, Farsi speakers use epenthesis to break up word-initial clusters; when Karimi compared between Farsi speakers with Cairene Arabic speakers' pronunciation, he demonstrated that Farsi speakers, like Cairene speakers, use epenthesis within clusters.

Fatemi and Sobhani (2012: 70) state that Chang (2004) studied the errors which happened in processing consonant clusters of Chinese learners of English as a foreign language. The data that Chang studied were collected from the subjects who were involved in six phonological processing tasks such as syllable deletion and phoneme deletion. The subjects were recorded. The study gave results that Chinese syllable structure contains only one consonant in the onset but English syllable structure includes three consonants in the onset. Because of this syllable complexity, Chinese learners encounter problems as a consequence of interference from the native language. Based on the results of this research, six types of errors were observed such as epenthesis and omission of the second of an initial two-element cluster. Moreover, some errors which were found were caused by some developmental factors rather than interference from the native language.

Byrd and Tan (1996) studied the increasing speech rate due to consonant clusters. In their research, the displacement of consonants was investigated. They

reported that each component of a sequence or individual consonant was reduced.

Also, it could be considered as a mechanism of quick speech rate. Moreover, the coarticulation or the overlap of articulations would be another mechanism.

Furthermore, it was illustrated that some other factors such as manner and place of articulation of a consonant influenced the speech rate (Fatemi, Sobhani: 2012)

Tarone (1980), compared how native speakers of Korean, Cantonese, and Portuguese students dealt with pronouncing English consonant clusters and determined strategies used to simplify complex syllables in the second language (L2). Tarone stated that those errors cannot be solely due to transfer because speakers of the first language have the same complex syllables and still make syllable errors in their L2. Her findings showed that the native speakers of Korean had a similar percentage of syllable structure errors as the Cantonese and Portuguese speakers: the percentage of errors for the Korean speakers was 21%, while the averages for the Cantonese and Portuguese speakers were 21.5% and 18.5%, respectively. The syllable errors reported the use of both epenthesis and deletion; of the three groups, only the Portuguese speakers use epenthesis to simplify pronouncing syllables.

An article written by Kabak & Idsardi(2007) investigated the difficulties of English consonant clusters encountered by Korean speakers. This study aimed to illustrate if perceptual epenthesis was the result of all kinds of illicit sequences of consonants. The results of the research showed that it was the syllable structure restrictions which induced perceptual epenthesis in L2.

Fatemi & Sobhani (2012) argue that Persian learners of English encounter difficulty in the pronunciation of initial consonant clusters since there are no initial consonant clusters in Persian. Persian learners add a vowel before the cluster or between the cluster to pronounce it easier (Keshavarz, 2001). Thus, initial consonant

clusters are not allowed in Persian (Yarmohammadi, 2002). Sometimes, Persian speakers omit one of the consonants of a final cluster which consists of three consonants. It is another way to simplify difficult consonant clusters (Keshavarz, 2001).

Consonant clusters are limited to any sequence of adjacent consonants, especially those occurring initially or finally in the same syllable. Avery & Ehrlich (1992) reported that the most noticeable problem, that speakers may face was the pronunciation of the consonant clusters. These difficulties of pronouncing consonant clusters may refer to the negative interference of their first language.

Not surprisingly, the pronunciation teacher plays a significant role in the teaching of English as a foreign language. Obviously, it is imperative that teachers help learners of English develop the ability for the communication needs and the ability for being understood easily (Morley, 1991). Gilber (2008) argues that teachers and students can overcome the difficulties. Boredom is often associated with pronunciation by focusing students' attention on the development of pronunciation.

Pronunciation is the most important skill of spoken English (Gilakjani, 2011). Zimmermann (2004) stated that pronunciation is crucially important, as it is usually the first thing people notice when a learner speaks the target language. However, many English language learners face difficulties in learning English pronunciation. Problems in pronunciation weaken learners' communicative competence.

According to Morely (1991), in order to enhance EFL learners' ability in English articulation, teachers should be aware of pronunciation variations of standard English while working with students.

Lin(2014:16) suggests that "in order to improve ESL students' English pronunciation, teachers must gain insights into their pronunciation variations, which

will provide teachers with ideas of designing differentiated teaching strategies for dealing with those students' problems in learning English pronunciation." Teachers, who give a good model, help their students to recognize their pronunciation and encourage them to correct their mistakes.

EFL learners' mother language, according to Lin (2014), has an influence on the learners' pronunciation of the target language. An example which is given by Lin is that Chinese students would pronounce the word "*think*" as "*sink*" seeing that the voiceless sound "θ" does not exist in Chinese .

Ahmed (2013) in his study of pronunciation problems among Saudi learners, attempts to find out the teachers' opinion regarding the errors Saudi EFL learners encounter when they pronounce English consonant sounds. The participants in the study are teachers who are teaching in the Preparatory Year Program. The results of this study show that lack of proper attention towards teaching pronunciation, and lack of motivation among the EFL learners towards learning pronunciation lead them into pronunciation errors.

In his study, Al-Shuaibi (2009) focuses on the phonology of phonotactics, and he finds that learners have difficulty in pronouncing English initial consonant clusters having three members and final consonant clusters of three and four members. He showed that learners use some techniques and processes involved in the pronunciation of these clusters, namely: reduction, substitution and deletion.

The differences of the syllable structure between English and Arabic may promote EFL Libyan difficulties of pronouncing English consonant clusters. Alsamawi (2014) explained that Arabic has no counterpart of English phonotactics of consonant clusters. The Arabic syllable may start with a consonant or a vowel and also ends with a consonant or a vowel. In Standard Arabic, the onset of any syllable,

however, should only have one consonant, while the coda may have up to two consonants only, as in /qird/ (monkey), for example. In English, the onset may have up to three consonants, while the coda can have up to four consonants.

According to Al-saidat and Bin Talal (2010) many English syllables are predicted to be difficult for Arab learners since they do not exist in Standard Arabic language. They also argued that in the Arabic language, onset is an obligatory element in the structure of any syllable and it should be always C which means that no word is allowed to begin with a vowel sound. This means that no two consonants are allowed at the beginning of any word without being separated by a vowel. The coda of the syllable is optional since some syllable types are open (i. e. ending in a vowel). So the coda can be zero, one or two consonants but not more. The situation is little different in English as the combination CC is allowed in the onset of the syllable, a fact that eases the pronunciation of English words beginning with a two-consonant cluster. However, all words beginning with a three-consonant cluster or ending with three or more consonant clusters remain difficult for the learners to pronounce. To overcome this difficulty, learners unintentionally insert a vowel which in turn eases the pronunciation of such words.

Al-Saidat (2010) also studied the difficulties encountered by Arab speakers when pronouncing English consonants. Al-saidat found eight English consonants, namely, /ŋ/, /p/, /v/, /d/, /l/, /dʒ/, /ð/, and /r/ are problematic ones for Arab speakers. According to Al-saidat, mother tongue interference was the main cause which was responsible for pronunciation problems. These problems could vary from one Arab speaker to another depending on the colloquial variety of Arabic they use.

As mentioned before, many researchers have conducted their studies on the mistakes committed by Arab learners while learning English as a second or foreign

language; such as, Al-Shuaibi (2009) for instance, focused on the phonology of phonotactics, and found that learners have difficulty in pronouncing English initial consonant clusters having three members and final consonant clusters of three and four members. He showed that some processes are involved in the pronunciation of these clusters, namely: reduction, substitution and deletion.

According to Ahmed and Muhiburrahman (2013), Kharma & Hajjaj (1989) investigated the difficulties that Arab students of English encounter at the initial stages of learning English and showed four major areas of difficulty. First, they found that Arab learners confused certain pairs of English consonant sounds . Second, learners use epenthesis (insert a short vowel to break down the long consonant clusters). Third, certain diphthongs are replaced by other sounds due to L1 interference. Lastly, Arab learners are generally confused and cannot distinguish between certain pairs of vowels.

It is obvious that differences between phonological systems of native languages and English may hinder rather than promote the learning of English pronunciation . Every language has its own phonology which may be similar to other languages in some respects but at the same time it may be different in others. When a word which is different in its phonological system is learnt, it may create some difficulties for the learners, due to having different phonological rules. In this area (Habib, 2010: 63) says that " because Arabic never permits the clustering of more than two consonants, words like *spring*, *children*, *explain* ,*text*, and *prompts* may be difficult for Arabic –speaking students." Besides, Mourtaga (2006) studied some reading problems of Arab EFL school and university students in Gaza Strip and found that, the English consonant clusters were the most obvious problem in reading English texts.

Al-Saidat (2010) also found that Arab learners unintentionally insert a vowel in the onset as well as in the coda of certain English syllables, when he conducted a case study research of Arab learners of English. He called such a process 'declusterization' which according to him, results from mother tongue influence.

EFL Libyan learners sometimes rely on their L1 background to form syllable structures, depending on the feature or rule being transferred. As far as the English syllable structure is concerned, it is clear that certain English syllable types do not exist in Arabic and they pose difficulties for Arab learners in different ways. However, as Al-Suhaibi (2006) suggested, when looking at the structure of the permitted English onsets, one finds that the combinations: CC and CCC are going to be problematic ones for Arab learners of English in general. However, the cluster should not pose any difficulty for these learners in particular as it is used in their colloquial variety of Arabic. Permitted English codas are more problematic than onsets as the number of consonant members is relatively high. It is believed that vowels ease articulation, it is difficult to produce a string of consonants, as it is difficult for any speaker to move from one place of articulation to another where the articulators are very close to each other, if not in contact. With the required practice and experience, one will overcome such difficulties. Learners without such experience tend to break down the long combinations by inserting a short vowel somewhere within the cluster to declusterize it. According to Al-Saidat & Bin Talal (2010:14) " This declusterization splits the syllable into two syllables, that ultimately makes the word easy to pronounce."

The phonological system of the Arabic language plays an important role in the production of the phonology of EFL Libyan learners, particularly with regard to language transfer. As for L1 transfer, Marzouk (1993) inspected some aspects of

phonological transfer from Arabic to English (i.e., vowel transfer and consonant clusters of two or more consonants together in a word). He reported a number of interlingual identifications of epenthesis (phonological intrusion) produced by Arab learners in their oral production of English.

2.1 Conclusion:

The difference of syllable structure as well as the effect of mother language of Libyan learners all may affect the way English consonant clusters are pronounced . Therefore, consonant sequences in English syllables are adjusted to meet consonant sequences in Arabic syllables by Libyan learners of English. So, the mispronunciation of English words experienced by Libyan learners of English may be syllable-based, and due to the interference of L1.

Chapter Three

The Structure of the Syllable in English and Arabic

3.1 Introduction:

As was mentioned in chapter one, to study the difficulties of pronouncing English consonant clusters which are encountered by Libyan learners of English, we need to study the syllable structure of both Arabic (Standard Arabic and Libyan Arabic) and English. A comparison of the structure of the syllable in both languages is important to know some of the reasons of the difficulties which Libyan learners of English encounter in pronouncing English consonant clusters.

3.2 The Structure of the Syllable:

A word that consists of a single syllable (like the word *cat*) is said to be a monosyllabic word (i.e consists of one syllable) . Similar terms include *disyllabic* for a word of two syllables (like the English word *ago*); *trisyllabic* for a word of three syllables (like the English word *document*); and *polysyllabic*, which may refer either to a word of more than three syllables or to any word of more than one syllable.

The syllable , as was illustrated in chapter one, is usually considered right-branching, i.e. nucleus and coda are grouped together as a "rime" and are only distinguished at the second level. The *nucleus* is usually the vowel in the middle of a syllable. The *onset* is the sound or sounds occurring before the nucleus, and the *coda* is the sound or sounds that follow the nucleus. The term *rime* covers the nucleus plus coda. In the one-syllable English word *cat*, the nucleus is *æ* (the sound that can be shouted or sung on its own), the onset *k*, the coda *t*, and the rime *æt*. This syllable can be abstracted as a *consonant-vowel-consonant* syllable, abbreviated *CVC*. Languages

vary greatly in the restrictions on the sounds making up the onset, nucleus and coda of a syllable, according to what is termed a language's phonotactics (El zarka 2013).

3.3 The Main Types of Syllables:

There are two main types of syllables namely closed syllables and open syllables.

3.3.1 Open syllable:

In an open syllable, the vowels occur at the end of the syllable. These kinds of syllables are known as “open” because they are not closed by a consonant. Some English examples of open syllables include *no* /nəʊ/, *he* /hi:/ and *bee* /bi:/. Libyan Arabic (LA) examples of open syllables are /ʃinu/ (what) and /baɦı/ (good). Sometimes, vowels on their own, are also considered as open syllables since they form a sound of their own. For example, /ə/ in *ago* /əgəʊ/.

3.3.2 Closed Syllable:

A closed syllable contains a vowel, but this vowel is always followed by a consonant. In other words, a closed syllable always ends with a consonant. Some examples of English closed syllables include the words *ask* /a:sk/, *write* /raɪt/ and *on* /ɒn/. LA examples of closed syllables include /keɦf/ (how) and /hat/ (give).

3.4 Syllable Structure in English:

According to Roach (2001) the structure of the English syllable is comprised of not more than three consonants in the onsets. That is, it can be of one, two or three consonant phonemes such as in *right* /raɪt/, *sport* /spɔ:t/ and

spring /sprɪŋ/ respectively. Meanwhile, in the coda, it can be from one to four as in *hat* /hæt/, *hats*/hæts/, *text*/tekst/ and *texts* /teksts/ respectively.

English permits the following sequences initially:

- V as in *I* /aɪ/, CV as in *put* /pʊt/, CCV as in *stop* /stɒp/ and CCCV as in *spring* /sprɪŋ/.

