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The Investigation of the L1 Transfer to L2 in producing English consonant Cluster by the EFL Iraqi students at Iraqi Universities.

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Abstract

The problem in learning English lies not only in the mastery of the foreign phonemes and their variants but also in the ability to pronounce these sounds in certain sequences. Therefore, the present study is conducted to measure participants' capacities to produce consonant clusters in correct way and to discover the cluster which plays a great role in creating difficulties for pronouncing English consonant cluster in different word positions. The sample of study included (50) participants form the department of English, College of Education for Women at Iraqiya University. The researcher utilized a writing test as an tool to collect data. To accomplish the aims of the study, descriptive analytical method was used to describe the results of data analysis. The results of the study showed that 33.6 % of the participants' participants was correct while 66.4 % was the percentage of the incorrect pronunciation in pronouncing initial clusters. Furthermore, the results showed that 32 % of the participants pronunciation was correct while 68 % was the percentage of the incorrect pronunciation in pronouncing final clusters. The main recommendation is that students should pay more attention to four final cluster through more intensive practice by using the strategy of lengthening /S/ and building up the cluster by adding a segment each time to pronounce good clusters.

Keywords: Investigation , English consonant Cluster , EFL

التحقيق في تحويل L1 إلى L2 في إنتاج مجموعة الحروف الساكنة الإنجليزية من قبل طلاب اللغة الإنجليزية كلغة أجنبية في الجامعات العراقية.

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مستخلص البحث

ان مشاكل تعلم اللغة لا تكمن فقط في اتقان الاصوات الاجنبية وبدائلها بل ايضاً في القدرة على نطق هذه الاصوات بشكل متكتل. لذلك أجريت هذه الدراسة للتحقق من قدرات الطلاب في لفظ السواكن المتكتلة بشكل صحيح بالإضافة الى اكتشاف اي التكتل الذي قد يلعب دوراً كبيراً في تكوين هذه الصعوبات عند نطق التكتلات في مواقع مختلفة من الكلمة، تكونت عينة الدراسة من 50 طالباً من قسم اللغة الانكليزية/ كلية التربية للبنات/ الجامعة العراقية. أستخدم الباحث الاختبار المكتوب كأداة لجمع البيانات. ولغرض انجاز اهداف البحث استخدم الباحث طريقة التحليل الوصفي لوصف نتائج تحليل البيانات. اظهرت النتائج بان اجابات الطلاب الصحيحة كانت 33.6% بينما كانت نسبة الاجابات الغير الصحيحة 66.4% في نطق المقاطع التي تبدأ بتجميع ثلاث سواكن. بالإضافة الى ذلك اظهرت النتائج بان اجابات الطلاب الصحيحة كانت 32% بينما كانت نسبة الاجابات الغير الصحيحة 68% في نطق المقاطع التي تنتهي بتجمع اكثر من ثلاث سواكن. ويرى الباحث أن التوصية الرئيسية لحل هذه المشكلة هو انه يجب على الطلاب الاهتمام بشكل كبير بدراسة المقاطع التي تتكون من أربع سواكن، وذلك من خلال التدريب

الكثيف بواسطة استخدام استراتيجية تطويل الصوت / س/ واستراتيجية عملية البناء ويكون بإضافة صوت واحد بعد كل لحظة للكلمة من أجل نطق تكتل السواكن بشكل جيد.

الكلمات المفتاحية: تحقيق ، مجموعة الحروف الساكنة الإنجليزية ، اللغة الإنجليزية كلغة أجنبية

Chapter One

Introduction

1.0 Overview:

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 (Lin, 2014).

The English language has thirty six segmental phonemes. These phonemes are peculiar in English in that no other languages has exactly the same inventory. The phonemes that seem so natural to us, are not Found in most languages. When phonemes are joined together in syllables and words, it becomes clear that there are limitations to the positions they occupy and to the ways in which they may be arranged in sequences.

In linguistics a consonant cluster, Consonant sequence or Consonant Compound, is a group of Consonants which have not intervening Vowel. In English for example, the groups /spl/ and /ts/ are consonant clusters in the word splits. In the education field, it is variously called Consonant Clusters. Some linguists show that the term can be properly applied only to those Consonant Clusters that occur within one syllable. Other claim that the concept is wore useful when it includes Consonant sequences across syllable boundaries (Kohler, 1994: 2).

