Sudan University of Science and Technology

College of Graduate Studies

Investigating EFL Students Problems of Pronouncing Consonant Cluster

تقصي مشاكل طلاب الإنجليزية لغة اجنبية في نطق مقاطع إلتقاء أكثر من صامت

A Thesis submitted in Partial Fulfillment of the Requirements for the Master

Degree in English language (Applied linguistic)

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Dedication

To my parents;

To my brothers and sisters;

To all my friends;

I dedicate this work.

Acknowledgements

Firstly, I would like to thank Allah, the Almighty, who granted me the strength and ability to perform this study. I am greatly indebted to my supervisor; **Dr. Argej Osman** for her insightful advices provided throughout this study. I am also thankful to the department of English Language at Sudan University of Science and Technology because without their help my research would not have seen the light. We gratitude acknowledge my particular thanks and deep indebtedness to all of my teachers who helped me and provided me with valuable knowledge.

Abstract

This research tries to shed light on the difficulties that face Sudanese students regarding the pronunciation of consonant cluster. The data collection took place at the English Department, college of language, Sudan University of Science and Technology the subjects for this study are 40 students in third year, the researcher has used a test as tool of data collection. The problem of the research stemmed out from the fact that Sudanese students who are learning English as a foreign language face problems in learning how to pronounce consonant cluster. The research adopted the descriptive method. The main result is that students encounter problems in in consonant cluster pronunciation. The main recommendation is that, students should study initial and final consonant clusters according to the word stress rules.

مستخلص البحث

تناول البحث المشاكل التي تواجه الطلاب السودانيين في نطق المقاطع التي تحتوي على التقاء اكثر من صامت في مفردات اللغة الإنجليزية. وتم جمع البيانات من طلاب جامعة السودان للعلوم والتكنولوجيا، كلية اللغات، قسم اللغة الإنجليزية. تكونت عيّنة الدراسة من 40 طالباً واستخدم الباحث الإختبار كأداة لجمع البيانات. وتمثلت مشكلة البحث في أنّ الطلاب السودانيين الذين يدرسون اللغة الإنجليزية لغة أجنبية يواجهون صعوبات في نطق المقاطع التي تحتوي علي اكثر من صامت. واتبع البحث المنهج الوصفي. والنتيجة الأساسية هي أن الغالبية العظمى من الطلاب أظهروا أداء ضعيفا في نطق مقاطع التقاء الساكنين في اللغة الإنجليزية. وأهم التوصية أنه يجب على الطلاب دراسة المقاطع الصامتة الأولية والنهائية وفقاً لقواعد النبرة ويجب على الطلاب عدم استخدام لغتهم الأم في النطق.

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CHAPTER ONE

INTRODUCTION

CHAPTER ONE

Introduction

1.0 Overview

Phonology is the scientific study of sounds. Phonetics is part of linguistics science, which can be defined as, the study of the production and description of speech sound. Linguistics disciplines including psycholinguistics, cognitive science, sociolinguistic, language acquisition, as well as phonology.

Learning a second language involves learning how to perceive and produce new sound system and words in the language. (www.teachit.) sound system in human languages is the way as the result of balancing sufficient acoustic, auditory contrast for a listener and articulators economy for speaker under varying conditions of speech communication they both tend to be maximized in the pursuit of communicative goals.

Consonant cluster causes problems for learners whose are learner's. First language doesn't allow so many consonant together without intervening vowel sound. In linguistic the consonant cluster is group of two or more consonant sound that comes before (onset) after (coda) or between medial vowel also is known simply as cluster. Consonant cluster sometimes is known as consonant those appears together in a word without vowel between them when reading or uttering cluster each letter within the clusters pronounced individually. Kohler, 1994:2

The consonant cluster helps students to make good linking of connected speech sounds and to practice better pronunciation system as well as native speakers do when they are speaking English language .Students encounter problems in cluster pronunciation, the researcher will investigate the problem area of EFL (English as a foreign language) in cluster of English language consonant pronunciation.

1.1 Statement of the Problem

Sudanese students who are learning English as second language face problems in learning how to pronounce consonant cluster. These problems arise because pronunciation is considered one of the areas of teaching English which has been either ignored or dealt with insufficiently.

This study is intended to investigate why students make mistake in English consonant cluster pronunciation.

1.2 Objectives of the Study:

There are two aims which this study attempts to achieve.

1. Investigate students' abilities to pronounce consonant cluster correctly.

2. To find out what sound students insert while trying to pronounce consonant cluster.

1.3 Questions of the Study:

This study tries to answer the following question:-

1. To what extend are students able to pronounce consonant cluster.

2. What kind of vowel do students insert which enable them to pronounce consonant cluster.

1.4 Hypotheses of the Study:

The investigation of the study problem will be based on this assumption:-

1. Students are able to pronounce consonant cluster.

2. Students insert vowel sound in initial position as well as in word syllable final position.

1.5 The Significance of the Study

This study is important because it concerns the development of the consonant cluster pronouncing in the field of English language phonetics and phonology, also will help the students of third year at University to pronounce the English word correctly.