English permits the following final sequences of a syllable:

- V as in *carry* /kæri/, VC as in *cut* /kʌt/, VCC as in *books* /bʊks/, VCCC as in *text* /tekst/ and VCCCC as in *prompts* /prɒmpts/.

3.5 The Structure of the Arabic Syllable :

Many languages have a standard version and a colloquial one. The Arabic language is not an exception. There is a lot of variation among the dialects spoken in Libya. (MSA) is used in Libya as a spoken form on a very limited scale, for instance for purposes of formal speeches, lectures and broadcasting whereas (LA) is spoken in non-formal settings. Since this study is concerned with Arabic, both varieties (MSA and LA) will be dealt with because interference can come from either MSA or LA. The focus of this study will be directed to the Misurata dialect of LA which is the researcher's dialect and where the present study is carried out.

3.5.1 The Structure of the Syllable of MSA:

Kharma and Hajjaj (1989) stated that the structure of the Arabic (MSA) syllable consists of only one consonant in the onsets. That is, it cannot be more than one consonant phoneme as in /kul/ (all). While, it consists of one or two in the codas as in /bint/ and /ʃams/ which mean *girl* and *sun* respectively. Therefore, MSA permits

initially the sequences of V as in /alam/ (pain), CV as in /kawkab/ (planet). So, MSA permits the sequences of C as in /baab/ (door), CC as in /rasamt/ (I drew).

3.5.2 The Structure of the Syllable of LA :

According to Fantazi (2008) "Libyan Arabic has the main syllable types in Arabic variety as well as other structures which are specific for LA only". The structure of the syllable in LA is not different from the structure of the syllable in MSA. Perhaps we can find a very little number of words in LA which have two initial clusters which is not permitted in MSA. Those words like: /klaab/ (dogs)and /blaad/ (country).

3.6 Syllable Structure in Arabic (LA) and English:

A comparison of LA and English syllable structures might facilitate the task of finding out why Libyan Arabic speakers of English sometimes have vowel insertion as repair strategy.

In regard to consonant clusters in a syllable, LA has no sequences of more than two consonants in syllable structure whereas English has as many as four consonants in a sequence. The structure of the LA syllable is, to a large extent, different from that of English. The syllable onset in LA consists of some initial cluster i.e. /blaad/ (country).

3.7 Syllable Structure in (MSA) and English:

Odisho (1979: 205) argued that "English and Arabic are two languages that differ greatly in the range of syllable structure patterns they make use of". The MSA structure of the syllable does not allow sequences of consonant clusters in onset position. English, on the other hand, allows sequences of three consonant clusters in onset.

Roach (2001) maintains that the English syllable coda can consist of four consonant sounds, while that of MSA has only two consonant sounds to be found in coda such as, /bɪnt/ *girl* (Kharma and Hajjaj, 1989). Yet, the onset and coda of English syllables could meet together to constitute more problematic situation to Libyan speakers of English. For instance, 'texts' /teksts/ and 'spread' /spred/or 'prompt' /prɒmpt/ and 'strategy' /strætɪdʒɪ/. In short, MSA is very restrictive in terms of its syllable structure, as the possible number of consonant combination in both the onset and coda is far less than that of English (Al Shuaibi,2009).

These differences between Arabic and English may have their effects in teaching English to speakers of Arabic, where the effect on first language on the target language is observed, especially in pronunciation.

Chapter Four

Methodology

4.1 Introduction:

This chapter begins with a detailed description of the participants of this study, and the instrumentation which will be used in this study (test, classroom observation and questionnaire). Procedures and data collection are explained and followed by the data analysis of the study.

4.2 Participants:

The sample in this study includes thirty female and ten male EFL learners studying English at the Faculty of Education/ Misurata. They have been learning English for 7-10 years. These students are aged between eighteen and twenty three and selected from a whole population of 660 students who were initially asked to participate in the study. They were students with different English pronunciation abilities and have never been to any of the English speaking countries, so they do not have any kind of exposure to a native English environment except perhaps English spoken on TV and videos on the Internet.

The other participants of this study are twelve teachers in the Faculty of Education/ Misurata. Those teachers have been teaching English for more than ten years. The teachers were given a structured questionnaire which contains various stimulations of teaching English consonant sounds and consonant clusters. Four of those teachers agreed to be observed in their classrooms. They teach a course in phonetics . Classes which were observed are : Phonetics1, Phonetics2, Phonetics 3 and Phonetics 4. Briefly, teachers of the English department teach in phonetics 1 the articulatory phonetics, in phonetics 2 they teach articulatory and auditory phonetics.

Phonological rules are studied in phonetics 3, while acoustic phonetics is taught in phonetics 4.

Observation of four teachers is crucial in this study, in order to recognize how teachers work in their classes, to know if teachers give a model in pronouncing English consonant clusters and if the teachers use appropriate teaching aids or not.

4.3 Instrumentation :

A pronunciation test is one of the instruments used in this study. The aim is to see whether the selected sample had vowel insertion while pronouncing the English words with initial or final consonant clusters and if yes whether the amount of vowel insertion is the same in such clusters. The statistics performed on this test could help the researcher decide whether the students' native language (Arabic) has any effect on their pronunciation of the initial or final consonant clusters. The test includes fifty words, half of which contain different initial consonant clusters and the other half covers different final consonant clusters. The words which have been chosen are not difficult for the participants, and these words are familiar to them. Therefore, the researcher can be sure that the words' level of difficulty is in accordance with the participants' knowledge of the English language. The students are asked to read the words aloud while they are voice-recorded. The test is by no means difficult for the students to read as no word is new and unfamiliar to them. However, before each test is given to them, they are asked to carefully scan the words to see whether or not they know their meanings.

The words chosen for the test consist of the following consonant clusters:

1. Words of two initial consonant clusters: *three, draw, flower, quite, drink, please, stop, dreams, plenty, product, crash, glib, twist, sport, draft, plosive, throw and grand.*

2. Words of three initial consonant clusters: *stress, strong, strategy, scream, student* and *structure*.

3. Words of two final consonant clusters: *gift, blocked, dreamed, passed, terms, booked, stops, missed, sold, fact, risk, laughs, film, sixteenth, silk, act, linguistics* and *box*.

4. Words of three final consonant clusters : *tempt, amongst, attempt, products* and *distinct*.

5. Words of four final consonant clusters: *texts* and *twelfths*.

4.3.1 Tool One (Test):

Students of different levels are given a list of fifty words. These fifty words are divided into twenty five words of initial consonant cluster, and twenty five words of final consonant cluster. Students are asked to read those words and their voices are recorded. Each student is recorded separately.

4.3.1.1 Setting of the Study

As was pointed out in chapter one, this tool of the present study is carried out in the Faculty of Education/ Misurata. The researcher found that there are Libyan speakers of English of different majors in this university, who can represent the population for the present study. The interview sessions are held in a quiet room in the main library of the Faculty. This is to avoid any kind of distraction that could affect the recording. Consequently the data collection is obtained from the subjects.

4.3.1.2 Procedures of the Test:

The test sessions are held in a quiet room . They are four sessions; in each session ten subjects are interviewed. Each subject is interviewed individually. Reading the two word list tests (word lists 1 and 2) , they took approximately two minutes and the subjects are asked to read them as loudly and clearly as they can to elicit good speech data. The subjects were told to take time while reading the word list and passage. Most subjects asked to have a look before reading the material tests (word lists 1 and 2). The researcher approved their request and gave them sufficient time. Each test session lasted approximately ten to fifteen minutes for each subject. Before the interview sessions started, every subject was given a briefing regarding the aim of the interview session, and prior permission to record their voices was obtained. They were told that the interviews and are held to collect data to know the way they pronounce rather than to test them. They were also assured that their particulars and obtained data would be strictly confidential.

4.3.2 Tool Two (Teachers' Questionnaire):

The questionnaire contained twenty items to reflect the objectives of the research about the difficulties of pronouncing English consonant clusters in initial and final position. In the questionnaire each responder was asked to choose one answer according to the Tri Regression Measurement which contains four levels (strongly agree-agree-disagree-strongly disagree), or (very often- often- sometimes- rarely) (see **Appendix Two**).

4.3.3 Tool Three (Classroom Observation):

The main goal of the classroom observation is to support the teachers' questionnaire and to get more information about the teachers role in teaching pronunciation, and activities and techniques used by those teachers. Hopkins (1996)

described classroom observation as a 'pivotal activity,' which played crucial role in classroom research.

In this study, four teachers were visited for two hours each. All of them participated in answering the teacher's questionnaire. All of them are Libyans, two females and two males. The duration of the observation took place over the span of three weeks in May 2016.

In preparing the observation, the investigator provided a checklist to write notes during the class lessons. The data collected are presented in five tabular forms as follows:

- The way teachers act at the beginning of their pronunciation lessons.
- The teachers' use of classroom pronunciation activities.
- Evaluation of the teacher's pronunciation and their care about students' pronunciation.
- The use of teaching aids by the teacher .
- The teacher's method of correcting the students' mistakes.

The present researcher's own experience of teaching English in Secondary School is ten years. She has observed the pronunciation in the classes at all levels. She used to take notes about some particular sounds that were problematic for students which were pronounced incorrectly. In other words, classroom observation gave the researcher reasons for doing this research and then it helped her to test the validity of the data collected from the questionnaire.

4.4 Data Analysis:

The data of the current study is analyzed both quantitatively and qualitatively. First, the data obtained from the students' test as well as from the teachers' questionnaire is analyzed quantitatively with the use of percentage procedure. The

researcher assigned the transcription of the English syllable-initial consonant clusters and syllable-final consonant clusters produced by the subjects and the answers of samples of the questionnaire. These are then calculated. After that, the percentages and mean scores are calculated and tabulated . The formula which is used for finding out the percentage score and mean score are as follows:

- **Percentage score:**

$$\frac{\text{The number of accurate pronunciation produced by the subjects}}{\text{The total number of tested pronunciation}}$$

For example, student1 scores 3 (three) accurate answers out of 25 (twenty five).

Therefore, the percentage score of the accurate pronunciation of the subject is calculated as follows:

$$\frac{3}{25} \times 100 = 12\%$$

The percentage score is followed in the teachers' questionnaire to obtain the percentage of teachers' responses.

- **Mean score:**

$$\frac{\text{The total of percentage score}}{40}$$

Secondly, the classroom observation was analyzed by explaining what was going on in the classes according to the provided checklist which was mentioned above.

Chapter Five

Results and Discussion

5.1 Introduction:

As pointed out earlier, the purpose of this study was to identify and discuss pronunciation difficulties experienced by EFL Libyan learners regarding English consonant clusters. This chapter presents and discusses the results of the data collection of the syllable-initial consonant clusters and syllable-final consonant clusters. The chapter proposes to transcribe and analyze the raw speech data obtained from the subjects. The chapter discusses and demonstrates the accurate/inaccurate production by the subjects as well as the responses of teachers' questionnaire. The percentage and mean scores were calculated and highlighted using the tool of descriptive statistics. Moreover, description and analysis of classroom observation. Finally, the chapter concludes the discussion of the study.

The presentation of the tables of the students' responses are divided into two main sections. The first section begins with the results of the subjects' pronunciation of the syllable-initial consonant clusters. The second section presents the results of the subjects' pronunciation of the syllable-final consonant clusters. Furthermore, examples of both syllable-initial consonant clusters and syllable-final consonant clusters are given and discussed as highlighted in the tables.

The presentation of the tables of teachers' responses are divided into three main sections. The first section gives the options of each question whether (Yes- No option) or (strongly agree, agree, strongly disagree, disagree) option or (very often,

often, sometimes, rarely) option. The second section presents the teachers' responses on each option. The third one gives the percentage of results of each option.

Before presenting tables and discussing the results, it is expedient to demonstrate the formula which is used for finding out the percentage score and mean score of accurate and inaccurate pronunciation of the syllable-initial and syllable-final consonant clusters produced by Libyan learners of English. The formulae of percentage score and mean score are as follows:

- **Percentage score:**

$$\frac{\text{The number of accurate pronunciation produced by the subjects}}{\text{The total number of tested pronunciation}}$$

- **Mean score:**

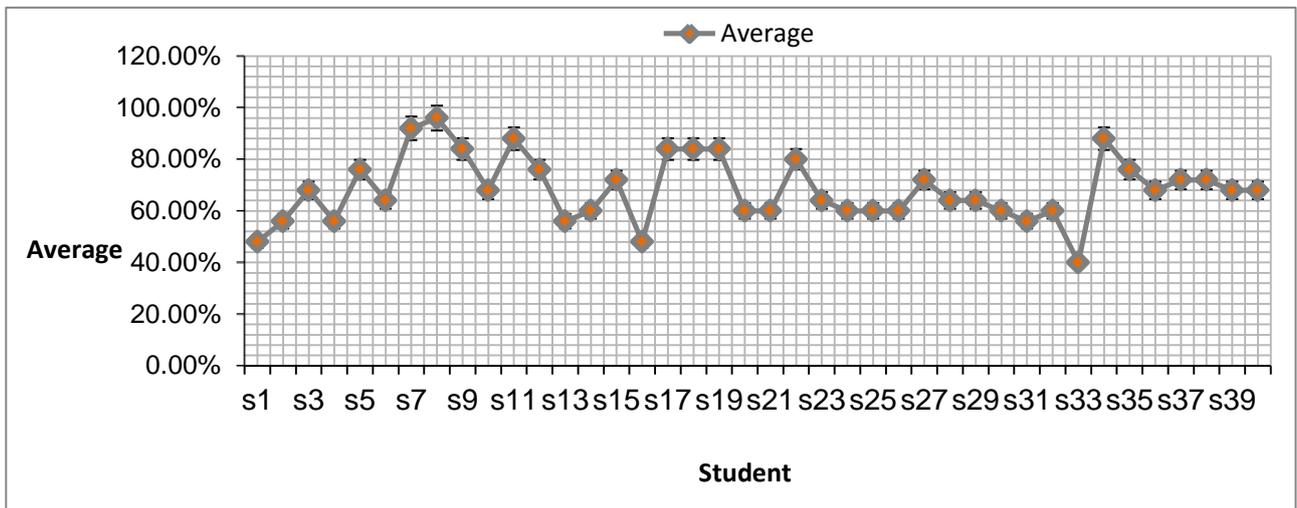
$$\frac{\text{The total of percentage score}}{40}$$

5.2 The Presentation and Discussion of the Results of Students' Test:

The percentage scores of accurate production of English syllable-initial and final consonant clusters are presented in **Table One** below.