There are more consonant sounds in Iraqi Arabic than in English. Some of these sounds are quite unlike anything in English and therefore require considerable practice on the part of the English-speaking learners. Others are in some respects like certain English sounds, but are still different enough to deserve special attention. Half of them, however, are so much like English sounds that they present little or no difficulty. English Consonant sounds occur singly or in groups, and in the words they occupy three positions-initial, medial, and final.

This description statement is not as trite as it appears, for it is no necessarily true of other languages. In Japanese, for instance, Consonants occur only singly, no in groups, and in Chinese Consonants do not appear in final positions, except for nasals, and in Iraqi Arabic no word ends with a cluster of more than consonants’

and no word begins with a cluster of more than two consonants. Accordingly, all combinations of three and for elements occurring in English do not have counter parts in Iraqi Arabic (Al-Hamash and Behnam, 1975).

1.1 Statement of the problem:

English can actually have larger onset clusters which Consist of three initial consonants and Coda clusters which consist of more than three final consonants. The phonotastisc of these consonant clusters is too difficult to Iraqi students at universities. It is also noticeable that Iraqi Arabic permits only clusters of two consonants in word-initial and word-final positions. Accordingly, all combinations of three and four consonants occurring in English do not have counterparts in Iraqi Arabic. The researcher has noticed that while English permits cluster of four elements as the maximum limits, Iraqi Arabic does not have clusters of more than two elements. Consequently, Iraqi students at universities face difficulties in producing English Consonant Clusters of three or more elements. The reason behind this study is to intend to enquiry why Iraqi students at universities make mistakes in producing consonant clusters.

1.2 Objectives of the Study:

1- To measure students' capacities to pronounce consonant clusters in correct ways.
2- To show the cluster which plays a great role in creating difficulty for pronouncing English consonant cluster in different word- positions.
3- To show appropriate strategies to simplify the pronunciation of sequences of consonants.

1.3 Questions of the Study:

1- To what extent are students able to pronounce consonant clusters in correct ways?
2- Which cluster plays a great role in creating difficulty for pronouncing English consonant combinations?
3- What are the appropriate strategies that students employed to simplify the pronunciation of consonant clusters?

1.4 The significance of the Study:

The study has both theoretical and practical Values. The theoretical value will hopefully correct the assumptions on the difficulties related to consonant clusters. The practical Value can serve as feedback for teachers and syllabus designers so as to overcome the problems they face in their attempts to produce accurate pronunciation. Besides, it is hoped this research will assist the students of universities to produce English Consonant Clusters accurately.

1.5 Methodology of the Study:

In this study, the researcher will adopt analytical descriptive method, since it is appropriate method for this research. The researcher will use a pronunciation test as a tool method of quantitative analysis. The sample of this study composed of (50) students at Iraqiya University, College of Education for Women.

1.6 Limits of the Study:

This study will concentrate on the consonant cluster pronunciation in English. Time in the academic year 2022 in the second stage at Iraqiya University/ college of Education for Women.

Chapter Two
Literature Review

2.0 Introduction:

This chapter consists of two parts: The first part is devoted to the theoretical framework of the study which deals with the terms: English consonant cluster, types of English consonant cluster, Arabic consonant cluster, Epenthesis, Language transfer, the structure of syllable in English and Arabic. The second one is devoted to the review of some previous related studies to identify the position of the present study and state how it is different from its counterparts.

2.1 English consonant cluster:

One of the features of the phonological structure of a language is that of sequences of phonemes. English consonant clusters provide a good example of such features (Gleason, 1961: 336). To describe the phonological street are of English, a detailed account will be presented to show the possible consonant clusters that occur in different word- positions. As for a word based definition, Al- Hamash and Behnam (1975: 36) define consonant cluster as “a group of two or more consonants not separated by any vowel”. This definition is a suitable one to be followed in the present study. By this definition, one can conduct an investigation of the possible consonant combinations which can occur within a word.

2.1.1 Initial Consonant Clusters:

Initial consonant clusters are defined as those clusters which occur at the beginning of a syllable and before a vowel Al- Hamash and Behnam, (1975: 37). Gleason (1961: 340) states that a cluster of three consonants is allowed as a maximum number in initial positions. In this regard Pring (1959: 164) signifies that there are different four groups of consonant clusters that can occur at the beginning of a word in English.