Regarding the real problems of nonnative speakers, of English language it must be studied to find the reason and how to avoid this problems.

1.6 Methodology of the Study

In this research the researcher will use analytical method, because it is suitable method for this kinds of study. The researcher will use a test as a tool method of quantitative analysis the sample consists of40 students at Sudan University of science and technology.

1.7 Limits of the Study

This study will focus on the consonant cluster pronunciation in English language. Time in the academic year 2017 in the third level at Sudan University of science and Technology.

1.8 Conclusion

Chapter one of this study gives Introduction and summary of the whole study.

CHAPTRE TWO
LITERATURER REVIEW AND PREVIOUS STUDIES

Chapter Two
Literature Review and Previous Studies

2.0 Introduction

This chapter consists of two parts the first one deals with literature review related to structure of syllable, consonant cluster and the classification of consonant cluster while the second part deals with previous studies which area related to the problem at the same area.

2.1 Literature Review

The following titles were extracted from different references and summarized some previous studies after comparing them with the subjects.

2.1.1 Syllable Definitions

Over years, scholars have been attempting to define the term syllable, or to clarify the nature of the syllable in linguistic field .According to (Edward besnier.76). Syllable in general syllable is phonological unit consisting of one or more sounds. (Www. Wikipedia) syllable is unit of organization for a sequence of speech sound.

(www.glossary) a syllable is a single unit of written or spoken word, an unbroken sound used to make up words.

Phonologically syllables are usually described as consisting of a center which has little or no obstruction to airflow and which sounds comparative loud; and before and after Centre, there may be greater obstruction to airflow with or without a loud sound

(Roach,2000:70) also, laver (1994:114) defines the phonological syllable as a complex unit made up central and marginal elements

The central elements are the vowels or syllabic segments and the marginal elements are the consonants or non-syllabic. For example, in the syllable \ peint\ ,the diphthong \eɪ \ is the center while the initial consonant \p\and the final \nt\ are marginal element.

2.1.2 Syllable Structure

(Rogerson, 2011: 118) Many languages have few variations in syllable structure than English. For example, Japanese which has a much smaller range of possibilities at syllables level, with maximum CVC structure compared to the English CCCVCCC.

In English the possibilities are great with the following very common:

Table (2.1): Syllable Structure (Rogerson 2011)

Word	Transcription	Syllable type
Eye	\aɪ \	V
Sign	\saɪ \	CV
Eyes	\aɪ z\	VC
Size	\saɪ z\	CVC
Spite	\spaɪ t\	CCVC
Rights	\raɪ ts\	CVCC
Spliced	\splaɪ st\	CCCVCC

Phonologically the structure of syllable can consist of three part:-

The initial consonant in syllable is called the onset, the middles is called peak (normally vowel) and final consonant is the coda which is optional .the combination of peak and coda is called the rhyme for example ,in run (Rogerson 2011:119).

Syllable

```
                    Syllable
                   /        \
        Onset (o)           rhyme (R)
             |               /      \
             C          Peak (P)    Coda
             r              |         |
                            v         c
                            u         n
```
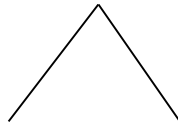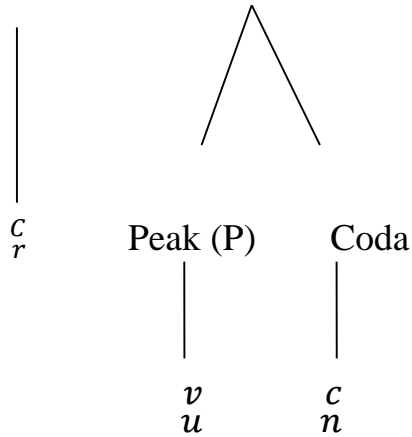
There are several groups of words that people pronounce the same way but nevertheless differ in their estimate of the number of the syllable.

One group of words contains nasals that may or may not be counted as separate syllables. Thus words such as pessimism and mysticism may be said to have three or four syllables depending on whether the final (m) is considered to be syllabic. A second group contains high front vowels followed by (i), third group contains words in which (r) may or may not be syllabic. (McMahon 2002: 2002.105) the universal syllable template accepted by most phonological given in the shape (σ̱) is small sigma and short hand for syllable (ladefoged 200: 243-244.).

```
                    σ̱
                  /    \
              Onset     rhyme
                       /      \
                   Nucleus    coda
```
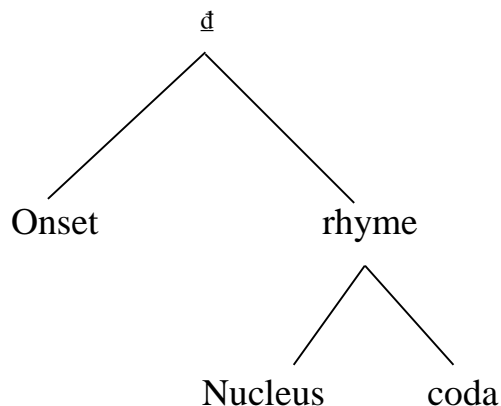
The only compulsory part of the syllable and hence is most important. Defining unit is the nucleus. This will generally contain a vowel indeed the syllable (l) or the first syllable of about consist only of a nucleus. If no vowel is available, in English this is true of (l, men and r).