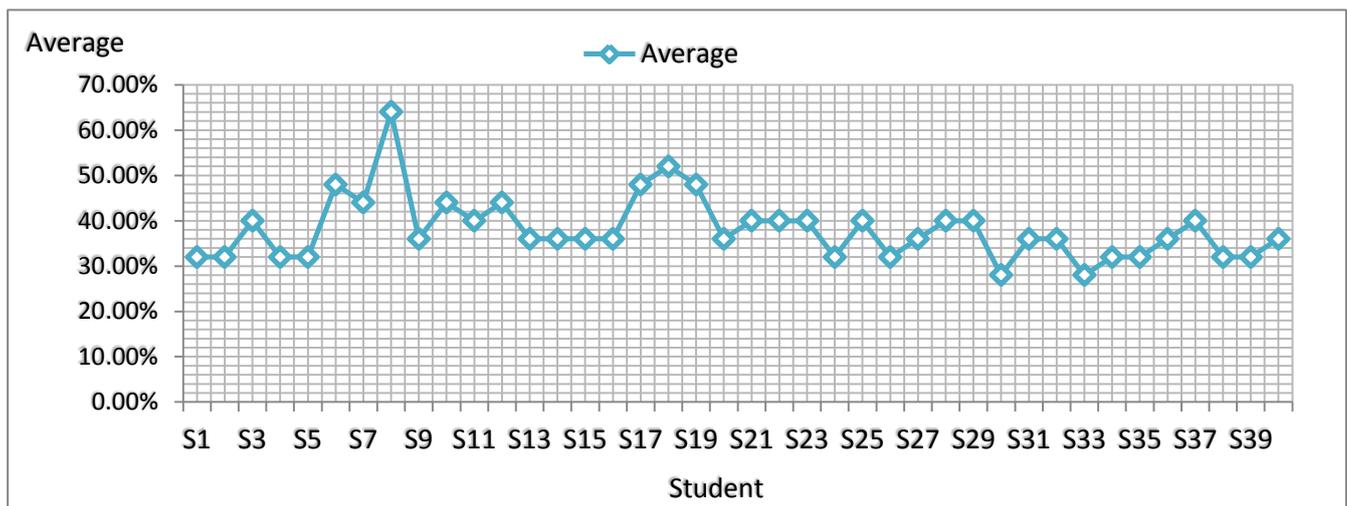
subjects	Syllable- initial consonant clusters %	Syllable- final consonant clusters %
S1	48%	32%
S2	56%	32%
S3	68%	40%
S4	56%	32%
S5	76%	32%
S6	64%	48%
S7	92%	44%
S8	96%	64%
S9	84%	36%
S10	68%	44%
S11	88%	40%
S12	76%	44%
S13	56%	36%
S14	60%	36%
S15	72%	36%
S16	48%	36%
S17	84%	48%
S18	84%	52%
S19	84%	48%
S20	60%	36%
S21	60%	40%
S22	80%	40%
S23	64%	40%
S24	60%	32%
S25	60%	40%
S26	60%	32%
S27	72%	36%
S28	64%	40%
S29	64%	40%
S30	60%	28%
S31	56%	36%
S32	60%	36%
S33	40%	28%
S34	88%	32%
S35	76%	32%
S36	68%	36%
S37	72%	40%
S38	72%	32%
S39	68%	32%
S40	68%	36%

Table One: The percentage score of accurate production of syllable-initial and syllable- final consonant clusters.



Accurate production of English syllable-initial

Figure Two



Accuracy production of English syllable-final

Figure Three

Table One illustrates the percentage scores of accurate production of English syllable-initial and syllable-final consonant clusters produced by the subjects of this study. As can be seen from the table, eight students (S14, S20, S21, S24, S25, S26, S30 and S32) have got 60% in pronouncing English initial consonant clusters, while five subjects (S3, S10, S36, S39 and S40) have 68% in pronouncing initial consonant clusters. Four subjects for each percentage get 56%, 64%, 84% and 72%. Two subjects have percentages 48%, 76%, 88% and 92%, 96% in pronouncing English consonant clusters. One subject (S22) had 80 percent also another subject (S33) had 40% in pronouncing English syllable-initial consonant clusters.

Table One also illustrates the percentage scores of accurate production of English syllable-final consonant clusters produced by the subjects of the study. The table shows that eleven students (S9, S13, S14, S15, S16, S20, S27, S31, S32, S36 and S40) have got (36%) in pronouncing English final consonant clusters. According to the results, ten subjects (S1, S2, S4, S5, S24, S26, S34, S35, S38 and S39) have 32%, another ten subjects (S3, S11, S21, S22, S23, S25, S28, S29, S30 and S37) have 40%. The table shows that six subjects three of them (S6, S17 and S19) get 48% and the other three (S7, S10 and S12) get 44% in pronouncing final consonant clusters. Two students (S30 and S33) get 28%, a subject (S8) has 64% and a subject (S18) has 52%.

The results reveal that there was a vowel insertion in the syllable-initial consonant clusters produced by the subjects. This is evident from the subjects' performance of the words e.g. 'product', 'throw' and 'structure' in the test (see **Table One**). The vowel inserted in the cluster is /i/. For the target words 'product', 'throw', 'structure' for example, it is interesting to note that most subjects inserted an /i/ before the onset of the target consonant clusters while just two subjects inserted /i/

between the target initial consonant clusters. i.e. *structure* /istrʌkʃə/ and /sitʌkʃə/ respectively. Thus, these results seem to correspond with that of Altenberg (2005). His subjects inserted a vowel before the onset of English syllables i.e. the word 'school' /sku:l/ pronounced by the subjects as /isku:l/. However, it can be observed that the patterns of phonotactics of syllable- initial consonant clusters produced by the subjects are in the sequence of *CV(CC)* and *VC(CC)*.

In syllable- final consonant clusters, the results clearly show that there is a vowel insertion in the syllable- final consonant clusters produced by Libyan learners of English in the Faculty of Education/ Misurata. This is clearly noticed in the subjects' performance of the target words i.e. 'twelfths', 'linguistics' and 'terms' in the test (see **Appendix One**). The vowel was /i/. For the target word 'twelfths', it is interesting to note that some subjects i.e. S8, S10 and S17 reduced the consonant cluster of the coda by omitting /θ/ i.e. [twelfiz] while S21 (3.33%) substituted the second consonant i.e. [twelviθz].

With regard to the word 'linguistics', for instance subjects S14, S18 and S26 reduced the consonant cluster of the coda by deleting the final consonant e.g. [læŋgwistik] whereas S12, S21 and S37 reduced the pre-final consonant sound of the coda i.e. [liŋgistis].

While S23, S38, S18, for instance inserted vowel /i/ between the coda of the final consonant clusters i.e. *terms* [t3:mis] [t3:rmis], some subjects e.g. S3 and S19 reduced the consonant cluster of the coda by omitting the final consonant e.g. [t3:rm]. Moreover, most of the students pronounced words like *missed* /misid/. It is thought that this is because what is referred to as the students' overgeneralization by many of researchers. Students do not recognize that the /-d/ sound has to be pronounced /t/ if it

is preceded by the voiceless sound /s/. They believed that it should be pronounced like *played* /pleid/ and some other verbs. As for the words *rest* /rest/, *fact* /fækt/, only few students failed to pronounce them. It is obvious that they have no difficulty in pronouncing final-consonant clusters of two consonants. This may be because this type of consonant cluster is common in both English and LA.

So to sum up, we can say that the mean score of syllable-initial consonant clusters produced by the samples is (68.3%). Moreover, the mean score of syllable-final consonant clusters produced by the samples is (38.1%).

5.2.1 Summary of the results from the students' test:

1_ The results of students' test show that the participants made a variety of errors in pronouncing English consonant clusters which can be said to be the effect of their mother tongue, Arabic. These errors mainly happen because of the negative transfer, in a way that there are major differences between Arabic and English.

2_ EFL Libyan learners face many difficulties in realizing the accurate pronunciation of English consonant clusters because they alternate consonant and vowel sounds and try to force vowels in between the consonants as in *laughs* /la:fiz/.

3- In acquiring the syllable structure of English, the syllable structure rules which govern Arabic prosodic structure are transferred to the interlanguage of the learners. Learners may insert a vowel to break up consonant clusters, or reduce and substitute clusters at other times as in *stress* as /sitres/, *twelfths* as /twelfis/ and *distinct* as /distntik/

4- EFL Libyan learners face more difficulties as the number of the cluster increases e.g. *linguistics* /liŋwistikis/.

5_ Libyan learners face difficulties in pronouncing syllable-final clusters more than those syllable-initial consonant clusters (see **Table One**).

6-The patterns of phonological phonotactics of syllable- initial consonant clusters produced by the subjects are in the sequence of *CV(CC)* and *VC(CC)*. The patterns of phonological syllable-final consonant clusters produced by the subjects are in the sequence of *CC, CCVC, CVCC CCC, CCVCC, CCVCVC* and *CVCC*.

5.2.2 Conclusion:

The accurate production of syllable-initial and syllable- final consonant clusters has been presented and discussed, and a summary of the results obtained from the students test is listed. The mean score of syllable-initial consonant clusters produced by the samples is (68.3%). The percentage score and mean score in word list reading have been presented and highlighted. The mean score of syllable-final consonant clusters produced by the samples is (38.1%).

5.3 The Presentation of the Results of Teachers' Questionnaire:

This section deals with the data collected from the teachers' questionnaire which is classified and presented in the form of tables. Each question has a descriptive summary heading. An analysis and a summary of the results are given for each table:

Question One:

You have taught English language for (1-4 years , 4-8 years, 8-10 years, other option).

Before asking the questions about teaching and learning of pronunciation to the teachers, the researcher enquired about the teacher's experience of teaching English. Most of the teachers have more than ten years of experience in teaching English , and some have 1-4 years of experience teaching it.

Four teachers (33,33%) have taught English for 1-4 years, three teachers (25%) have taught English for 4-8 years, five of them (41.66%) have taught English

for more than ten years. Most of them have taught English for 20 years, whereas no one has taught English for 4-8 years.

Question Two:

Libyan learners face difficulties in pronouncing English consonant clusters. (strongly agree, agree, strongly disagree, disagree).

Options	Strongly agree	agree	Strongly disagree	disagree
No. of teachers	2	10	0	0
percentage	16.66%	83.33%	0%	0%

Table Two: Learners' facing difficulties in pronouncing English consonant clusters.

Table Two shows that 10 teachers (83.33%) agree that Libyan learners have difficulties in pronouncing English consonant clusters. Whereas two teachers (16.66%) strongly agree that Libyan learners have difficulties in pronouncing English consonant clusters.

Question Three:

If you agree that Libyan learners face difficulties in pronouncing English consonant clusters, what may be the reasons for poor English pronunciation of Libyan learners? . (Mother tongue interference, Students are not interested in improving their pronunciation, lack of an English speaking environment, lack of systematic practice of IPA (International Phonetic Alphabet), other).

Options	Mother tongue interference	Students are not interested in improving their pronunciation	lack of an English speaking environment	Lack of systematic practice of IPA	other
No. of teachers	8	1	0	1	2
percentage	66.66%	8.33%	0%	8.33%	16.66%

Table Three: Reasons for poor English pronunciation by Libyan learners.

Eight teachers (66.66%) answered that mother tongue interference is the reason for poor English pronunciation of Libyan learners. Two teachers (16.66%) see that students are not interested in improving their pronunciation. None of the teachers see that lack of English speaking environment has an effect on learners' pronunciation (0%). One teacher (8.33%) thinks that the main reason for poor English pronunciation of Libyan learners is lack of systematic practice of IPA, while two teachers agree that there are other reasons of poor English pronunciation of Libyan learners.

Question Four:

I face difficulties in teaching English consonant clusters (yes, no).

option	yes	no
No. of teachers	9	3
percentage	75%	25%

Question Four: Facing difficulties of teaching English consonant clusters.

Nine teachers (75%) face difficulties in teaching English consonant clusters, while three teachers (25%) do not face difficulties in teaching them.

Question Five:

In teaching English consonant clusters, I use techniques and strategies (very often, often, sometimes, rarely).

option	Very often	often	sometimes	rarely
No. of teachers	4	5	3	0
percentage	33.33%	41.66%	25%	0%

Table Five: The use of pronunciation techniques and activities.

The answer of this question reveals that four teachers (33.33%) said that they *very often* use techniques and strategies in their teaching of English consonant clusters.

Five teachers (41.66%) said that they *often* use them, whereas three teachers (25%) said that they *sometimes* use techniques and strategies in teaching English consonant clusters and none of the teachers (0%) *rarely* use techniques and strategies in teaching English consonant clusters.

Question Six:

Students are influenced by their mother language in pronouncing English consonant clusters. (Strongly agree, agree, strongly disagree, disagree).

option	Strongly agree	agree	Strongly disagree	disagree
No. of teachers	4	8	0	0
percentage	33.33%	66.66%	0%	0%

Table Six: The influence of mother language.

Table Seven shows that four teachers (33.33%) strongly agree that students are influenced by their mother language in pronouncing English consonant clusters. Eight teachers (66.66%) agree that the learners' mother language influences their production of English consonant clusters.