Group 1:

In this group, the second number of the cluster is either / r / or / l /, and the first number is a stop or a voiceless fricative. The dental and alveolar consonants / θ, t , d / do not normally occur before / l / :-

/ tr / tree / dr / drive / θr / three

/ pr / price / br / brown / fr / free

/ kr / cry / gr / grow / fl / flame

/ pl / please / bl / blow

/ kl / clear / gl / glow

Group 2:

In this group, the second element is of the semi consonants / j,w /. The first consonant is a stop, a fricative, or a nasal. The labial consonant /p, b, f, v, m / do not occur normally in English words before / w / :-

/ p j / pure / b j / beauty / f j / few / v j / view

/ t j / tune / d j / during / θj / thew / mj / music

/ k j / cute / g j / gew / h j / human / n j / new

/ tw / twin / dw / dwindle / θw / thwart

/ kw / quick / gw / Gwen

Group 3:

In this group, the first member is a voiceless sibilant fricative, /S, ʃ/. The second element is a voiceless stop or fricative or nasal or semi consonant. The voiced sibilants in English are not used in initial clusters, Alveolar / ʃ / doesn't occur before / l / in English words:-

/ sp / spend / sm / small / sl / slow

/ st / stand / sn / snap / sw / swell

/ sk / sky / sf / sphere / ʃ r / shrub

Group 4:

This group includes initial clusters of three consonant clusters which are

preceded by / S /. The third consonant is a resonant or a semi- consonant:- Not all the possible combination occur:-

/ spr / spring / spl / split

/ str / string / skl / sclerosis

/ skr / scrap / skw / square.

O'Connor (1973: 229) shows that clusters of two consonants before the vowel have one of two forms: / S / + c as in stay / stei /, swim / swim / or C + / w, j, r, l / as in twin / twin /, cream / kri:m /. Three initial clusters have a more restricted form which is a combination of the general two-term possibilities. The first consonant must be / s / and the last must be one of / w, j, r, l /; the middle consonant is one of /p, t, k/ as in splash / spla: ʃ /, stew / stju /, whereas /spw/, / stl /, / sfj / are not found.

2.1.2 Final-Consonant Clusters

Al-Hamash and Behnam (1975, 50) state that final consonant clusters are those which occur postvocalic, i.e., at the end of a syllable and after a vowel and a cluster of four consonants is allowed as a maximum limit, In this respect, Roach (1983: 59) mentions some general rules governing the occurrence of final CCs. He shows that final two-elements can be classified into two types: one being consonant preceded by a prefinal consonant and the other being a final consonant followed by a post-final consonant. The group /m, n, ŋ, l, s/ forms the pre final consonant whereas the group / s, z, t, d, θ/ forms the post-final consonant. Final three element consonant clusters are also of two types: the first consists of pre-final plus final plus post-final, and the second consists of final consonant plus first post-final plus second post-final. The second post-final elements in clades the same group that forms the post-final consonant. Most final four element clusters can be considered as having a final consonant preceded by a pre-final and followed by first and second post-finals. A small set of final four element consonant clusters can be analyzed as having a final consonant followed three post-finals with no pre final element (ibid, 60).

2.2 The Structure of the Syllable in English and Arabic

In order to study the problems of pronouncing English consonant clusters which are faced Iraqi learners of English, we need to shed alight on structures of the syllables in both languages. The researcher wants to know the reasons of the difficulties which Iraqi students of English face in pronouncing English consonant clusters.

2.2.1 English Syllable Structure:

Generally speaking, English shows more complex syllable patterns resulting from adding several consonant elements in the marginal places. The largest possible consonant that occur initially with a syllable are three while four consonant are allowed to occur finally. English syllable structure can be outlined in the formula (C) (C) (C) V (C) (C) (C) (C). To put it more accurately, the phonological syllable structure shows the following patterns of arrangement: Co 3 V Co 4. This pattern means that syllable consists of a vowel which is preceded by zero, one, two or three as a maximum limit, and followed by zero, one, two, three or four consonants. This pattern is agreed upon by most phoneticians such as Abercrombie (1967: 15); O'Connor (1973: 229), Roach (1983: 72) and Hawkins (1984: 269).