2.1.3 Type of Syllable:

(Rogerson 2011: 119) (Roach 2009: 70-71).

1- Minimum syllable can be as short as one vowel, that is a peak:-

 e.g.:
 I   \ɑɪ\
 Oh \əʊ\
 Er   ɜː
 Eye \ɑɪ\

2- Or rarely, one consonant (although these are not really words, that is an onset:-

 Eg
 Sh\ʃ\
 Mm \m\

3- It may consist of an onset and peak, where there is zero coda:-

 e.g
 Me   /mɪ:/
 Go   /gəʊ/

4- Peak and coda, where there is zero onset:-

 e.g

 At   /æt/

 Eel   /ɪ:l/

5- all three components, that is onset, peak and coda:-

e.g

gun   /gʌn/

ten   /ten/

6- However, the onset and coda can consist of more than one phoneme in which case three is consonant cluster:-

e.g
Guns   /g ʌ nz/
Snug   /sn ʌ g/

According to (Edumund: 184.188) super heavy syllable, which is usually restricted to domain-final position

```
CA                      SA
CVVCCVVC
CVVCC        CVVCC
CVCC     CVCC
***                     CVCCC
```

Domain. Final consonant cluster in super heavy syllables are appear licensed not as extrametrical, but as extra syllabic.in contrast to an extrametrical consonant which links directly to the syllable node of the final syllable an extra syllabic consonant is not incorporated into the adjacent syllable at any stage in derivation.

=   CVXC

8
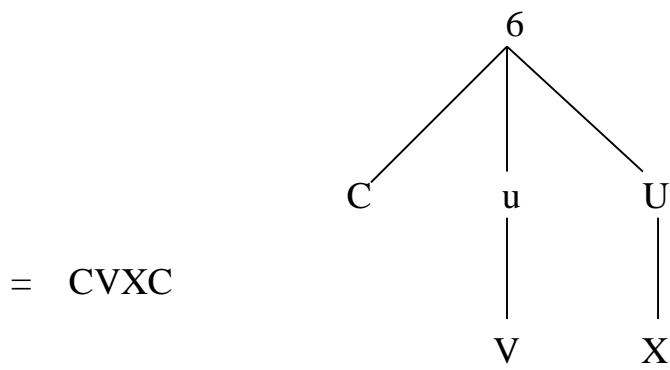
2.1.4 Consonant Cluster Definitions

Wikipedia, in linguistic consonant cluster, consonant sequence or consonant compound is group of consonants which have no intervening vowel.in English for example; the groups\spl\ and \ts\ are consonant clusters in the word splits.

(Catford 1998.207) defines consonant cluster as those sequence of consonant that occur initially or finally in syllables.

(Crystal 1994.67) bring another definition of consonant cluster, he defines them as those sequence of adjacent sound occurring in restricted pattern at the beginning or end of syllable .

(Richard 1993.61) consonant cluster is grouping of two or more consonant that occur without vowel in between the consonant.

(Rogerson 2011: 115) a sequence of consonants at the beginning or ends of syllable.

2.1.5 Consonant Clusters

The term consonant clusters often refer to the group of consonant sounds which follow one another without any vowel occurring between to consonants. This phonological aspect exists in English sound system at various position within word structure e.g. Initial, medial and final. To produce such clusters, foreign learners encounter some difficulties in articulation since their languages have no or very consonant clusters.

(Motasim 2014:41) regard the phonological problem concerned with consonant clusters as that of length. However some difficulties arise in lengthening consonant clusters when no length is needed. This is especially common when pronouncing words containing double letters, which more automatically is interpreted by learners as a phonetic length. Example of such as connect, collect and correct where learners usually treat the double consonant as a larger single one this idea of

lengthening may be brought about from the native system where the influence of using its diacritical marks is irresistible.

Furthermore, (Connor 1980 :64) states that some languages have many sets of consonant sequences, and speakers of these languages will have no difficulty in pronunciation most of the English ones but other languages do not have sequences of consonants at all or only very few and short ones. Therefore, speakers of these languages in which each two consonants are usually separated by a vowel, may have considerable difficulty in stringing together two, three or four consonants with no vowel between them.

As suggested by the idea of lengthening consonants in the absence of the vowel which may mediate their occurrence, producing consonant clusters is of great difficulty to Sudanese learning. The notion of the double consonants always coincides, in their minds, with adoption of the diacritical marks attached to show length in the native pronunciation. This is also true when considering the differences between the English and native consonant sounds science they have various manners of articulations as basic sounds whose properties are clearly distinct.

In this respect,(smith 1982:42) have the general observation that the main problem of pronunciation the English consonant clusters is not in differences in consonants only, but also in the ways when consonant clusters appear initially in syllables or words. This is why foreign learners tend to add or insert vowel either initially or after the first consonant to make it similar to their native pronunciation. This tendency is clear when the sequence of clusters is longer than the overage native one if it happens to exist.