Question Seven:

Do you recognize your students' mispronunciation of English consonant clusters when they speak English? (Yes/ No).

option	yes	no
No. of teachers	12	0
percentage	100%	0%

Table Seven: Recognition of students' mispronunciation of English consonant clusters.

All teachers (100%) clearly recognize their students' mispronunciation of English consonant clusters when their students speak English

Question Eight:

If you recognize your students' mispronunciation of English consonant clusters when they speak English, do you correct their mistakes and give them the accurate transcription? (very often, often, sometimes, rarely).

option	Very often	often	sometimes	rarely
No. of teachers	6	2	4	0
percentage	50%	16.66%	33.33%	0%

Table Eight: Correcting students' mistakes and giving the accurate transcription.

Table Eight shows that six of the teachers (50%) correct their students' mistakes and give them the accurate transcription, while four of them (33.33%) sometimes correct those mistakes, and two teachers (16.66%) often correct the students' mistakes.

Question Nine:

Do you give attention to how English sounds are pronounced? (very often, often, sometimes, rarely).

option	Very often	often	sometimes	rarely
No. of teachers	8	3	1	0
percentage	66.66%	25%	8.33%	0%

Table Nine: Giving attention to how English sounds are pronounced.

The results presented in Table Nine show that eight teachers (66.66%) very often give attention to how English sounds are pronounced, three teachers(25%) say that they often give attention to how sounds are pronounced and one teacher (8.33%) sometimes gives attention to pronouncing English sounds.

Question Ten:

Do you think that correcting students' mispronunciation of English consonant clusters is a waste of time? (Yes, No)

option	yes	no
No. of teachers	0	12
percentage	0%	100%

Table Ten: Correcting students mispronunciation of English consonant clusters.

All teachers (100%) agree that correcting students' mispronunciation of English consonant clusters is not a waste of time.

Question Eleven:

Students in your class in the present English semester receive enough pronunciation instructions. (strongly agree, agree, strongly disagree, disagree).

option	Strongly agree	agree	Strongly disagree	disagree
No. of teachers	0	5	4	3
percentage	0%	41.66%	33.33%	25%

Table Eleven: Students' receiving enough pronunciation instruction.

The results in Table Eleven above show that five teachers (41.66%) agree that students in this semester receive enough pronunciation instruction, but four of them (33.33%) strongly disagree that they receive enough pronunciation instruction. Three of the teachers (25%) disagree that students receive enough pronunciation instruction in that semester.

Question Twelve:

Which consonant clusters, in your opinion, are more difficult to pronounce for Libyan students of the Faculty of Education? (syllable- initial consonant clusters, syllable- final consonant clusters).

option	Syllable- initial consonant clusters	Syllable- final consonant clusters
No. of teachers	4	8
percentage	33.33%	66.66%

Table Twelve: The more difficult English consonant clusters (initial or final)

The majority of teachers(66.66%) say that syllable- final consonant clusters are more difficult for Libyan students of the Faculty of Education than syllable- initial consonant clusters.

Question Thirteen:

How often do you teach the following pronunciation items (English syllable structure, English phonotactics)? (very often, often, sometimes, rarely).

options	Very often	often	sometimes	rarely
English syllable structure	3	3	3	3
English phonotactics	3	3	3	3
percentage	25%	25%	25%	25%

Table Thirteen: Teaching English syllable structure, English phonotactics.

As it is shown in Table Thirteen, three teachers (25%) for all options teach English syllable structure and English phonotactics.

Question Fourteen:

Does reading aloud with the support of the recorded English material help in improving students' pronunciation of consonant clusters? (Strongly agree, agree, strongly disagree, disagree).

Option	Strongly agree	agree	Strongly disagree	disagree
No. of teachers	6	4	0	2
percentage	50%	33.33%	0%	16.66%

Table Fourteen: Reading aloud with the support of the recorded English material help in improving students' pronunciation of consonant clusters

The results given in Table Fourteen show that six teachers (50%) strongly agree that reading aloud with the support of the recorded English material help in improving students' pronunciation of consonant clusters, while four teachers (33.33%) agree with the importance of reading aloud with a recorded material. Two teachers (16.66%) disagree with the idea.

Question Fifteen:

Does having situational dialogues help in improving pronunciation?

(Strongly agree, agree, strongly disagree, disagree).

options	Strongly agree	agree	Strongly disagree	disagree
No. of teachers	2	8	2	0
percentage	16.66%	66.66%	16.66%	0%

Table Fifteen: having situational dialogues help in improving pronunciation

Eight teachers (66.66%) out of twelve agree with situational dialogues in improving pronunciation. Two teachers (16.66%) strongly agree with the use of situational dialogues during classes, on the other hand, two teachers (16.66%) strongly disagree with the importance of using situational dialogues.

Question Sixteen:

What kind of English pronunciation will you suggest to your students as their target in learning pronunciation? (English pronunciation with an Arabic accent, Intelligible pronunciation ,Native-like pronunciation).

options	English pronunciation with an Arabic accent	Intelligible pronunciation	Native-like pronunciation
No. of teachers	0	2	10
percentage	0%	16.66%	83.33%

Table Sixteen: What kind of English pronunciation you will suggest as target in learning pronunciation.

When asked about the goal of teaching and learning English pronunciation, (83.33%) of the respondents suggested that “native- like pronunciation”, should be the goal of the teaching of pronunciation, whereas (16.66%) suggested “intelligible pronunciation ”, is also acceptable and no one (0%) suggested “ pronunciation with an Arabic accent” is the objective of teaching pronunciation.

Question Seventeen:

Time which is allocated for teach pronunciation is (enough, not enough).

options	enough	Not enough
No. of teachers	2	10
percentage	16.66%	83.33%

Table Seventeen: Time allocated for teaching pronunciation.

Table Seventeen above shows that 83.33% of the teachers believe that time allocated for teaching pronunciation is not enough, and 16.66% of teachers believe that the time which is allocated for teaching pronunciation is enough.

Question Eighteen:

I use technology in teaching pronunciation. (Very often, often, sometimes, never).

options	Very often	often	sometimes	never
No. of teachers	6	0	3	3
percentage	50%	0%	25%	25%

Table Eighteen: The use of technology in teaching pronunciation.

Table Eighteen shows that (25%) of teachers agree that they never or sometimes use technology in teaching pronunciation. On the other hand, the majority of the teachers, six teachers (50%) use technology in their classes.

Question Nineteen:

In teaching English pronunciation, I record students' voices and let them listen to themselves.(Very often , often , sometimes ,never).

options	Very often	often	sometimes	never
No. of teachers	0	2	2	8
percentage	0%	16.66%	16.66%	66.66%

Table Nineteen: Recording students' voices.

The above data indicates that (66.66%) of the teachers do not record students' voices and let them listen to themselves, while two teachers (16.66%) often or sometimes give students a chance to listen to themselves by recording their voices.

Question Twenty:

Does the teachers' explanation of how to pronounce phonetic symbols help in improving pronunciation? (Strongly agree , strongly disagree, disagree).

options	Strongly agree	agree	Strongly disagree	disagree
No. of teachers	6	5	0	1
percentage	50%	41.66%	0%	8.33%

Table Twenty: teachers' explanation of how to pronounce phonetic symbols help in improving pronunciation.

As Table Twenty shows (50%) of the teachers strongly agree with the importance of the explanation of how to pronounce phonetic symbols, and (41.66%) agree that explaining how sounds are produced help in improving pronunciation. (8.33%) of the teachers think that giving explanation of how to pronounce phonetic symbols is not important.

5.3.1 Summary of the teachers' questionnaire results:

1_The English Department/Faculty of Education teachers who responded to the teachers' questionnaire vary in their use of teaching aids .

2_Teachers at the Faculty of Education of English Department need to integrate pronunciation with other English lessons like reading comprehension or grammar. For example, in the grammar lessons, teachers need to help their students to know the different sounds if the "ed" ending of regular verbs in the past.

3_Most teachers (75%) face difficulties in teaching English consonant clusters.

4_(74.99%) of teachers agree that instructions which were given that semester were not enough to students. Two hours weekly for teaching pronunciation is not enough to put the students on the right way.

5-All teachers (100%) agree that Libyan learners have difficulties in pronouncing English consonant clusters.

6_According to most teachers (66.66%), the main reason of the difficulties of pronouncing English consonant clusters is first language interference.

7_ All teachers (100%) correct students' mispronunciation of consonant clusters and they give them the accurate transcription.

8_Teachers of English Department at the Faculty of Education (100%) recognize students' mispronunciation of English consonant clusters.

9_Most teachers (66,66%) give attention to how English sounds are pronounced.

10-Technology is often used in teaching pronunciation by teachers (50%).

11_Teachers of the Faculty of Education/ English Department (83.33%) suggest native-like pronunciation as a goal of teaching pronunciation.

5.3.2 Conclusion:

Twelve teachers in the English Department in the Faculty of Education/ Misurata were given a questionnaire of twenty questions. According to the teachers' responses the majority of the students face problems in pronouncing English consonant clusters. The following section provides a description of the results of teachers' questionnaire.

5.4 The Presentation and Discussion of the Results of Classroom

Observation:

In this study, four teachers , who teach the phonetics course, were chosen for the classroom observation. All of them participated in answering the teachers' questionnaire. In preparing the observation; the investigator, as was mentioned in Chapter Four, provided a checklist to write notes during the classes.

The way teachers act at the beginning of their pronunciation lessons:

	Yes	No
Making a review about the previous pronunciation lesson. No. of teachers	3	1
Introducing the goal of the pronunciation lesson. No. of teachers.	4	0

Table Twenty One

The Table Twenty One above shows the way the teachers act at the beginning of their new lesson. The table demonstrates whether the teacher revises the previous lesson and introduces the goal of the new lesson or not.

The results presented in this table show that the majority of teachers who are observed in the English Department in the Faculty of Education/ Misurata make a review of the previous pronunciation lesson to refresh their students' memory. The table also shows that all the teachers explain to their students the goal of the pronunciation lesson in order to make them aware of what is going on. We can say that all of them clearly prepare the lesson before they come to the class.

Teacher's use of pronunciation activities.

	Yes	No
Using pronunciation activities. No. of teachers.	4	0
Asking questions to motivate students. No. of teachers.	4	0

Table Twenty-Two

Table Twenty-Two above shows the use of the activities prepared by the teacher. It shows whether the teacher asks the students questions to motivate them or not.

The table shows that all four teachers use a lot of activities during classes. The present researcher recognized how those teachers go from an activity to another to make their students active and motivated during the lesson. It also shows that all teachers ask their students questions to assess their students' pronunciation during the lesson.

Evaluating the teacher's pronunciation, their care about students' pronunciation and his use of the target language.

	Yes	No
Pronouncing correctly. No. of teachers.	3	1
Discussion all points of the lesson. No. of teachers.	3	1
Caring about students' pronunciation. No. of teachers.	0	4

Table Twenty-Three

Table Twenty-Three shows the pronunciation performed by the teachers and their use of the target language. It also shows whether the teacher is able to discuss all the points of the lesson or not. The table also shows whether the teachers care about their students' pronunciation or not.

The above table shows one teacher who is not giving a good model in pronunciation commits mistakes and also uses his mother language in his explanation of the pronunciation lesson. Three teachers discuss all the points of the lesson. Surprisingly, all teachers do not care about their students' mistakes in pronunciation. They only concentrate on the correction of student's mistakes of pronunciation on the target sounds.

The use of teaching aids and technology by the teacher.

	Yes	No
Encouraging students to use a pronunciation dictionary. No. of teachers.	0	4
Preparing and using teaching aids and technology	4	0

Table Twenty-Four

The use of technology is considered a very important tool in teaching English especially at advanced levels of learning English. Table Twenty-Four shows whether the teachers encourage their students to use a pronunciation dictionary to find out the transcription of the new words. It also shows whether they use teaching aids such as diagrams as well as the use of technology such as listening to songs and watching videos. The researcher of this study realized that all students of four classes, the researcher attended, do not bring a dictionary with them to look up new words. On the other hand, the four teachers, who are observed, vary in their use of teaching aids and technology like listening to songs, watching short videos and playing games.

Teachers' method of correcting students' mistakes of pronunciation.

	Yes	No
Self-correction. No. of teachers	3	1
Peer-correction. No. of teachers	1	3
Teacher-correction. No. of teachers	4	0

Table Twenty-Five

Table Twent-Five shows the method used by the teachers in the correction of the students' mistakes, whether they use self- correction, peer-correction or the teacher- correction. The table above shows that the observed teachers depend on teacher-correction when they correct their students mistakes.

5.4.1 Notes During the Classroom Observation:

In addition to the checklist points mentioned in the previous section, the researcher noticed some other points during the observation. They are summed up as follows:

- 1- Teachers in the English Department in the Faculty of Education/ Misurata do not encourage their students to use pronunciation dictionaries although they are in phonetics classes.
- 2- Although all teachers who are observed use a lot of techniques and teaching aids in teaching pronunciation, all classes are teacher- centered. Teachers do not give chances to students to work in groups. Or , in other words, their classes are teacher talk classes.
- 3- During the observation, the researcher noticed that the majority of students have a problem in the production of sounds, and they could not recognize their mispronunciation of sounds.

- 4- The teachers in the Faculty of Education/ Misurata vary in their use of teaching aids as well as techniques, but they do not give their students a chance to practice pronouncing words or sentences.

5.5.2 Conclusion:

Four teachers are observed during their classes. The results of the classroom observation are summarized according to a check-list presented in **Appendix Three**. Notes during the classroom observation is listed according to the check-list which is provided in **Chapter Four**.