2.2.2 Arabic Syllable Structure:

In regard to consonant clusters in a syllable, modern standard Arabic consists of only one consonant in the onsets. That is, it cannot be more than one consonant phoneme as in / kul / (call). While it consists of one or two in the codas as in / bint / and / ʃams / which mean girl and sun respectively. Therefore, modern standard Arabic permits initially the sequences of V as in / alam / which means (pain), CV as in / kawkab / which means (planet). So, modern standard Arabic permits the sequence of C as in / baab / which means (door), CC as in / rasamt / which means (I drew) (kharma and Hajaj, 1989: 13). This means that English and Arabic are two languages that differ greatly in the range of syllable structure patterns they make use of. This difference may effect in teaching English to speakers of Arabic especially in pronunciation.

Epenthesis

In phonology, epenthesis means the addition of one or more sounds to a word especially in the beginning syllable or in the ending syllable or in between two syllable sounds in a word. The word epenthesis comes from Ancient Greek. Epenthesis may be divided into two types: excrescence for the addition of a consonant, and for the addition of a vowel. Epenthesis arises for a variety of reasons. The phonotactics of a given language may discourage vowels in hiatus or consonant clusters, and a consonant or Vowel may be added to make pronunciation easier.

In grammar, epenthesis often breaks up a consonant cluster or Vowel sequence that is not permitted by the phonotactics of a language. Regular or semi-regular epenthesis commonly occurs in language with affixes. For example, a reduced Vowel /i/ or /ə/ is inserted before the English plural suffix-/z/ and the past tense suffix-/d/ when the root ends in a similar consonant (Kohler, 1994: 33).

2.3 Language Transfer

Language transfer is most commonly discussed in the text of English language learning and teaching. Language transfer refers to speakers or writers applying knowledge from one language to another language. It can be divided into two types:-

2.3.1 Positive Transfer

When the relevant unit or structure of both languages is the same linguistic interference can result in correct language production called positive transfer.

2.3.2 Negative Transfer

Negative transfer is implied the fact that a second task containing the same stimuli but requiring totally unrelated responses should produce negative transfer. It should be more difficult to learn a second task where transfer is negative. It has been found that the only condition that consistently produces net negative transfer is one in which the same responses are used in paired-associate learning but are rearranged.

Under these conditions, the subjects learn new pairing of old responses and this condition nearly always produce large amount of negative transfer. Experiments on transfer have shown that negative transfer take place when new responses have to be learned or old ones rearranged. It has been found that the greatest amount of negative transfer comes from the rearrangement of the original responses. (Richard, 1992: 21)

Chapter Three

Research Methodology

3.0 Introduction

This chapter is concerned with the procedures followed in carrying out the study. It provides a description of population and sampling of the study, tools for collecting data, procedure of the test. In addition, this chapter involves reliability and validity of the study and data analysis.

3.1 Population and Sample of the Study

The sample in this study includes fifty EFL learners studying English at the Faculty of Education/ Iraqiya university. These students are aged between 18-23 and the sample was chosen out of (200) students consisting the total number of the second year students. The students formed roughly a homogeneous group having the same characteristics. The researcher chose the students of the second year because they had completed studying an academic year (two semesters), so they are familiar with the atmosphere of the university. The fifty students were

chosen randomly to sit for a test in pronouncing consonant clusters.

3.2 Tools for Collecting Data

In order to gather the data for the current study, the researcher used a pronunciation test that consists of fifty items. The objective is to view whether the sample had vowels inducing (insertion) while producing the English words of three and Four consonant clusters. The test includes fifty words, twenty of which contain different initial consonant clusters and the others cover different final consonant clusters. The words which have been chosen are not difficult for the students, and those words are familiar to the students. The testees were instructed to read the test items carefully and to leave a gap between one word and another to give the researcher a chance to distinct the testees' pronunciation. The words chosen for the test were taken from O'Connor's "book Better English pronunciation" and Roach's book "English phonetics and phonology".

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

1- Words of Two initial consonant clusters:
through, drink, stop, fly, view, glue, plane, news, bread, clay.
2- Words of three initial consonant clusters:
screen, spray, stray, square, strong, splash, spring, screw, scratch.
3- Words of two final consonant clusters:
fact, tense, pushed, begged, false, bold, sixteenth, risk, linguistics, film.
4- Words of three final consonants clusters:
glimpse, fists, depths, thousandth, sixth, tasks, winked, next, nymphs, midst.
5- Words of Four final consonant clusters:
twelfths, prompts, texts, mulcts, sixths, thousandths, sculpts, glimpsed, sprinkles, bangles.