2.1.6 English Consonant Cluster:-

Initial two consonant clusters are of two sorts composed of s followed by one of the small set of consonants examples of such clusters are found in words such as 'sting's ŋ 'sway 'sweɪ 'smoke' səʊke. The s in these clusters is called the pre initial consonant and the consonant (t, w, m in the above examples) the initial consonant. (Roach 2009:68-71).

These clusters are shown in table1.

Pre-initial s followed by:

							INITIAL										
p	t	k	b	d	g	ʃ	θ	s	ʃ	h	v	ð	z	ʒ	m	n	ŋ
spin	stɪk	skɪn	–	–	–	sfɪɔ	–	–	–	–	–	–	–	–	smel	snəʊ	–

Two consonant clusters with pre-initials (ibids)

The other sort being with one of the set of about fifteen consonants followed by one of the set l,r,w,j as in , for example 'play' 'Try'traɪ ' quick'kwɪ k'few'fju: we call the first consonant of these cluster the initial-. Consonant and the second the post- initial .there are some restriction on which consonants can occur together.

When we look at three consonant clusters we can recognize a clear relationship between them and the two sorts of two consonant clusters.

Example of three consonant initial clusters are 'split' split stream stri: m 'square' skweə.the s is pre- initial consonant the p,t and k that follow s in the three example words are the initial consonant and the l,rand w aer post initial. (Roach: 73)

		POST-INITIAL			
		l	r	w	j
s plus initial	P	'splay'	'spray'	-	'spew'
	T	-	'string'	-	'stew'
	k	'sclerosis'	'screen'	'squeak'	'skewer'

If there is no final consonant we say that there is zero coda. When there is one consonant only , this is called the final consonant any consonant may be a final

consonant except h,w,r,j there are two sorts of two consonant final cluster.one being a final consonant preceded by a pre-initial consonant and the other a final consonant followed by post initial consonant . The pre- final consonant from small set m,n,ŋ,l,s. the post final consonants also from small set; s,z,t,d,θ.

Table 3 Two-consonant clusters with post-initial l, r, w, j

		p	t	k	b	d	g	f	θ	s	ʃ	h	v	ð	z	ʒ	m	n	ŋ	l	r	w	j
POST-INITIAL	l	pleɪ	–	kleɪ	blæk	–	gluː	flaɪ	–	slɪp	–	–	–	–	–	–	–	–	–	–	–	–	–
	r	preɪ	treɪ	kraɪ	brɪŋ	drɪp	grɪn	fraɪ	θrəʊ	ʔ¹	ʃruː	–	–	–	–	–	–	–	–	–	–	–	–	–
	w	–	twɪn	kwɪk	–	dwel	ʔ²	–	θwɔːt	swɪm	ʔ³	–	–	–	–	–	–	–	–	–	–	–	–	–
	j	pjɔː	tjuːn	kjuː	bjuːti	djuː	ʔ⁴	fjuː	ʔ⁵	sjuː	–	hjuːdʒ	vjuː	–	–	–	mjuːz	njuːz	–	ljuːd	–	–	–

There are two types of final three-consonant cluster; the first is pre final plus final plus post- final, as set out in the following (Roach:74)

	Pre-final		Final	Post-final
'helped'	he	l	p	t
'banks'	bæ	ŋ	k	s
'bonds'	bɒ	n	d	z
'twelfth'	twe	l	f	θ

There is second type shows that more than one post-final consonant can occur in final cluster: final plus post-final 1plus-post final 2.post final two is again one of s, z, t, d, θ

		Pre-final	Final	Post-final 1	Post-final 2
'fifths'	fɪ	-	f	θ	s
'next'	ne	-	k	s	t
'lapsed'	læ	-	p	s	t

Most four consonant clusters can be analyzed as consisting of a final consonant preceded by a pre –final and followed by post initial 1 and post final 2,as shown below:

		Pre-final	Final	Post-final 1	Post-final 2
'twelfths'	twe	l	f	θ	s
'prompts'	prɒ	m	p	t	s

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Small number of cases seems to require different analysis, as consisting of final consonant with no pre-final but three post-finals.

		Pre-final	Final	Post-final 1	Post-final 2	Post-final 3
'sixths'	sɪ	—		s	θ	s
'texts'	tɛ	-	k	s	t	s

To sum up, we may describe the English syllable as having the following maximum phonological structure:

pre-Initial	initial	post-initial	VOWEL	pre-final	final	post-final 1	post-final 2	post-final 3

ONSET   CODA
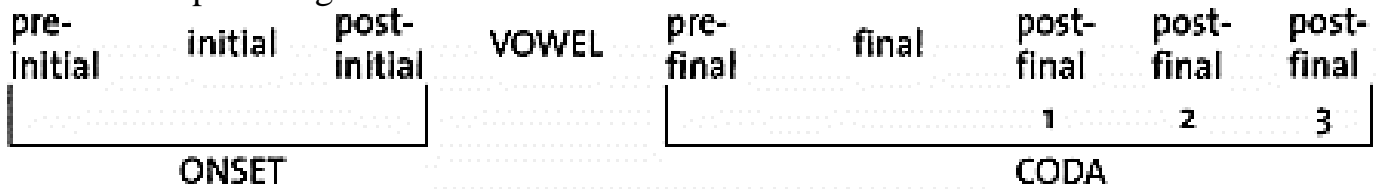
According to Tench (46: 1981) there are two types of initial clusters in English, primary set of clusters, and secondary set that combine only with \j\ before the vowels (u, ʊə,ʊ ,)the primary set is given in the Table 2.2.