Chapter Six

Conclusion and Recommendations

6.1 Conclusion:

This chapter summarizes the results of the study reported, in the preceding chapter, on the syllable-initial consonant clusters and syllable-final consonant clusters produced by Libyan learners of English. The results will be discussed in the context of the objectives of the present study and in accordance with the research questions which were given in **Chapter One**. These research questions are repeated here for convenience and are commented upon:

1. Do Libyan learners of English at the Faculty of Education/ Misurata face difficulties in pronouncing English consonant clusters?

From the data collected in Chapter Five and presented in **Table One**, yes Libyan learners of English at the Faculty of Education/ Misurata face difficulties in pronouncing English consonant clusters.

2. If yes, what are the patterns of phonotactics produced by Libyan learners of English at the Faculty of Education/ Misurata in the pronunciation of English syllable-initial consonant clusters while speaking English?

As illustrated in Chapter Five, the patterns of phonological phonotactics produced by Libyan learners in the pronunciation of English syllable-initial consonant clusters are as follows:

The patterns of phonological phonotactics of syllable- initial consonant clusters produced by the subjects are in the sequence of *CV(CC)* and *VC(CC)*. However, the English sequence in the syllable-initial consonant clusters is *CCC* according to Roach, (2001). Therefore, these different sequences which were found in the pronunciation of Libyan learners of English suggest that they tend to conform to the syllable structure of their first language, Arabic, by inserting vowel sounds in consonant clusters which results in incorrect consonant sequences in English syllables.

3. What are the patterns of phonotactics produced by Libyan learners of English at the Faculty of education in the pronunciation of English syllable-final consonant clusters while speaking English?

As illustrated in Chapter Five, The patterns of phonological syllable-final consonant clusters produced by the subjects in the Faculty of Education/ Misurata are in the sequence of *CC*, *CCVC*, *CVCC*, *CCC*, *CCVCC*, *CCVCVC* and *CVCC*. Consequently, this sequence produced by EFL Libyan learners in the syllable-final consonant clusters demonstrates that they have the tendency to use the syllable structure of their first language with that of English, which breaks consonant sequences in English syllables. In brief, inducing such sorts of patterns of phonological phonotactics produced by Libyan learners of English in the production of English syllable-final consonant clusters achieve the second objective of the study and account for the second research question accordingly.

4. To what extent does language transfer exist i.e. the phenomenon of vowel insertion in the pronunciation of English syllable-initial and syllable-final consonant clusters by Libyan learners of English?

As demonstrated in Chapter Five, it can be observed that language transfer, the phenomenon of vowel insertion, influences the pronunciation of English syllable-initial and syllable-final consonant clusters produced by Libyan learners. The vowel insertion was found in types of vowel sounds. It is an /i/ vowel sound.

5. If Libyan learners face difficulties in pronouncing English consonant clusters, what strategies do Libyan learners employ to simplify the pronunciation of sequences of consonants?

In the production of consonant clusters, the results clearly show that there is a vowel insertion in the syllable-final consonant clusters produced by Libyan learners of the Faculty of Education/ Misurata. They tend to use strategies like reduction, deletion, substitution as well as overgeneralization in syllable-final consonant clusters (see **Appendix One**).

6. In what environment do EFL Libyan learners have the most difficulty with English consonant clusters? Are they more accurate in word-initial position or in word-final position?

As was shown in **Table One** in Chapter Five, Libyan learners face more difficulties in pronouncing syllable-final consonant clusters than syllable-initial position. This is clear from the mean score of accurate production of English syllable-initial and final consonant clusters which was (38.1%) for syllable-final consonant clusters and (68.3%) for syllable-initial consonant clusters.

The six research questions of the study are answered according to the results obtained from the data analyzed. Therefore, it can be concluded that Libyan learners of the Faculty of Education/ Misurata, seem to have difficulties in the

pronunciation of English syllable-initial and/or syllable-final consonant clusters particularly involving three and four consonant clusters in the syllable-final.

Regarding the role of the teacher in teaching pronunciation, the results obtained from the teachers' questionnaire and classroom observation have confirmed the fact that teachers face difficulties in teaching English consonant clusters like the time devoted to for teaching phonetics and students not recognizing their mispronunciation of consonant clusters. Teachers in the Faculty of Education/ Misurata vary in their use of teaching aids and techniques.

6.2 Recommendations:

Based on the findings of this study, some suggestions are given below. These suggestions may help teachers and students in reducing students' difficulties in pronouncing English consonant clusters:

- 1-** While teaching pronunciation in the classroom, the teacher should be conscious about the students' needs. The students may have different competency levels such as learning speed and styles. The teacher should give proper attention to the students and their special needs and problems. The teacher should also conduct a students' needs analysis regarding pronunciation. According to the needs of the learners, the teacher should develop some appropriate materials and strategies to present in the class to reduce the learners' problem(s).
- 2-** There should be a systematic practice of symbols. Teachers should help their students to find out the pronunciation of the new words from the dictionaries.

- 3- Teachers should integrate pronunciation with other English lessons and not to make pronunciation restricted only to pronunciation lessons.
- 4- Teachers should help their students to find out the pronunciation of the new words from the dictionaries.
- 5- Time allocated for teaching pronunciation courses is not enough for the teachers to deal with each student individually.
- 6- The writer of the present work recommends that this study be replicated in other areas of Libya such as Benghazi.

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Appendix One

Students' responses to the initial and final consonant clusters

Forty students are given a list of fifty words, these are the pronunciation of the students in phonetic transcription. This transcription is provided according to the researcher's perception of the pronunciation. These words are:

Words of two initial consonant clusters are: *three, draw, flower, quite, drink, please, stop, dreams, plenty, product, crash, glib, twist, sport, draft, plosive, throw* and *grand*.

Words of three initial consonant clusters are: *stress, strong, strategy, scream, student* and *structure*.

Words of two final consonant clusters are: *gift, blocked, dreamed, passed, terms, booked, stops, missed, sold, fact, risk, laughs, film, sixteenth, silk, act* and *box*.

Words of three final consonant clusters are: *tempt, amongst, attempt, products* and *distinct*. Words of four final consonant clusters are: *texts, linguistics* and *twelfths*.

Student1:

Initial consonant clusters:

/ɪstres/, /iθri:/, /ɪstrɒŋ/, /drəʊ/, flauə/, /ɪkwaɪt/, /ɪstrætɪdʒi/, /drenk/, /pli:z/, /stɒp/,
/ɪsprɪŋ/, /dri:mz/, /plænti/, /ɪprɒdʌkɪt/, /ɪkræf/, / glæb/, /ɪskri:m/, /ɪtwɪst/, /ɪspəʊt/,
/dra:fit/, /pləʊsɪv/, / iθrəʊ/, / stu:dent/, /grænd/, / strʌktə/.

Final consonant clusters:

/gift/, /tempit/, /iblɔkid/, /idri:mid/, /teksit/, /əmʌŋɪst/, /pɛsid/, /liŋwɪstɪs/, /tri:ms/,
/ətɪmpit/, /bɔk/, /ɪstɒp/, /mɪsɪd/, /səʊlɪd/, /twɪlfɪst/, fækɪt/, /rɪsk/, /læfɪz/, /fɪlm/,
/ɪprɒdʌkɪts/, /sɪkɪstɪ:n/, /sɪlk/, /ækɪt/, /dɪstɪŋkt/, /bəʊks/.

Student 2:

Initial consonant clusters:

/ɪstri:t/, /tri:/, /ɪstrɒŋ/, /drɔ:/, /flaʊə/, /ɪkwaɪt/, /strægɪli/, /drɪŋk/, /pli:z/, /stɒp/, /əsprɪŋ/,
/dri:mz/, /ɪplɛntɪ/, /ɪprɒdʌkɪt/, /kætʃ/, /ɪglɒb/, /ɪskri:mz/, /twɪst/, /spəʊt/, /grɛfɪt/,
/pɒsɪtɪv/, /ɪtrəʊ/, /stju:dnt/, /ɪgrænd/, /ɪstrʌkʃə/.

Final consonant clusters:

/gift/, /tempit/, /blæk/, /idri:mid/, /teksit/, /ægmpɒst/, /pæsid/, /lɪŋg/, /terɪm/, /ətɛmpɪt/,
/bɔkɪt/, /ɪstɒpɪs/, /mɪsɪd/, /sɒld/, /twɛlvɪst/, /fɛɪs/, /rɛst/, /lɑ:fɪd/, /fɪlm/, /ɪprɒjʌktɪs/,
/sɪkɪstɪ:nɪz/, /sɪlk/, /ækt/, /dɪstɪŋkɪt/, /bɔkɪs/.

Student 3:

Initial consonant clusters:

/ɪstri:t/, /tri:/, /ɪstrɒŋ/, /drəʊ/, /flaʊə/, /kwaɪt/, /strætɪdʒɪ/, /drɪŋk/, /pli:z/, /stɒp/, /ɪsprɪŋ/,
/ɪdri:mɪz/, /plɪntɪ/, /prɒdʌkɪt/, /krʌʃ/, /ɪglɒb/, /ɪskri:m/, /ɪtwɪst/, /spəʊt/, /drɛfɪt/, /plu:sɪv/,
/θrəʊ/, /ɪstju:dnt/, /ɪgrænd/, /strʌktər/.

Final consonant clusters:

/gift/, /temt/, /iblæk/, /idri:mid/, /teksit/, /əmɒŋgɪst/, /pæsid/, /læŋwɪstɪkɪs/, /tɜ:m/,
/ətmid/, /bʊkɪd/, /stɒbs/, /mɪsɪd/, /sɒld/, /twelf/, /fækt/, /rest/, læfɪz/, /film/, /prɒdʌktɪs/,
/sɪkɪsnɪs/, /sɪlk/, /ækt/, /dɪstɪŋkt/, /bʊks/.

Student 4:

Initial consonant clusters:

/str:t/, /tri:/, /ɪstrɒŋ/, /drəʊ/, /ɪflaʊə/, /kwɑ:t/, /ɪstrætɪdʒi/, /ɪdrɪŋk/, /pli:z/, /ɪstɒp/,
/ɪsprɪŋ/, /dri:mɪz/, /pɪlɪnti/, /prɒdʌkt/, /ɪkrʌʃ/, /glɒb/, /ɪskri:m/, /twɪst/, /spɔ:t/, /dræft/,
/ɪplu:sɪv/, /θrəʊ/, /stu:dent/, /ɪgrænd/, /sɪtrɪkʃə/.

Final consonant clusters:

/gʌft/, /tempɪt/, /ɪblɒk/, /ɪdreɪmɪd/, /teksɪtəs/, /əmɒŋgɪst/, /pɑ:sɪd/, /lɪŋwɪstɪk/,
/ɪtreɪmɪz/, /əttempɪt/, /bʊkɪd/, /stɒpɪs/, /mɪsɪd/, /sɒld/, /ɪtwɪlfɪt/, /fɑ:st/, /rest/, /lɑ:vɪz/,
/fɪlm/, /ɪprɒdɪkɪt/, /sekɪstɪ:n/, /sɪlk/, /ækɪt/, /dɪstɪŋkɪt/, /bʊkɪs/.

Student 5:

Initial consonant clusters:

/stress/, /θri:/, /drəʊ/, /flaʊə/, /ɪkwɑ:t/, /ɪstrætɪdʒi/, /drɪŋk/, /pli:z/, /stɒp/, /sprɪŋ/,
/dri:mɪz/, /plɛntɪ/, /ɪprɒʒʌkt/, /kræʃ/, /glæb/, /ɪskri:m/, /twɪst/, /spɔ:t/, /dræft/,
/ɪplu:sɪv/, /θrəʊ/, /ɪstu:dent/, /grænd/, /ɪstrʌkʃə/.

Final consonant clusters:

/geft/, /tempt/, /blɒkd/, /dri:mid/, /teksit/, /əmingist/, /pæsid/, /liŋwistis/, /treimis/,
/ətempit/, /bəʊkid/, /stɒps/, mesid/, /sləʊd/, /twelfist/, /fækis/, /trækis/, /læŋfɪz/, /fɪlm/,
/ɪprɒdʌktis/, /sikisti:niθ/, /sɪlk/, /æst/, /destinkit/, /bɒkis/.

Student 6:

Initial consonant clusters:

/ɪstri:təɪs/, /tri:/, /ɪstrɒŋ/, /drəʊ/, /ɪflaʊə/, /ɪkwɔɪt/, /ɪstrætɪdʒi/, /ɪdrɪŋk/, /pli:z/, /stɒp/,
/sprɪŋ/, /dri:mɪz/, /plenti/, /ɪprɒdʌkt/, /krʌʃ/, /gleɪb/, /skri:m/, /twɪst/, /spɔɪt/, /dræft/,
/plu:sɪv/, /θrəʊ/, /ɪstju:dent/, /grænd/, /ɪstrʌkʃə/.

Final consonant clusters:

/geft/, /tempit/, /ɪblɒk/, /drəmid/, /teksitis/, /əməŋɪsɪt/, /pæsid/, /liŋwistis/, /tɜ:mɪs/,
/ətempit/, /bɒkit/, /ɪstɒps/, /mesid/, /, /sɒld/, /twelf/, /fækt/, /rɪsk/, /lɑ:fɪz/, /fɪlm/,
/prɒdʌkts/, /sikisti:n/, /sɪlk/, /ækt/, /dɪstɪŋkt/, /bɒkis/.

Student 7:

Initial consonant clusters:

/stress/, tri:/, /strɒŋ/, /drəʊ/, /kwɔɪt/, /ɪstrætɪdʒi/, /drɪŋk/, /pli:z/, /stɒp/, /sprɪŋ/,
/dri:mɪz/, /plenti/, /prɒdʌkt/, /gleɪb/, /krʌʃ/, /ɪskri:m/, /twɪst/, /spɔɪt/, /dræft/, /plu:sɪv/,
/trəʊ/, /stju:dent/, /grænd/, /strʌkʃə/.