3.2.1 Research Tool

The researcher used a pronunciation Test as a tool in order to get the data, which was determined for English students. The test items fall into three categories. The first category was composed of (20) items and those items were determined to examined the students in producing the items of two and three initial consonant clusters. The Second category was composed of (20) items, and those items were determined to examine the students in producing the items of two and three final consonant clusters. The third category was Composed of (10) items and those items were determined to examine the students in producing the items of Four final consonant clusters. The test items have been chosen on the basis of two main criteria; namely the number of syllables and the degree of

familiarity of words. Students were requested to read those test items and their Voices were recorded. Each students' Voice was recorded separately. Each item in the test was repeated twice in order to check the stability of the students' performance (see appendix I).

3.3 Procedure of the Test

In order to decrease the effect of hesitation, the researcher tried seriously to gain the students' friendship by encouraging them to be as calm as possible through friendly talks. Before starting the experiment, the researcher had told the students that the final results they would get would not be taken into consideration as evaluation for their performance in English. After finding that all the students were all at ease, the test items were distributed. The students' responses were recorded in language laboratory. The test was conducted in two recording sessions. In each session (25) students were brought into the lab. The instructor who was in charge of the controller had checked the recorder in order to secure that the recorder functions properly. Each student was asked to read the list of words in clear voice and at normal speed. The performance of each student was recorded separately Finally, the students' responses were analyzed statistically. The researcher concentrated on the way the students pronounce the consonant combinations with emphasis on the breaking they might make while pronouncing the combination. Other points such as phoneme substitutions consideration.

3.4 Validity and Reliability

The test was checked by three staff members at the department of English at Iraqiya University. The researcher made the amendments they suggested and finally they judge the test to be valid. The result of this judgment of the test has shown that the test is valid for investigating the problems of pronouncing consonant cluster in the second year students according to their knowledge of classifying the consonant cluster.

To calculate the validity and reliability of the study tool, the researcher used the following equation:

Validity = $\sqrt{\text{reliability}}$

Reliability Coefficient $\frac{2r}{1+r}$

N of item	Cronbach Alpha
50	846

$= \frac{0.846\ x\ 2}{0.846+1}$

$= \frac{1.692}{1.846}$

$= \frac{0.91}{\sqrt{0.91}}$

= 0.96

This is an accepted reliability coefficient (rc ←1).

3.5 Data Analysis

To analyze the data for this study, the researcher used the percentage of the frequency of each item. The researcher also used Alpha Cronbach method to estimate the research reliability in this study. The researcher also used frequencies and percentage distribution to describe the characteristics of the students' pronunciation.

Chapter Four

4.0 Introduction

In this chapter, the researcher is going to analyze thedata, presentation and discussion the data which were obtained through the test.

4.1 Data Analysis and Discussion of Initial Cluster

The students were asked to pronounce the words (Initial cluster), and their answers were presented in the following tables:-

Table (4.1): words with initial cluster

Words	Transcripton	Correct		Incorrect		Total	
		F	%	F	%		
Through	/ θru: /	17	34%	33	66%	50	100%
Drink	/ driŋk /	25	50%	25	50%	50	100%
Stop	/ stop /	12	24%	38	76%	50	100%
Fly	/ flai /	15	30%	35	70%	50	100%
View	/ vju: /	10	20%	40	80%	50	100%
Glue	/ glu: /	30	60%	20	40%	50	100%
Plane	/ plein /	12	24%	38	76%	50	100%
News	/ nju:z /	27	54%	23	56%	50	100%
Bread	/ bred /	35	70%	15	30%	50	100%
Clay	/ klei /	30	60%	20	40%	50	100%

Screen	/ skri:n /	10	20%	40	80%	50	100%
Spray	/ sprei /	8	16%	42	84%	50	100%
Stray	/ strei /	5	10%	45	90%	50	100%
Square	/ skweə /	7	14%	43	86%	50	100%
Strong	/ stroŋ /	4	8%	46	92%	50	100%
Splash	/ splæʃ /	10	20%	40	80%	50	100%
Spring	/ spriŋ /	3	6%	47	94%	50	100%
Screw	/ skru: /	5	10%	45	90%	50	100%
Scratch	/ skrætʃ /	6	12%	44	88%	50	100%
Straight	/ streit /	3	6%	47	94%	50	100%