Pr	Tr	Kr	Fr	Θr	ʃ r
Br	Dr	Gr			
pl	Tw	kl	Fl		
bl	Dw	Kw	Θw	Sw	
		Gw			
Sp	St	Sk			
Sm	Sn				
Spr	Str	Skr			
spl		Skw			

The secondary set. The initial clusters with /j/ consist of any except /ð, w, r, ʃ, / and /ʒ/ followed buy /j/ some combinations are extremely in frequent /gj-/ is represented by gules, gewgaw /θj-/ by thaws/zi-/ by Zeus /lj-/is undergoing

Change i.e. pronunciation without /j/ are becoming more and more frequent for lewd, lucid, allusion. This is true also for number of words with /j/ such suitsewer.The English2 consonant clusters are shown in blow. (cathford:210)Pk f m n w as in (catford 1988: 209)

p						pl	pr	(pw)	pj	play, pray,(pueblo),pure
t							tr	tw	{tj}	try, twins,{tune}
k						kl	kr	kw	kj	clay,cry,queen,cure
b						bl	br	{bw}	bj	blue, brew, (Buenos),beauty
d							dr	dw	{dj}	dry, dwell, {due}
g						gl	gr	gw	{gj}	glow, grow, gwen, (gules)
f						fl	fr		fj	fly,fry,few
θ							θr	θw	{ θj}	threw, thwack,{thews}
m									mj	music
n									{nj}	new
s	sp	st	sk	sf	sm	sn	sl	sw	{sj}	{suit}
	spy	stay	sky	sphere	smooth	snow	slow	sweet		
ʃ							ʃr			shriek
h								{hw} {hj}	{why}{hugh}
v									vj	view

2.1.7 Final Cluster:

Final cluster are much more complex, numerous and may see haphazard but basically they are mirror images of initial cluster again it seems appropriate to divide clusters in final position into two parts, the structurally simple forms and the derived or inflected forms plurals possessives, past tense and derived forms as in blow The structurally complex clusters duplicate and extend the simple clusters. Plurals and possessive morphemes yield clusters with $/-s, -z/$ past tense morphemes yield clusters with /-1-d/; and the derivation morphemes yield cluster with /-θ/ historically this last morpheme account for the /-|θ/ clusters too: weal, health, weal, wealth, foul filth.The extension the simple, forms by these morphemes is considerable increasing the lists of two and three consonant clusters, and forming the following four consonant cluster (I-lpts) the sculpts, /I-Ikts/ he mulcts /-mpts/He prompts /-mpst/ glimpsed (-ŋkts) instincts /-ksts/texts /ltθs/ twelfths /-ksθs/ Sixths.   However it must be admitted that in rapid colloquial speech, each of these four consonant clusters is regularly simplified but in formal speech, they may well be retained (Tench 1981.65).

By way of summery, we can say that English permits two three or four final consonant clusters /lm/, /-kst/, /-mpst/as in ask,pt (VCC) asked (VCCC), waltzed, texts angels(CVCCC). First of all we consider the simple forms as in table (2.3)

Table (2.3): Words with the Final Consonant Cluster

lp	lt	ltʃ	lk	lpt lkt
lb	ld	ld		
lf	lθ	ls lʃ		
lv				
lm	ln	ntʃ ŋk mpt mps ŋkt		
mp	nt			
	nd ns nd	nst mf nθ nz		
ps	ts dz	ks	kst	
pt		kt		
sp	st	sk		

2.2 Previous Studies:

This section deals with some previous studies which have been conducted in areas that are related somehow to current study.

1. Motasim (2014) conducted study entitled (investigating knowledge of syllable structure and stress Sudan University of science and Technology graduate college English department. The main problem of this study will be limited in the area of syllable and stress definitely it will catch the field of pronunciation. The study hypothesized the following students are not aware of English syllable structure. The main objective was to investigate Sudanese EFL students awareness of English syllable structure. Sudan University of science and Technology 3rd year, only one tool was used to collect the data which is test. The result was there is a

significant correlation between the weak and strong syllable which strongly affect the stress placement most of the students do not differentiate between them. Inthe light of the study, the researcher recommends the following: the area of stress is strongly related to pronunciation, pronunciation competence should be given care for all under graduates, particularly for second level.