Final consonant clusters:

/gift/, /tempit/, /bɒk/, /dri:mid/, /tekstis/, /əməŋɪst/, /pæsid/, /liŋwɪstikis/, /tri:mis/,
/ətempt/, /bɒkid/, //stɒps/, /mɪsid/, /sɒld/, /twelfitiz/, /fækt/, /risk/, /læfis/, /film/,
/prɒdʌktis/, /sɪkɪsti:nɪθ/, /sɪlk/, /ækt/, /distɪnik/, /bɒks/.

Student 8:

Initial consonant clusters:

/stress/, /tri:/, /strɒŋ/, /drəʊ/, /ɪflaʊə/, /kwaɪt/, /strætɪdʒi/, /drɪnk/, /pli:z/, /stɒp/, /sprɪŋ/,
/dri:mz/, /plenti/, /prɒdʌkt/, /kræf/, /glib/, /skri:m/, /twɪst/, /spɔ:t/, /dræft/, /plu:sɪv/,
/θrəʊ/, /stu:dent/, /grænd/, /strʌkʃə/.

Final consonant clusters:

/gift/, /tempt/, /bɒk/, /dri:m/, /tekistis/, /əməŋɪs/, /pæsid/, /liŋwɪstik/, /tɜ:mɪz/,
/ətempt/, /bɒk/, /mɪsid/, /sɒld/, /twelfɪs/, /fækt/, /risk/, /lɑ:fs/, /film/, /prɒdʌktis/,
/sɪkɪsti:nθ/, /sɪlk/, /ækt/, /dɪstɪŋkt/, /bɒks/.

Student 9:

Initial consonant clusters:

/ɪstres/, /tri:/, /sɪtrɒŋ/, /drəʊ/, /flaʊ/, /kwaɪt/, /ɪstrætɪdʒi/, /drɪnk/, /pli:z/, /stɒp/, /ɪsprɪŋ/,
/dri:mɪz/, /plenti/, /prɒdʌkt/, /kræf/, /glib/, /kri:m/, /twɪst/, /spəʊt/, /dræft/, /plu:sɪv/,
/iθrəʊ/, /stu:dent/, /grænd/, /strʌkʃər/.

Final consonant clusters:

/geft/, /tempit/, /bløk/, /dri:m/, /teksits/, /əmΛηist/, /pæsid/, /læŋwistis/, /istri:miz/,
/ətempit/, /bøkid/, /støps/, /mæsid/, /søld/, /twelfiθiz/, /fækit/, /risk/, /læfis/, /fa:lm/,
/iprødΛkit/, /sikisti:nθ/, /slæk/, /ækt/, /distænkit/, /bøkis/.

Student 10:

Initial consonant clusters:

/stress/, /tri:/, /istrøn/, /drøʊ/, /iflaʊə/, /kwit/, /istrætɪdʒi/, /drink/, /pli:z/, /støp/, /sprɪŋ/,
/dri:miz/, /iplænti/, /prødΛkt/, /kræf/, /glib/, /iskri:m/, /twist/, /spəʊt/, /idræft/, /pləʊsiv/,
/iθrəʊ/, /istu:dent/, /grænd/, /strækfər/.

Final consonant clusters:

/gift/, /tempit/, /bløk/, /drembid/, /teksitis/, /əmpŋist/, /pæsid/, /liŋwistik/, /tɜ:miz/,
/ətempit/, /bəʊkid/, /støps/, /misid/, /søld/, /twelfis/, /fækt/, /risk/, /ləʊz/, /film/,
/iprødΛktis/, /sekisti:n/, /silk/, /ækt/, /distinkit/, /bəʊks/.

Student 11:

Initial consonant clusters:

/stress/, /θri:/, /strøn/, /drɔ:/, /iflaʊə/, /kwait/, /strætɪdʒi/, /drink/, /pli:z/, /støp/, /sprɪŋ/,
/dri:miz/, /plænti/, /prødΛkt/, /kræf/, /glaib/, /skri:m/, /twist/, /spəʊt/, /dræft/, /piləʊsiv/,
/θrɔ:/, /stu:dent/, /grænd/, /istrækfər/.

Final consonant clusters:

/geft/, /tempit/, /blɒk/, /drembid/, /teksit/, /əmlɒŋzɪst/, /pæsid/, /liŋwɪstɪk/, /tɜ:mɪz/,
/ətempit/, /bɒkɪd/, /stɒp/, /mesɪd/, /sɒld/, /twelfɪt/, /fækt/, /rɪsk/, /lɔ:ŋɪz/, /fɪlm/,
/prɒdʌkt/, /sekɪstɪ:n/, /sɪlk/, /ækt/, /dɪstɪŋkɪt/, /bəʊks/.

Student 12:

Initial consonant clusters:

/stress/, /tri:/, /ɪstrɒŋ/, /draʊ/, /ɪflaʊər/, kwaɪt, /ɪstræti:ʒɪ/, /drɪŋk/, /pli:z/, /stɒp/,
/sɪprɪŋ/, /deəmɪz/, /plenti/, /ɪprɒdʌkt/, /krʌʃ/, /glɪb/, /sɪkri:m/, /twɛst/, /səʊt/,
/dræft/, /pɒlɪsɪv/, /trəʊ/, /ɪstʉ:dent/, /grænd/, /ɪstrʌktʃə/.

Final consonant clusters:

/geft/, /tempit/, /blʌk/, /dri:mid/, /teksɪt/, /əmlɒŋɪst/, /pæsid/, /liŋwɪstɪs/, /tɜ:mɪz/,
/ətempit/, /bəʊkɪt/, /ɪstɒps/, /mɪsd/, /sɒld/, /twelfɪt/, /fækt/, /rɪsk/, /lʌvɪz/, /fɛlm/,
/ɪprɒdʌktɪs/, /sɪkɪstɪ:nθ/, /skɪl/, /ækt/, /dɪstɪŋkɪt/, /bɒkɪs/.

Student 13:

Initial consonant clusters:

/ɪstres /, /tri:/, /ɪstrɒŋ/, /drəʊ/, /flaʊə/, /kwaɪt/, /ɪstrætɪdʒɪ/, /drɪŋk/, /pli:z/, /ɪstɒp/,
/ɪsprɪŋ/, /dræmɪz/, /ɪplæntɪ/, /prɒdʌkɪt/, /krʌʃ/, /əŋglæb/, /ɪskri:m/, /twɪst/, /spəʊt/,
/dra:fɪt/, /ɪplu:sɪv/, /θrəʊ/, /ɪstʉ:dent/, /ɪgrænd/, /strʌktʃər/.

Final consonant clusters:

*/gift/, /tempit/, /iblək/, /idra:mid/, /tweksit/, /əməʊnist/, /pæsid/, /lænistis/, /treim/,
/ətmpit/, /bəkid/, /stəb/, /misid/, /sɒldʒ/, /twelfit/, /fækt/, /resk/, /læŋəz/, /film/,
/iprɒdʌkit/, /sikisnis/, /silk/, /ækit/, /distinkt/, /bɒks/.*

Student 14:

Initial consonant clusters:

*/istres/, /tri:/, /istrɒŋ/, /draʊ/, /əflaʊə/, /kwaɪt/, /strætɪdʒi/, /idrink/, /ples/, /istɒp/,
/isprɪŋ/, /dri:miz/, /plinti/, /prɒdu:s /, /krʌʃ/, /glib/, /skri:m/, /itwɪst/, /ispəʊt/, /dræft/,
/iplu:sɪv/, /θrəʊ/, /istu:dent/, /grænd/, /strʌktər/.*

Final consonant clusters:

*/gift/, /tempit/, /iblək/, /ideɪmid/, /teksit/, /əmɒnist/, /pæsid/, /læŋwɪstɪk/, /treɪmɪz/,
/ətempit /, /bəkid/, /stəʊbs/, /misid/, /sʌld/, /twelfiθɪz /, /fækt/, /ræst/, /lɑ:z/, /film/,
/prɒdʌktɪs/, /sikɪstɪ:nɪs/, /silk/, /ækt/, /distinkt/, /bɒkɪs/.*

Student 15:

Initial consonant clusters:

*/stres /, /θri:/, /istrɒŋ/, /draʊ/, /fləʊ /, /ɪkwaɪt/, /strætɪdʒi/, /drɪnk/, /pli:z/, /stɒp/, /isprɪŋ/,
/dri:miz/, /iplinti/, /prɒdju:s /, /krʌʃ/, /glɑɪb/, /ɪskri:m/, /twɪst/, /spəʊt/, /dra:ft/,
/iplu:sɪv/, /θrəʊ/, /istu:dent/, /grænd/, /strʌktʃər/.*

Final consonant clusters:

/gift/, /tempt/, /iblɒk/, /drembid/, /teksit/, /əməʊŋɪst/, /pæsid/, /lɪŋɪstɪkɪs/, /tremɪz/,
/tempit /, /bɒkɪd/, /stɒps/, /mɪsɪd/, /sɒld/, /twelfɪs /, /fækt/, /resk /, lɪf/, /film/,
/prɒdʌktɪs/, /sɪkɪstɪ:n/, /sɪlk/, /ækt/, /dɪsθɪŋkɪt/, /bɒkɪs/.

Student 16:

Initial consonant clusters:

/ɪstri:t/, /θeə /, /ɪstrɒŋ/, /draʊ/, /ɪflaʊə/, /ɪkweɪt/, /ɪstrætɪdʒi/, /ɪdrɪŋk/, /pli:z/, /stɒp/,
/ɪsprɪŋ/, /dri:mɪz/, /ɪplɪntɪ/, /prɒdʒʌkt/, /krʌʃ/, /gli:b/, /ɪskri:m/, /ɪtwɪst/, /spəʊt/,
/draɪfɪt/, /ɪplu:sɪv/, /θrəʊ/, /ɪstju:dent/, /grænd/, /strʌktər/.

Final consonant clusters:

/gift/, /tembɪt /, /iblɒk/, /ɪdri:mɪd/, /teksit/, /əmɒŋɪst/, /pæsid/, /læŋwɪstɪkɪs/, /tɜ:mɪz/,
/ətmembɪt /, /bɒkɪd/, /stɒps/, /mɪ:sɪd/, /sɒld/, /twelfɪt/, /fækt/, /rest/, læfɪz/, /film/,
/prɒdʌktɪs/, /sɪkɪsnɪs/, /sɪlk/, /æst/, /dɪstɪŋkt/, /bɒkɪs/.

Student 17:

Initial consonant clusters:

/stres/, /tri:/, /ɪstrɒŋ/, /drəʊ/, /flaʊə/, /kwaɪt/, /strætɪdʒi/, /drɪŋk/, /pli:s/, /stɒp/, /sprɪŋ/,
/dri:mɪz/, /plɪntɪ/, /prɒdʒʌkt/, /kræʃ/, /glɑɪb/, /ɪskri:m/, /twɪst/, /spəʊt/, /dræft/, /plu:sɪv/,
/θrəʊ/, /ɪstju:dent/, /ɪgrænd/, /strʌktʃər/.

Final consonant clusters:

*/gift/, /tempt/, /iblɒkɪd/, /dri:mid/, /teksɪts/, /əmpŋɪst/, /pæsid/, /læŋwɪstɪkɪs/, /tɜ:mɪz/,
/ətmɪpt/, /bɒkɪt/, /stɒps/, /mɪsd/, /sɒld/, /twelfs/, /fækt/, /rɪsk/, lɑ:fɪz/, /fɪlm/,
/prɒdʌktɪs/, /sɪkɪstɪ:nθ/, /skɪl/, /ækt/, /dɪstɪŋkɪt/, /bɒks/.*

Student 18:

Initial consonant clusters:

*/stres, /θri:/, /ɪstrŋ/, /drəʊ/, /flaʊə/, /kwaɪt/, /strætɪdʒi/, /drɪŋk/, /pli:z/, /stɒp/, /ɪsprɪŋ/,
/dri:mɪz/, /ɪplɪntɪ/, /prɒdʒʌkɪt/, /krʌf/, /glɑ:b/, /ɪskri:m/, /twɪst/, /spəʊt/, /dræft/,
/plu:sɪv/, /θrəʊ/, /stju:dent/, /grænd/, /strʌktʃər/.*

Final consonant clusters:

*/gift/, /tempt/, /ɪblɒk/, /ɪdri:mid/, /teksɪt/, /əmpŋɪst/, /pæsid/, /læŋwɪstɪk/, /tɜ:mɪz/,
/ətmɪpt/, /bɒkɪd/, /stɒbs/, /mɪsd/, /sɒld/, /twelfɪs/, /fækt/, /rɪsk/, læfɪz/, /fɪlm/,
/prɒdʌktɪs/, /sɪkɪstɪ:n/, /sɪlk/, /ækt/, /dɪstɪŋkt/, /bɒks/.*

Student 19:

Initial consonant clusters:

*/stres/, /θri:/, /strŋ/, /drəʊ/, /flaʊə/, /kwaɪt/, /strætɪdʒi/, /ɪdrɪŋk/, /pli:z/, /stɒp/, /ɪsprɪŋ/,
/dri:mɪz/, /ɪplɪntɪ/, /prɒdʒʌkt/, /krʌf/, /ɪgleɪb/, /skri:m/, /twɪsɪs/, /spəʊt/, /dra:ft/,
/plu:sɪv/, /θrəʊ/, /stju:dent/, /ɪgrænd/, /strʌktʃər/.*

Final consonant clusters:

/gift/, /tempit/, /bləʊk/, /dri:mid/, /teksit/, /əmpŋist/, /pæsid/, /læŋwɪstɪkɪs/, /tɜ:m/,
/ətempt/, /bʊkid/, /stɒpɪs/, /misid/, /sɒld/, /twelfθ/, /fækt/, /risk/, lɪfəz/, /film/,
/prɒdʌkts/, /sikisti:n/, /sɪlk/, /ækt/, /distɪnkɪt/, /bʊks/.