Table (4.1) shows that most of 66% the respondents failed to pronounce the word (through) correctly, because they have inserted the sound /i/ at the beginning of the word. Half 25% of the respondents have pronounced the words (drink) and (fly) correctly but some could not pronounce it correctly because they used /i/ before them. It can be shown from the results in table (4.1) that most of the subjects failed to pronounce the words (stop) and (plane). Most of (76%) the respondents failed to pronounce the word (stop) correctly because they added an extra sound /i/ at the beginning of the word and also they failed to pronounce the word (plane) correctly because they change the sound /p/ into /b/. The majority of 80% of the respondents failed to pronounce the word (view) correctly because they changed /V/ into /f/. They tend to substitute certain English sounds by their correspondent ones in their native language, e.g., view may be pronounced a / fju: /. The majority of 60% of the respondents succeeded to pronounce the words (glue) and (clay) correctly because they did not find them difficult to pronounce. The data in table (4.1) shows that more than half 56% of the respondents have pronounced the word (news) correctly because they did not find it difficult to pronounce. Table (4.1) shows that more than half 70% of the respondents have pronounced the word (bread) correctly because they did not find it difficult to pronounce.

Table (4.1) also illustrates the percentages scores of production of English syllable-three initial consonant clusters produced by the subjects of the Study. The same table shows that ten students have got (20%, 16%, 10%, 14%, 8%, 20%, 6%, 10%, 12%, 6%) respectively in pronouncing word of three initial consonant clusters. The table (4.1) shows that the results reveal that there was a vowel insertion in the syllable-initial consonant clusters produced by the subjects. Most of the Students pronounced words like screen /sikri:n/, spray /siprei/, stray /sitrei/, square /sikweə /, strong / sitroŋ /, splash / siplʃ /, spring / sipriŋ /, screw / sikru: /, scratch / sikrætʃ /, straight / sitreit /.

Moreover, some subjects tend to substitute certain English sounds by their correspondent ones in their mother languages e.g., spray may be pronounced as / sibrei /, spring may be pronounced as / sibriŋ /. This means that the difficulty

may arise from the fact that / p /, / v / and / ŋ / do not exist in first language.

4.2 Data Analysis and Discussion of Final Clusters

Table (4.2): Words with final cluster

Words	Transcripton	Correct		Incorrect		Total	
		F	%	F	%		
Fact	fækt	30	60%	20	40%	50	100%
tense	tens	32	64%	18	36%	50	100%
pushed	puʃt	12	24%	38	76%	50	100%
begged	begd	15	30%	35	70%	50	100%
false	fols	27	54%	23	36%	50	100%
Bold	bould	30	60%	20	40%	50	100%
Six	siks	40	80%	10	20%	50	100%
Risk	risk	28	56%	32	64%	50	100%
linguistics	liŋgwistiks	15	30%	35	70%	50	100%
Film	film	25	50%	25	50%	50	100%
glimpse	glimps	10	20%	40	80%	50	100%
Fists	fists	10	20%	40	80%	50	100%
depths	depθs	10	20%	40	80%	50	100%
thousandth	θauz$_{\partial}$ndθ	5	10%	45	90%	50	100%
sixth	siksθ	6	12%	44	88%	50	100%
tasks	tæsks	7	14%	43	86%	50	100%
winked	wiŋkt	3	6%	47	94%	50	100%
next	nekst	25	50%	25	50%	50	100%
hymphs	himfs	2	4%	48	96%	50	100%
midst	midst	2	4%	48	96%	50	100%
twelfths	twelfθs	1	2%	49	98%	50	100%
prompts	prompts	2	4%	48	96%	50	100%
texts	teksts	3	6%	47	94%	50	100%
mulcts	mʌlkts	1	2%	49	98%	50	100%
sixths	siksθs	1	2%	49	98%	50	100%
thousandths	θauz∂ndθs	0	0%	50	100%	50	100%
sculpts	skʌlpts	3	6%	47	94%	50	100
glimpsed	glimpst	2	4%	48	96%	50	100%
sprinkles	spriŋkls	3	6%	47	94%	50	100%
bangles	bæŋglz	5	10%	45	90%	50	100%