2. Zumrawi (2004) conducted study entitled "Awareness of pronunciation among Sudanese EFL students at Sudan University of Science and Technology the main problem was the research and attempted to investigate Sudanese learners awareness of English pronunciation the study hypothesized the following firstly, student of English are more aware of pronunciation sources and there counterpart in other departments secondly, students of English experiences less pronunciation difficulties than there counterpart in other departments. The main objectives were to discover the actual levels of phonological awareness pronunciation among learners at University level and to draw the attention of students to the significance of English pronunciation in language learning. Theresearcher selected sixty four students from Sudan University of Science and Technology College of languages, department of English 3rd year. Two tools was used to collect the data which are test and questionnaire. The result was phonological awareness has to do with various way that enable learners to maintain reasonable levels of accuracy in pronunciation. The researcher recommend learners of English should pay special attention to pronunciation science it occupies a sensitive situation in the learning process.

3. Diouf (2000-2001) conducted Study in entitled (the production of consonant structure of English by Wolof speakers at University of Gasion Berger DE SAINT LOUIS for acquiring fluency in foreign languages encounter the difficulties that different sound systems may reveal. The main objective were: to check if wolf speakers learning English can satisfactorily pronounce English consonant cluster

and in other word it aims at seeing how wolf learner of English produce English consonant cluster. The researcher selected 50 wolf learners of English the latter were the pupils in premiere those pupils specialized in literature at MalickSall high school at louga, only one tool was used to collect the data which was questionnaire. The result was reduction of consonants, intrusion of vowels and some cases of assimilation are also noted. The researcher recommend the following: Learners should try to Trans second the problem related to consonant cultures by practicing pronunciation as gymnastics.

2.3 Conclusion:

Chapter four of this study deals with consonant cluster from literature review and previous studies.

CHAPTER THREE

RESEARCH METHODOLOGY

Chapter Three

Research Methodology

3.0 Introduction

This chapter provides a full description of the method adopted for collecting data in this study it first presents a clear description of the subjects and then proceeds to describe the used for collecting the data tool.

3.1 Research Method

The researcher adopted the descriptive analytical method because it's a suitable method to conduct this study.

3.2 Sample & Populations

Data for this study was collected by examining 40students who study English as foreign language at Sudan University of science and technology level in Khartoum state particularly those who are specialized English as foreign language.

3.3 Research Tool

The researcher has used one tool of data collection which was designed for English language learners. The test was divided into two parts: part one consists of ten items and they were designed to check the students in initial consonant cluster pronunciation, part two consists of 15 items to measure the students in final consonant cluster pronunciation.

3.4 Procedures

The researcher distributed a test to the students in their place of the study (lecture room) also the test copies of this study were distributed and collected in a period of one hour.

As it has been pointed out in section (3-3) the researcher has used a random sample of 40 subjects. The collected data of these 40 subjects is statistically analyzed.

3.5 Validity and Reliability

The result of this evaluation and judgment of the test has stated, that the test is valid for investigating problems of pronouncing consonant cluster in the third year students according to their knowledge of classifying the consonant cluster.

To calculate the validity and reliability of the study tool (test) the researcher used the following equation:

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

$\text{Reliability Coefficient} = \dfrac{2r}{1+r}$

N of Items	Cronbach's Alpha
25	.846

$= \dfrac{0.846*2}{0.846+1}$

$= \dfrac{1.692}{1.846}$

$= 0.91$

$= \sqrt{0.91}$

$= 0.96$

This is an accepted reliability coefficient **(r c ≤1)**

3.6 Face Validity:

The validity of the test was verified by a jury consisting of 5 university doctors at college of languages department of English.

3.7 Conclusion

This chapter describes the subjects who participated in this study, how they were chosen and where they were investigated. The chapter also describes the tool used in this study (students test) and the procedures followed to prepare and distribute it.

CHAPTER FOUR
DATA ANALYSIS, AND DISCUSSION
OF THE RESULT

Chapter Four
Data Analysis, Results and Discussion

4.0 Introduction

In this chapter the researcher is going to analyze the data, presentation and discussion the data which were obtained through the test. By using the output of this program.

4.1 Data Analysis and Discussion of Initial Cluster

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

Table (4.1): Words with the initial cluster

Words	Transcription	Correct		Incorrect		Total	
		F	%	F	%		
Stream	/stri:m/	6	15%	34	85%	40	100%
Straight	/streɪ t/	6	15%	34	85%	40	100%
Store	/stɔ ː r/	7	17.5%	33	82.5%	40	100%

The data in table (4-1) showsthat the majority of 85% of the respondents failed to pronounce the word (stream) correctly, because they have inserted the sound (i) at the beginning of the word. The majority of 85% of the respondents failed to pronounce the word (straight) correctly due to unknown knowledge of the students they added an extra sound (i) at the beginning of the word and also they pronounced the middle diphthong (ai) instead of (ei),and 20 % of them have pronounced itcorrectly. The majority of 82.5% of the respondents failed to pronounce the word (store) correctly because they have insert vowel (i) at the beginning of word.