Student 20:

Initial consonant clusters:

/stri:/, /tri:/, /ɪstrŋ/, /drəʊ/, /flaʊə/, /ɪkrwɪ:t/, /strætɪdʒi/, /ɪdrɪnk/, /pli:z/, /stɒp/,
/ɪspeɪrɪŋ/, /ɪdri:mɪz/, /ɪplænt/, /praʊdʌkt/, /krʌʃ/, /glib/, /skeəm/, /twɪst/, /spəʊt/,
/drefɪt/, /plu:sɪv/, /θrəʊ/, /ɪstʉ:dent/, /ɪgrænd/, /ɪstrʌktər/.

Final consonant clusters:

/gift/, /tɑ:m/, /ɪbləʊk/, /ɪdri:mid/, /teksit/, /əmpŋist/, /peɪsid/, /læŋwɪst/, /tɜ:mɪz/,
/ətmɪd/, /bʊkid/, /stɒbs/, /misid/, /slaʊd/, /twelf/, /fækt/, /resk/, læf/, /film/, /prɒdʌkt/,
/sɪkɪs/, /skɪl/, /ækt/, /dɪstɪn/, /bʊkɪs/.

Student 21:

Initial consonant clusters:

/ɪstri:t/, /tri:/, /ɪstrŋ/, /draʊ/, /flaʊə/, /kwat/, /strætɪdʒi/, /drɪnk/, /pleɪz/, /stɒp/, /ɪsprɪŋ/,
/dri:mɪz/, /ɪplɪntɪ/, /prɒdʌkt/, /kra:ʃ/, /ɪglib/, /ɪskri:m/, /ɪtwɪst/, /spəʊt/, /drefɪt/,
/ɪplu:sɪv/, /θrəʊ/, /ɪstʌdent/, /ɪgrænd/, /strʌktər/.

Final consonant clusters:

*/gʌft/, /tæmpit/, /iblɒk/, /idri:mɪd/, /teksɪt/, /əmpŋɪst/, /pæsid/, /liŋɪstɪs/, /treɪmɪz/,
/ətempt/, /bʊkɪd/, /stɒbs/, /mɪsɪd/, /sɒld/, /twelfɪs/, /fækt/, /resk/, læfɪz/, /film/,
/prɒdʌktɪs/, /sɪkɪs/, /sɪlk/, /ækt/, /dɪstɪn/, /bʊks/.*

Student 22:

Initial consonant clusters:

*/stri:t/, /tri:/, /strŋ/, /draʊ/, /flaʊə/, /kwaɪt/, /strətɪdʒi/, /drɪnk/, /pli:z/, /stɒp/, /sprɪŋ/,
/dri:mɪz/, /plɑ:nti/, /prɒdʌkt/, /krʌʃ/, /glɑɪb/, /ɪskri:m/, /tiwɪst/, /spəʊt/, /dræft/, /pɒlsɪv/,
/θrəʊ/, /ɪstʊ:dent/, /ɪgrænd/, /strʌktər/.*

Final consonant clusters:

*/gift/, /ta:m/, /blɒk/, /idri:m/, /teksɪt/, /əmpŋɪst/, /pæsid/, /læŋwɪʒɪs/, /tɜ:mɪz/,
/ətɑ:mpɪd/, /bʊkəd/, /stɒps/, /mæsid/, /sɒld/, /twelfɪt/, /fækt/, /rɪsk/, læfɪz/, /film/,
/prɒdʌktɪs/, /sɪkɪsnɪs/, /sɪlk/, /ækt/, /dɪstɪŋkt/, /bʊks/.*

Student 23:

Initial consonant clusters:

*/ɪstrest/, /θri:/, /sɪtrŋ/, /drəʊ/, /flaʊə/, /ɪkwaɪt/, /strətɪdʒi/, /drɪnk/, /pli:z/, /stɒp/,
/ɪsprɪŋ/, /dri:mɪz/, /ɪplɪntɪ/, /prɒdʌkt/, /krʌʃ/, /glɪb/, /ɪskri:m/, /ɪtwɪst/, /spəʊt/, /drefɪt/,
/pluəsɪv/, /θrəʊ/, /stju:dent/, /ɪgrænd/, /strʌktʃər/.*

Final consonant clusters:

/gift/, /tempit/, /blɒk/, /idri:mid/, /teksitis/, /əməŋɪst/, /pæsid/, /læŋwɪstikis/, /tɜ:miz/,
/ətmpit/, /bəʊkid/, /stɒbs/, /misid/, /sɒld/, /twelfz/, /fækt/, /risk/, /læfiz/, /film/,
/prɒdʌktis/, /sikisti:niθ/, /silk/, /ækt/, /distinkit/, /bɒks/.

Student 24:

Initial consonant clusters:

/stres/, /θri:/, /sitrɒŋ/, /drəʊ/, /flaʊə/, /ikwaɪt/, /strætɪdʒi/, /drink/, /pli:z/, /stɒp/, /sprɪŋ/,
/dri:miz/, /iplinti/, /prɒdʌkit/, /krʌʃ/, /iglib/, /iskri:m/, /itwɪst/, /spəʊt/, /drefit/,
/iplu:sɪv/, /θrəʊ/, /ɪstju:dent/, /ɪgrænd/, /strʌktər/.

Final consonant clusters:

/gift/, /tempit/, /əblæk/, /dri:məd/, /teksit/, /əmɒnɪst/, /pa:sɪd/, /liŋwɪstikis/, /tɜ:miz/,
/ətempit/, /bəʊkid/, /stɒps/, /misid/, /sɒld/, /twelfɪz/, /fækt/, /resk/, /læfiz/, /film/,
/prɒdʌktis/, /sikisti:nɪs/, /silk/, /ækt/, /distinkit/, /bɒkɪs/.

Student 25:

Initial consonant clusters:

/stres/, /tri:/, /ɪstrɒŋ/, /draʊ/, /flaʊə/, /ikwaɪt/, /strætɪdʒi/, /drink/, /pli:z/, /ɪstɒp/, /sprɪŋ/,
/dri:miz/, /iplinti/, /prɒdʌkt/, /krʌʃ/, /iglib/, /sɪkri:m/, /itwɪst/, /spəʊt/, /drefit/, /iplu:sɪv/,
/trəʊ/, /ɪstu:dent/, /grænd/, /ɪstrʌktər/.

Final consonant clusters:

/gift/, /tempt/, /ibləʊk/, /idri:mid/, /teksitis/, /əməʊŋɪst/, /pæsid/, /liŋwistikis/, /tɜ:miz/,
/ætɪmpid/, /bəʊkid/, /stəʊbs/, /misid/, /səʊld/, /twelfiz/, /fækt/, /resk/, la:fiz/, /film/,
/prɒdʌktis/, /sikisnes/, /silk/, /ækt/, /distinkt/, /bʊkis/.

Student 26:

Initial consonant clusters:

/ɪstrest/, /θri:/, /strɒŋ/, /drəʊ/, /flaʊə/, /ɪkwaɪt/, /ɪstrətɪdʒi/, /drɪnk/, /pli:z/, /stəʊb/,
/sprɪŋ/, /dri:məz/, /əplɪnti/, /prɒdʌktɪt/, /krʌʃ/, /ɪglɪb/, /ɪskri:m/, /twɪst/, /spəʊt/, /drefɪt/,
/ɪpləʊsɪv/, /iθrəʊ/, /ɪstju:dənt/, /ɪgrænd/, /strʌktʃər/.

Final consonant clusters:

/gɪfɪt/, /tempɪt/, /ɪbləʊkɪd/, /dri:mid/, /teksitis/, /əmɒnʒɪst/, /pɑ:sɪd/, /liŋwɪstɪk/,
/tri:mɪz/, /ətɛmbɪd/, /bəʊkɪd/, /stəʊbs/, /misɪd/, /səʊld/, /twɛlfɪt/, /fækt/, /rɛst/, læfɪz/,
/fɪlm/, /prɒdʌktɪs/, /sɪkɪstɪ:nɪs/, /sɪlk/, /ækt/, /dɪstɪnkɪt/, /bʊks/.

Student 27:

Initial consonant clusters:

/ɪstres/, /θri:/, /sɪtrɒŋ/, /draʊ/, /ɪflaʊə/, /kwaɪt/, /strətɪdʒi/, /ɪdrɪnk/, /pli:z/, /stɒp/,
/sprɪŋ/, /dri:m/, /plɪntɪ/, /prɒdʒʌkɪt/, /krʌʃ/, /ɪglɪb/, /skri:m/, /twɪst/, /spɔ:t/, /dræfɪt/,
/əpləʊsɪv/, /trəʊ/, /stju:dənt/, /grænd/, /ɪstrʌktər/.

Final consonant clusters:

*/gɪft/, /temp/, /ɪbləʊkɪd/, /ɪdri:mɪd/, /teksɪts/, /əməˈnɪst/, /pɑ:sɪd/, /læˈnɪstɪkɪs/, /tɜ:mɪz/,
/ətˈmɪd/, /bəʊkɪd/, /stɒps/, /mɪsɪd/, /sɒld/, /twelfθɪz/, /fækt/, /rɪsk/, læfz/, /film/,
/prɒdʌktɪs/, /sɪkɪsnɪs/, /skɪl/, /ækt/, /dɪstɪŋkt/, /bʊkɪs/.*

Student 28:

Initial consonant clusters:

*/stres/, /tri:/, /ɪstrɒŋ/, /drəʊ/, /flaʊər/, /ɪkwɑɪt/, /strætɪdʒi/, /ɪdrɪŋk/, /pleɪz/, /stɒp/,
/ɪsprɪŋ/, /dri:m/, /ɪplɪntɪ/, /prɒdʌkɪt/, /əkɪl/, /glɪb/, /ɪskri:m/, /ɪtwɪst/, /spəʊt/, /dra:ft/,
/plu:sɪv/, /iθrəʊ/, /stju:dent/, /grænd/, /strʌktʃə/.*

Final consonant clusters:

*/gɪft/, /tɛmbɪt/, /ɪbləʊk/, /dri:mɪd/, /tæksetɪz/, /əmɒnɪzɪst/, /pæs/, /læŋwɪstɪkɪs/, /tɜ:mɪz/,
/ətɪmpɪd/, /bʊkɪd/, /stɒps/, /mæsɪd/, /sɒld/, /twelfs/, /fækt/, /rest/, lɑ:fɪz/, /film/,
/prɒdʌktɪs/, /sɪkɪsnɪs/, /sɪlk/, /ækt/, /dɪstɪŋkɪt/, /bʊks/.*

Student 29:

Initial consonant clusters:

*/ɪstres/, /θri:/, /ɪstrɒŋ/, /drɜ:/, /flaʊər/, /kwɑɪt/, /ɪstrætɪdʒi/, /ɪdrɪŋk/, /pli:z/, /stɒp/,
/sprɪŋ/, /dri:mɪz/, /ɪplɪntɪ/, /prɒdʒʌkɪt/, /krʌʃ/, /ɪglɪb/, /ɪskri:m/, /twɪst/, /spəʊt/, /dɹeft/,
/plu:sɪv/, /θrəʊ/, /ɪstju:dent/, /ɪgrænd/, /strʌktər/.*

Final consonant clusters:

/gift/, /tembit/, /blɒkɪd/, /dri:mid/, /teksɪt/, /əmʌŋɪst/, /pæsɪd/, /læŋwɪst/, /tɜ:mɪz/,
/ətɛmbɪd/, /bʊkɪd/, /stɒbs/, /mɪsɪd/, /sɒld/, /twelf/, /fækt/, /rest/, la:fəz/, /film/,
/prɒdʌktɪs/, /sɪkɪsnɪs/, /sɪlk/, /æst/, /dɪstɪŋkt/, /bʊks/.

Student 30:

Initial consonant clusters:

/stret/, /θri:/, /strɒŋ/, /drəʊ/, /flaʊər/, /ɪkwaɪt/, /ɪstrəti:ʒɪ/, /ɪdrɪŋk/, /pli:z/, /stɒp/, /sprɪŋ/,
/dri:mɪz/, /ɪplɪntɪ/, /prɒdʒʌkɪt/, /krʌʃ/, /ɪglɑɪb/, /ɪskri:m/, /ɪtwɪst/, /spəʊt/, /dreft/,
/ɪpləʊsɪv/, /θrəʊ/, /stu:dent/, /ɪgrænd/, /strʌktʃər/.

Final consonant clusters:

/gɪfɪt/, /tɛmpɪt/, /ɪblɒk/, /dri:md/, /teksɪtɪz/, /əmɒnʒɪst/, /pɑ:sɪd/, /lɪŋwɪstɪkɪs/, /tri:mɪz/,
/ətɛmbɪd/, /bʊk/, /stɒps/, /mɪsɪd/, /sɒld/, /twɛlfɪz/, /fækt/, /rɛsɪt/, la:fɪz/, /fɪlm/,
/ɪprɒdʌktɪs/, /sɪkɪsnɪs/, /skɪl/, /ækt/, /dɪstɪŋkt/, /bʊkɪs/.

Student 31:

Initial consonant clusters:

/ɪstres/, /tri:/, /ɪstrɒŋ/, /draʊ/, /flaʊər/, /əkwaɪt/, /strətɪdʒɪ/, /ɪdrɪŋk/, /pli:z/, /stɒb/,
/ɪsprɪŋ/, /dri:mɪz/, /plɪntɪ/, /prɒdʌkɪt/, /krʌʃ/, /glɪb/, /ɪskri:m/, /twɪst/, /ɪspəʊt/, /dræft/,
/plu:sɪv/, /ɪθrəʊ/, /ɪstu:dent/, /ɪgrænd/, /ɪstrʌktʃər/.