Table (4.2) illustrates the percentage score of production of English words of two final consonant clusters produced by students of this study. It can be seen

from the table, that there are seven words (fact, tense, false, bold, six, risk, film) have got 60%, 64%, 54%, 60%, 80%, 56%, 50%, respectively. However, it can be observed that there are three words of two final consonant clusters (pushed, begged, linguistics) have got 24%, 30% and 30% respectively. The results reveal that there was a vowel insertion and substitution in the syllable-final consonant clusters in words such as begged / begid /, pushed / buʃit /. It is clear to note that most students reduced the consonant / S / from the word linguistics by deleting the final consonant, e.g., linguistics becomes linguistic / liŋgwistiks / becomes / liŋgwistic /. As for the seven words of two final consonant clusters, students have no difficulty in pronouncing final-consonant cluster of two consonants. As for the three words of two final consonant clusters a few Students fail to pronounce them. This may be because this type of consonant cluster is common in both Arabic and English.

As for the ten words of three final consonant clusters, most students fail to pronounce them. This is clearly noticed in the Students' performance of the words glimpse, fists, depths, thousandths, sixth, tasks, winked, next, nymphs and midst (see table 4.2). The results reveal that most of the students pronounce them like /glimpis/, or /glimbis/, /fistis/, /depθis/ or /debθis/, /θauz∂ndiθ/, /sikisθ/, /taskis/, /wiŋkit/, /nekist/, /nimfis/, /midsit/.

This aspect of pronunciation which is the final-consonant clusters made up of three consonants are completely absent in Arabic. Throughout the recorded cassette, it was noted that most of students inserted a short vowel after the second consonant and before the third consonant as can be shown in the pronunciation of the words of three final consonant clusters. This difficulty in this type of error could be attributed to mother tongue interference. According to words of four final consonant clusters, it is observed that a few students could pronounce this type of consonant clusters (see table 4.2).

This type is the most difficult consonant clusters for Iraqi students. No one could pronounce the word thousandths correctly. Two students could pronounce the words mulcts and sixths correctly. Three students could pronounce the words sculpts and sprinkles correctly. Two students could pronounce glimpsed correctly. Only five students could pronounce the words twelfths and bangles correctly.

This type of final consonant clusters is common in English but it is not familiar in Arabic at all. Based on the data gathered from the writing test, the use of consonant cluster is revealed in frequency and percentage in table 4.3:- The table below illustrates the rates of students answers regarding the first and second questions of the Study.

Table (4.3): The Rates of Students answers

Categories Of Consonant Clusters		Percentage %
Initial Cluster	Correct Answer	33.6 %
	Incorrect Answer	66.4 %
Total		**100 %**
Final Cluster	Correct Answer	32.0 %
	Incorrect Answer	68.0 %
Total		**100 %**

Data in table (4.3) deals with the first study question (I) To what extent are students able to pronounce consonant clusters? Based on the data gathered from the writing test, the results indicate that majority of students are unable to pronounce consonant clusters. It can be seen from table (4.3) that 33.6 % of the students' answers were correct while 66.4 % was the percentage of the incorrect answers in pronouncing initial clusters.

The data in (4.3) also shows that 32 % of the students' answers were correct, While 68 % was the percentage of the incorrect answers. The results show that students' performance in pronouncing initial clusters is better than students' performance in pronouncing final clusters (see tables 4.1, 4.2, 4.3).
Data in table (4.2) deals with the second study question: (2) which cluster plays a great role in creating difficulty for pronouncing English consonant combination in different word-positions? It can be seen from table (4.2) that the size of the cluster has been proved one of the principle factors that play a great role in creating difficulty for pronouncing English consonant combination in different word-position. Data in table (4.2) shows that the majority of the students fail to pronounce words of four consonant clusters because they have inserted the sound /i/ among the four consonants clusters. According to the category of final-consonant clusters made up of four consonants, it is observed that the majority of students could not pronounce the last ten words of this type correctly (see table 4.2). Most of the students attempted to insert a short vowel among the four consonants as in the following manner: twelfths /twelfθis/, prompts /promptis/, texts /teksits/, mulcts /mʌlkits/, sixths /siksiθis/, thousandths /θanzndθis/, sculpts /skʌlpitis/, glimpsed /glimpsit/, sprinkles /sopriŋkilis/, bangles /bɔengiliz/ (see table 4.2). The table below shows the percentage of students answers.