Table (4.2): Words with the initial cluster

Words	Transcription	Correct		Incorrect		Total	
		F	%	F	%		
Split	/splɪ t/	8	20%	32	80%	40	100%
Splayed	/spleɪ /	7	17.5%	33	82.5%	40	100%

The data in table (4-2) shows that most of 80%the respondents failed to pronounce the word (split) correctly because they added an extra (i) at the beginning and diphthong sound (ai) in the middle of word. The majority of 82.5% the respondents failed to pronounce the word (splayed) correctly because they insert vowel (i) at the beginning of word and sound (ai) in the middle of word.

Table (4.3): Words with the initial cluster

Words	Transcription	Correct		Incorrect		Total	
		F	%	F	%		
Blow	/bləʊ /	35	87.5%	5	12.5%	40	100%
Frog	/frɒ g /	27	67.5%	13	32.5%	40	100%

The data in table (4-3) shows that the majority 87.5% of the respondents have pronounced the word (blow) correctly because they didn't find it difficult to pronounce. The more than half67.5% of the respondents have pronounced the word (frog) correctly because they didn't find it difficult to pronounce.

Table (4.4): Words with the initial cluster

Words	Transcription	Correct		Incorrect		Total	
		F	%	F	%		
Skate	/skeɪ t/	7	17.5%	33	82.5%	40	100%
Scale	/skeɪ l/	6	15%	34	85%	40	100%

The data in table (4-4) shows that the majority 82.5% of the respondents failed to pronounce the word (Skate) correctly because they insert vowel (i) at the beginning of word also insert vowel (a) instead of (e).

the majority 85% of the respondents failed to pronounce the word (scale) correctly due to knowledge of the students they have added an extra (i) at the beginning of the word.

Table 4.5: Words with the initial cluster

Words	Transcription	Correct		Incorrect		Total	
		F	%	F	%		
Twins	/twɪ nz/	34	85%	15%	82.5%	40	100%

The data in table (4-5) shows that the majority 85% of therespondents have pronounced the word (twins) correctly because they didn't find it difficult to pronounce.

4.2 Final comment of Initial cluster:

According to the discussion and data analysis, the performance of the students regarding the syllable of respondents are mostly they have inserted sound (i) in the beginning and diphthong in which sound like (ai) in the middle ,this indicates that respondents has interference of a mother tongue, and this agrees with Motasim(2014).

4.3 Data Analysis and Discussion of final cluster

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

Table (4.6): Words with the final cluster

Words	Transcription	Correct		Incorrect		Total	
		F	%	F	%		
Bonds	/bɒ ndz/	25	62.5%	15	37.5%	40	100%
Banks	/bæŋks/	29	72.5%	11	27.5%		

The data in table (4.6) explains that more than half 62.5% of the respondents have pronounced the word (bonds) correctly because they didn't find it difficult pronounce, but some could not pronounce because they insert vowel(i) after (d). More than half 72.5% of the respondents have pronounced the word (banks) correctly because they didn't find it difficult to pronounce.

Table (4.7): Words with the final cluster

Words	Transcription	Correct		Incorrect		Total	
		F	%	F	%		
Twelfth	/twelfθ/	24	60%	16	40%	40	100%
Sixth	/sɪ ksθ/	25	62.5%	15	37.5%	40	100%
Fifth	/fɪ fθ/	22	55%	18	45%	40	100%

The data in table (4.7) clarifies that more than half 60.3% of therespondents have pronounced the word (twelfth) correctly but some could not pronounce it right because they insert (s) sound at the end of word.

More than half 62.5% of the responded have pronounced the word (sixth) correctly they didn't find it difficult to pronounce.

More than half 55% of the respondents havepronounced the word (fifth) correctly but some could not pronounce it right because they used sound (s) at the end of word.

Table (4.8): Words with the final cluster

Words	Transcription	Correct		Incorrect		Total	
		F	%	F	%		
Next	/nekst/	31	77.5%	9	22.5%	40	100%
Prompts	/prɒ mpts/	20	50%	20	50%	40	100%
Texts	/tekst/	25	62.5%	15	37.5%	40	100%
Lapsed	/læpst/	21	52.5%	19	47.5%	40	100%

The data in table (4.8) shows that most of 76.7% the respondents have pronounced the word (next) correctly but some could not pronounce it right because they pronounce the vowel (e) after (s).

half50% of the respondents failed to pronounce the word (prompts) correctly because they used vowel (u) after (p) and vowel (o) after (m).

More than half 62.5% of the respondentshave pronounced the word (texts) correctly they didn't find it difficult to pronounce. half52.5% of the respondents havepronounced the word (lapsed) correctly because they didn't find it difficult to pronounce it.

Table (4.9): Words with the final cluster

Words	transcription	Correct		Incorrect		Total	
		F	%	F	%		
Bets	/bets/	23	57.5%	17	42.5%	40	100%

The data in table (4.9) shows that more than half 57.5% of the respondents have pronounced the word (bets) correctly because they didn't find it difficult to pronounce it.

Table (4.10): Words with the final cluster

Words	transcription	Correct		Incorrect		Total	
		F	%	F	%		
Asked	/ɑ ː skd/	24	60%	16	40%	40	100%
Learned	/lɜ ː ntd/	27	67.5%	13	32.5%	40	100%
Helped	/helpt/	27	67%	13	32%	40	100%
Worked	/wɜ ː kd/	27	67%	13	32%	40	100%
Shared	/ʃ eəd/	32	80%	8	20%	40	100%

The data in table (4.10) explains that more than half 60% of the respondentshave pronounced the word (asked) correctly because they didn't find itdifficult to pronounce it.