Final consonant clusters:

/gift/, /temp/, /blɒk/, /ɪdri:mɪd/, /teksɪtɪz/, /əməŋɪst/, /pɑ:sɪd/, /læŋwɪstɪkɪs/, /tɜ:mɪz/,
/ətɛmbɪd/, /bʊkɪd/, /stɒbs/, /mɪsɪd/, /sɒld/, /twelft/, /fækt/, /rest/, læfɪz/, /film/,
/prɒdʌkts/, /sɪkɪstɪ:nɪs/, /sɪlk/, /ækt/, /dɪstɪŋkɪt/, /bʊkɪs/.

Student 32:

Initial consonant clusters:

/sɪtrɛs/, /tri:/, /strɒŋ/, /ɪdrəʊ/, /flaʊə/, /ɪkwɑ:t/, /ɪstrætɪdʒi/, /drɪŋk/, /pli:z/, /stɒb/,
/ɪsprɪŋ/, /dri:mɪz/, /plɪntɪ/, /prɒdʌkɪt/, /krʌʃ/, /ɪglɑɪb/, /ɪskri:m/, /twɪst/, /spəʊt/, /drɛfɪt/,
/ɪplu:sɪv/, /θrəʊ/, /ɪstju:dɛnt/, /grænd/, /ɪstrʌktər/.

Final consonant clusters:

/gift/, /tempɪt/, /ɪbʊkɪd/, /drɛmɪd/, /teksɪt/, /əməŋɪsɪt/, /pæs/, /læŋɪstɪkɪs/, /tɜ:mɪz/,
/ətɪmɪd/, /bʊkɪd/, /stɒps/, /mɪsɪd/, /sɒld/, /twelfs/, /fækt/, /rest/, læfɪz/, /film/,
/prɒdʌktɪs/, /sɪkɛstɪ:nes/, /sɪlk/, /ækt/, /dɪstɪŋkt/, /bʊkɪz/.

Student 33:

Initial consonant clusters:

/ɪstrɛs/, /θri:/, /sɪtrɒŋ/, /drəʊ/, /ɪflaʊər/, /ɪkwɑ:t/, /ɪstrætɪdʒi/, /drɪŋk/, /pli:z/, /stɒbɪs/,
/ɪsprɪŋ/, /ɪdri:m/, /ɪplɪntɪ/, /prɒdʌkɪt/, /krʌʃ/, /glɪb/, /ɪskri:m/, /ɪtwɪst/, /spɔ:t/, /dræfɪt/,
/ɪplu:sɪv/, /θrəʊ/, /ɪstju:dɛnt/, /grænd/, /ɪstrʌkt/.

Final consonant clusters:

*/gɪfɪt/, /tɛmbɪt/, /ɪblæk/, /ɪdri:m/, /tekɪs/, /əmɒnɪzɪst/, /pɑ:sɪd/, /læŋwɪstɪk/, /tɜ:m/,
/ətɛmpɪd/, /bʊkɪd/, /ɪstəʊbɪs/, /mɪsɪd/, /sɒld/, /twɛlfɪs/, /fækt/, /rɪsk/, læfɪz/, /fɪlm/,
/prɒdʌktɪs/, /sɪkɪstɪ:nɪs/, /sɪlk/, /ækt/, /dɪstɪŋkt/, /bʊks/.*

Student 34:

Initial consonant clusters:

*/stres/, /tri:/, /strɒŋ/, /drəʊ/, /flaʊə/, /kwɑ:t/, /strætɪdʒɪ/, /drɪŋk/, /pli:z/, /stɒp/, /ɪsprɪŋ/,
/dri:mɪz/, /plɑ:ntɪ/, /prɒdʌkɪt/, /krʌʃ/, /ɪglɪb/, /skri:m/, /twɪst/, /spəʊt/, /dræfɪt/,
/ɪpləʊsɪv/, /θrəʊ/, /stju:dɛnt/, /grænd/, /strʌktʃər/.*

Final consonant clusters:

*/gɪft/, /tɛmpɪt/, /blʊk/, /dri:mɪd/, /tekɪst/, /əmɒnɪzɪst/, /pæsɪd/, /lɪŋwɪstɪkɪs/, /tɜ:mɪz/,
/ətɛmbɪd/, /bʊkɪd/, /stəʊbɪs/, /mɪsɪd/, /sɒld/, /twɛlfɪθ/, /fækt/, /rɪsk/, læfs/, /fɪlm/,
/prɒdʌktɪs/, /sɪkɪstɪ:nəs/, /sɪlk/, /ækt/, /dɪstɪŋkt/, /bʊkɪs/.*

Student 35:

Initial consonant clusters:

*/stres/, /θri:/, /ɪstrɒŋ/, /draʊ/, /flaʊə/, /ɪkwɑ:t/, /strætɪ:dʒɪ/, /drɪŋk/, /pli:z/, /stɒp/,
/ɪsprɪŋ/, /dri:mɪz/, /ɪplɪntɪ/, /prɒdʒʌkɪt/, /krʌʃ/, /glɪb/, /ɪskri:m/, /twɪst/, /spəʊrt/, /drɛfɪt/,
/pləʊsɪv/, /θrəʊ/, /ɪstju:dɛnt/, /grænd/, /strʌktə/.*

Final consonant clusters:

/gift/, /tembit/, /ibləʊkid/, /idri:m/, /teksit/, /əmpŋst/, /pæsid/, /læŋwistik/, /tɜ:m/,
/ətempid/, /bɒkid/, /stɒbs/, /mis/, /sɒld/, /twelf/, /fækt/, /rest/, læfiz/, /film/, /prɒdaktis/,
/siksti:nis/, /silk/, /ækt/, /distɪnkɪt/, /bɒks/.

Student 36:

Initial consonant clusters:

/istrit/, /tri:/, /strŋ/, /draʊ/, /flaʊə/, /ikwaɪt/, /strætɪdʒi/, /drink/, /pli:z/, /istɒp/, /isprɪŋ/,
/dri:miz/, /iplinti/, /prɒdaktit/, /krʌʃ/, /gləb/, /iskri:m/, /twist/, /spɔ:t/, /dra:ft/, /ipləʊsɪv/,
/trəʊ/, /stu:dent/, /grænd/, /istrʌktʃər/.

Final consonant clusters:

/gift/, /tembit/, /blæk/, /dri:mid/, /teksits/, /əmlŋɪst/, /pa:sɪd/, /læŋwis/, /tɜ:mz/,
/ətempid/, /bɒkid/, /stɒbis/, /mɪsɪd/, /sɒld/, /twelfθ/, /fækt/, /resk/, læfiz/, /film/,
/prɒdaktis/, /sɪkɪsnɪs/, /silk/, /ækt/, /distɪnkɪt/, /bɒks/.

Student 37:

Initial consonant clusters:

/stres/, /tri:/, /istrŋ/, /drəʊ/, /flaʊə/, /kwaɪt/, /istrætɪdʒi/, /drink/, /pli:z/, /stɒp/, /isprɪŋ/,
/dri:miz/, /plenti/, /prɒdaktit/, /krʌʃ/, /ɪɡlɪb/, /iskri:m/, /twist/, /spəʊt/, /drefɪt/, /plu:sɪv/,
/θrəʊ/, /stu:dent/, /ɪgrænd/, /istrʌktər/.

Final consonant clusters:

/gift/, /tempt/, /blɒkɪd/, /ɪdri:mɪd/, /teksɪt/, /əməŋɪst/, /pæsaɪd/, /lɪŋwɪstɪs/, /tɜ:mɪz/,
/ətɛmpɪd/, /bɒk/, /stɒbs/, /mɪsɪd/, /sɒld/, /twelfθ/, /fækt/, /resk/, læfɪz/, /fɪlm/,
/ɪprɒdʌktɪs/, /sɪkɪstɪ:nɪs/, /sɪlk/, /ækt/, /dɪstɪŋkɪt/, /bɒks/.

Student 38:

Initial consonant clusters:

/ɪstret/, /θri:/, /ɪstrɒŋ/, /draʊ/, /flaʊə/, /kwaɪt/, /ɪstrætɪdʒɪ/, /drɪŋk/, /pli:z/, /stɒb/,
/ɪsprɪŋ/, /dri:mɪz/, /plɪntɪ/, /prɒdʌkt/, /krʌʃ/, /ɪglɪb/, /ɪskri:m/, /ɪtwɪst/, /spəʊt/, /drefɪt/,
/plu:sɪv/, /θrəʊ/, /stju:dɛnt/, /grænd/, /strʌktʃər/.

Final consonant clusters:

/gift/, /tempɪt/, /ɪblɒkɪkd/, /ɪdri:mɪd/, /teksɪtɪs/, /əməŋɪst/, /pæsaɪd/, /lɪŋwɪstɪkɪs/,
/tɜ:mɪz/, /ətɛmbɪt/, /bɒkɪd/, /stɒbs/, /mɪsɪd/, /sɒld/, /twelfθ/, /fækt/, /resk/, læfɪz/, /fɪlm/,
/prɒdʌktɪs/, /sɪkɪstɪ:n/, /sɪlk/, /ækt/, /dɪstɪŋkɪt/, /bɒkɪs/.

Student 39:

Initial consonant clusters:

/stres/, /tri:/, /strɒŋ/, /ɪdrəʊ/, /ɪflaʊə/, /kwaɪt/, /strætɪdʒɪ/, /drɪŋk/, /ɪpli:z/, /stɒp/, /ɪsprɪŋ/,
/dri:mɪz/, /plɪnt/, /prɒdʌkt/, /krʌʃ/, /ɪglɪb/, /ɪskri:m/, /twɪst/, /spəʊt/, /drefɪt/, /ɪpləʊsɪv/,
/trəʊ/, /ɪstju:dɛnt/, /grænd/, /strʌktər/.

Final consonant clusters:

/gift/, /temt/, /iblæk/, /idri:məd/, /teksit/, /əmɒŋgɪst/, /pæsid/, /læŋwɪstɪkɪs/, /tɜ:mɪz/,
/ətɪd/, /bʊkɪd/, /stɒbs/, /mɪsɪd/, /sɒld/, /twelf/, /fækt/, /rest/, læfɪz/, /film/, /prɒdʌktɪs/,
/sɪkɪsnɪs/, /sɪlk/, /ækt/, /dɪstɪŋkt/, /bʊks/.

Student 40:

Initial consonant clusters:

/streɪt/, /treɪ/, /ɪstrɒŋ/, /drəʊ/, /flaʊə/, /kwaɪt/, /strætɪdʒi/, /drɪŋk/, /pli:z/, /ɪstɒp/, /sprɪŋ/,
/dri:mɪz/, /ɪplɪntɪ/, /prɒdʌkɪt/, /krʌʃ/, /glɪb/, /ɪskri:m/, /ɪtwɪst/, /spəʊt/, /drefɪt/, /ɪplu:sɪv/,
/trəʊ/, /ɪstju:dent/, /ɪgrænd/, /strʌktʃər/.

Final consonant clusters:

/gift/, /tembɪt/, /ɪblʊkɪd/, /dri:mɪd/, /teksɪts/, /əmʌŋɪst/, /pɑ:sɪd/, /lɪŋwɪstɪkɪs/, /tɜ:mɪz/,
/ətɛmpɪd/, /bʊkəd/, /stɒps/, /mɪsɪd/, /sɒld/, /twelfiθ/, /fækt/, /rɪsk/, lɑ:fɪz/, /film/,
/prɒdʌktɪs/, /sɪkɪstɪ:n/, /sɪlk/, /ækt/, /dɪstɪŋkt/, /bʊkɪs/.

Appendix Two

Teachers' Questionnaire

Dear teachers:

This study aims to investigate the reasons of the difficulty of pronouncing English consonant clusters in onset and coda positions by EFL Libyan learners of Faculty of Education in Misurata. This study also aims to find out whether the students' first language (Arabic) has a negative interference on the Libyan students' production of consonant clusters. Moreover, this study aims to differentiate between the syllable structure of the two languages; English and Arabic. This research tries also to shed light on the notion of syllable and tries to infer the main difficulties that may face Libyan students in this area.

Please, read each question carefully and tick one answer.

13- How often do you teach the following pronunciation items?

- English syllable structure.

Very often Often Sometimes Rarely

- English phonotactics.

Very often Often Sometimes Rarely

14- Does reading aloud with the support of the recorded English material help in improving students' pronunciation of consonant clusters?

Strongly agree Agree Strongly disagree Disagree

15- Does having situational dialogues help in improving pronunciation?

Strongly agree Agree Strongly disagree Disagree

16- What kind of English pronunciation will you suggest to your students as their target in learning pronunciation?

- English pronunciation with an Arabic accent.
- Intelligible pronunciation.
- Native-like pronunciation .

17- Do you think time allocated for teaching pronunciation in this semester is :

Enough

Not enough

18- I use technology in teaching pronunciation.

Very often Often Sometimes Never

19- In teaching English pronunciation, I record students' voices and let them listen to themselves.

Very often Often Sometimes Never

20- Does the lecturers' explanation of how to pronounce phonetic symbols help in improving pronunciation?

Strongly agree

Strongly disagree

Disagree

THANKS FOR YOUR CO-OPERATION

Appendix Three

Check-list for classroom observation

	T1	T2	T3	T4
Making a review about the previous lesson.	✓	✓	X	✓
Introducing the goal of the lesson.	✓	✓	✓	✓
Preparing the lesson.	✓	✓	✓	✓
Giving students opportunities to speak.	X	X	X	X
Pronouncing correctly.	X	✓	✓	✓
Caring about students' pronunciation.	X	X	X	X
Using teaching aids.	✓	✓	✓	✓