Table (4.4). Words with Four Clusters

Words	Transcripton	Correct		Incorrect		Total	
		F	%	F	%		
twelfths	twelfθs	1	2%	49	98%	50	100%
prompts	prompts	2	4%	48	96%	50	100%
Texts	teksts	3	6%	47	94%	50	100%
mulcts	mʌlkts	1	2%	49	98%	50	100%
sixths	siksθs	1	2%	49	98%	50	100%
thousandths	θauzndθs	0	0%	50	100%	50	100%
sculpts	skʌlpts	3	6%	47	94%	50	100%
glimpsed	glimpst	2	4%	48	96%	50	100%
sprinkles	spriŋklz	3	6%	47	94%	50	100%
bangles	bæŋglz	5	10%	45	90%	50	100%
		21	4.2%	479	95.8%	50	100%

The data in table (4.4) that 4.22% of the students' answers were correct, while 95.8 % was the percentage of the incorrect answers. The results confirmed the second study question. Accordingly, the students shift to use the common system in their mother tongue to the target language ,i.e. English.

According to the data gathered from the students' test in tables (4.1, 4.2, 4.3, 4.4), the third question of the study is answered due to the results obtained from the data analyzed. Therefore, it can be concluded that most of students seem to have great difficulties in the pronunciation of English words of three initial consonant clusters and words of three and four final consonant clusters. So, the teachers and students should employ the following strategies to simplify the pronunciation of consonant cluster:-

1. /S/ lengthening. This strategy is proposed for clusters which begin with the /s/ sound and for final cluster. The students should be asked to lengthen the /s/ sound to avoid inserting vowels.
2. Building up. In this strategy, the students are asked to build up the cluster by adding one segment each time to pronounce accurate pronunciation. For example, the word strong / stroŋ / is practiced at first by pronouncing /roŋ/, then /troŋ/ and finally /stroŋ/.

Chapter Five
Conclusion and Recommendations

5.1 Conclusion

The results of the analysis of the data in the previous chapter has led to the

following conclusions:

1. The majority of Iraqi EFL learners are unable to pronounce words with initial and final consonant clusters.
2. The results show that many errors committed in Four-Final consonant clusters are greater in number compared with those committed in other categories of consonant clusters. Such category of cluster constitutes a great trouble for students of LI.
3. It can be concluded that most students have no difficulty in pronouncing two-initial consonant clusters and two-final consonant clusters.
4. The results show that most students tend to insert Vowels between the final and second element or between the second and the third in different word-positions. This may be due to the fact that LI does not have clusters of more than two elements.
5. It has shown from the results that many students have tendency to substitute the non-existing phonemes. Thus, they say, for instance, view, prompts, /fju:/, brombts/ instead of /vju: /prompts /.

5.2 Recommendations

1. There should be exposure to more English consonant clusters through demonstration, diagrams and explanation.
2. Special attention should be paid to four final cluster through more intensive practice in using the strategy of lengthening / s / and building up the cluster by adding a segment each time to pronounce good pronunciation.
3. It is recommended that teachers of phonetics should supply their students with information about all combinations of consonant clusters occurring in L2 do not have counterparts in L1.
4. It is advisable that the teachers should focus on the non-existing combinations by having the students to recognize such combinations before attempting to pronounce them. In doing so, these sequences have to be drilled extensively.

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Appendix I

Please read the following words carefully:

1- Through
2- Drink
3- Stop
4- Fly
5- View
6- Glue
7- Plane
8- News
9- Bread
10- Clay
11- Screen
12- Spray
13- Stray
14- Square
15- Strong
16- Splash
17- Spring
18- Screw
19- Scratch
20- Straight
21- Fact
22- Tense
23- Pushed
24- Begged

25- False
26- Bold
27- Sixteenth
28- Risk
29- Linguistics
30- Film
31- Glimpse
32- Fists
33- Depths
34- Thousandth
35- Sixth
36- Tasks
37- Winked
38- Next
39- Nymphs
40- Midst
41- Twelfths
42- Prompts
43- Texts
44- Mulcts
45- Sixths
46- Thousandths
47- Sculpts
48- Glimpsed
49- Sprinkles
50- Bangles