More than half 67.5% of the respondents have pronounced the word (learned) correctly but some could not pronounce it right because they pronounce sound (e). More than half 67.5% of the respondents havepronounced the word (helped) correctly because they didn't find it difficult to pronounce.

More than half 67.5% of the respondents have pronounced the word (worked) correctly because they didn't find it difficult to pronounce. The majorityof 80% the respondents have pronounced the word (shared) correctly because they did not find it difficult to pronounce.

4.4 Final comment of Final cluster:

According to the discussion and data analysis the performance of the students regarding the syllable of the respondents are better than initial consonant cluster. Although some of respondents have insert the sound like (id) instead of (t) In word helped and (س) instead of (θ) in fifth, students could not differentiate between in English and Arabic. And this rejects with Motasim (2014).

4.5 Verification of the hypothesis

The first Hypothesis stated that Students are able to pronounce consonant cluster. The results revealed that students are unable to pronoun the consonant cluster and thus, this hypothesis is rejected. The table below illustrates the rates of students answers   regarding this hypothesis.

Table (4.11): Verification of the hypothesis

		FREGUNCY	PERCENTAGE
Initial cluster	Correct answers	162	40.5%
	Incorrect answers	238	59.5%
Total		400	100%
Final cluster	Correct answers	382	63.7%
	Incorrect answers	218	36.3%
Total		600	100%

The data in table (4.11) shows that 40.5% of the respondent's   answers were correct, while 59.5 % was the percentage of the incorrect answers. This result confirmed that students face difficulties in pronouncing regarding initial cluster Thus in their trails to pronounce they insert the sound (i).Also found that more than half 63.7% of the respondents answers were correct, while 36.3 % was the percentage of the incorrect answers. This result indicate students' performance in pronouncing regarding final cluster is better than initial .students insert vowel sound in syllable cluster initial position as well as in syllable final position, this hypothesis is accepted that.

4.6 Conclusion:-

This chapter analyzes the data. Display the results and discuss. It attempts to test the research hypotheses that students insert vowel sound in syllable cluster initial position as well as syllable cluster final position. Sample of 40 students performed the test, and the data obtained from the test were computed and analyzed through the statistical program for social sciences (SPSS)As for the first hypothesis regarding the students insert vowel sound in syllable initial position as well as in syllable final position, result thought indicating some aspects of difficulties, they do not generally support this hypothesis. it is reported that respondents performance in this question is generally satisfactory.

CHAPTER FIVE
RESULTS, RECOMMENDITION AND SUGGESTION FOR FURTHER STUDIES

Chapter Five

Results, Recommendations and Suggestion four further studies

5.0 Introduction

The present chapter provides the presents for its results. and recommendation draw from these finds are made the chapter will finally present some.

5.1 Results

Students encounter problems in consonant cluster pronunciation.

1) Students don't know how to pronounce initial cluster.

2) Students articulate the sound (i) in initial consonant cluster

3) Students fail to pronounce final cluster.

4) Most of the students articulate the a sound (e) in final consonant cluster.

5) Students performance regarding final cluster is better than initial cluster.

6) Some of the students articulate the diphthongs(ai) in the middle of the word to pronounce consonant cluster.

5.2 Recommendations

based on the findings the study made the following recommendations:

1- The researcher recommends that students should study initial consonant cluster according to the word stress rules.

2- Students should study final consonant cluster according to the word stress rules

3- Students should avoid the interferences of their mother tongue in words pronunciation.

5.3 Suggestion for Further Studies

The researcher suggested further studies on the area of English phonology as follow:

1. Investigating student's problems in introducing unnecessary vowel.

2. Investigating the interference of mother tongue in pronouncing English words.

3. Investigating the irregularity of English language system in pronunciation.

5.4 Conclusion

In this chapter the researcher presented results, recommendation and gave suggestions for further studies.

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Previous Studies:

- **M**otasim, A (2014) the knowledge of syllable of structure and stress use among Sudanese EFL university learners. Sudan University of science and technology.
- **Z**umrawi (2004) conducted study entitled "Awareness of pronunciation among Sudanese EFL students at Sudan University of Science and Technology.

Appendix

Student Test

Class: 3ʳᵈ year students of English   **Time: 30 minutes**

Name: …………………………………………………

Investigating Students Problems of Pronouncing Consonant Cluster

Question One:-

Read the following sentences loudly:

1.Stream

2.Straight

3.Store

4.Split

5.Splayed

6.Blow

7.Frog

8.Skate

9.Twins

10.Scale

Question Two:-

Pronouncing the Following Words

1. Bonds

2. Banks

3. Twelfth

4. Next

5. Lapsed

6. Prompts

7. Texts

8. Sixth

9. Bets

10. Fifths

11. Asked

12. Learned

13. Helped

14. Worked

15. Shared