Investigating the Difficulties Facing Sudanese learners in pronouncing English Vowel Sounds

(A case Study of the 4ᵗʰyear English language Students, College of Languages, Sudan University of Science and Technology

تقصي الصعوبات التي تواجه الطلاب السودانيين في نطق الأصوات المتحركة

(دراسة حاله طلاب اللغة الإنجليزية المستوي الرابع– كليه اللغات– جامعه السودان للعلوم والتكنولوجيا)

A Research Submitted as partial Fulfillment for the Requirement of M.A Degree in English language (Applied Linguistics)

Submitted By:

    AbdelganiAbdelmoulaAbakerKhater

Supervised By:

    Dr. Sami BallaSanhori

2019

The verse

قَالَ تَعَالَى:

﴿ ٱقْرَأْ بِٱسْمِ رَبِّكَ ٱلَّذِى خَلَقَ ۝١ خَلَقَ ٱلْإِنسَٰنَ مِنْ عَلَقٍ ۝٢ ٱقْرَأْ وَرَبُّكَ ٱلْأَكْرَمُ ۝٣ ٱلَّذِى عَلَّمَ بِٱلْقَلَمِ ۝٤ عَلَّمَ ٱلْإِنسَٰنَ مَا لَمْ يَعْلَمْ ۝٥ ﴾

صدق الله العظيم

سورة العلق ، الآيات (1-5)

Dedication

To my dear family,

To my dear friends.

Acknowledgments

ABSTRACT

The study aims at investigating the difficulties face Sudanese learners in pronouncing English vowel sounds. In order to investigate these difficulties, the researcher used descriptive analytical method. To collect data, the researcher designed a diagnostic Test. The sample consist of 30 fourth year English students from Sudan University of Science and Technology. Data collected then statistically analyzed by means of percentages. The findings discuss in the light of hypotheses. Findings reveal that majority of fourth year English students face difficulties in pronouncing English vowel sounds, some of them commit errors when transfer their first language (mother tongue) to the target language (Englishlanguage) and some of them commit errors when pronounce English vowel sounds as letters of alphabet rather than phonemes. The study provides some recommendations, such as students should be motivated to understand the importance of English vowel sounds.

مستخلص البحث

تهدف هذه الدراسة إلى تقصي الصعوبات التي تواجه الطلاب السودانيين في نطق الأصوات المتحركة. لتقصي هذه الصعوبات إعتمدت الدراسة على الطريقة الوصفية لتحليل البيانات. صمم الباحث إختباراً لجمع النتائج. تألفت الدراسة من 30 طالب المستوى الرابع إنجليزي من جامعة السودان للعلوم والتكنولوجيا. نوقشت النتائج على ضوء الفرضيات المرتبطة بالدراسة. أثبتت الدراسة أن غالبية الطلاب لديهم صعوبات في نطق الأصوات المتحركة ، ارتكب بعض الطلاب أخطاء نتيجة تأثير لغة الأ((اللغة العربية) على لغة الهدف (اللغة الإنجليزية) وارتكب بعض الطلاب أخطاء نتيجة الإملاء الإنجليزي. كحلول لتغلب على هذه الصعوبات اقترح الباحث من التوصيات وقد كان من أبرزها يجب تشجيع الطلاب لفهم أهمية الأصوات المتحركه.

Table of contents

List of Tables

Table	Description	Page
(3-1)	the statistical reliability and validity	**30**
(4-1)	pure vowel sounds	**31**
(4-2)	Diphthong sounds	**32**

CHAPERONE

INTRODUCTION

CHAPERONE

INTRODUCTION

1.0   Overview

This chapter provides description of theoretical framework of the study, focuing largely on the study problem and methodology.

1.1 The context of the Study

English and Arabic are two distinct languages. In comparing the two languages vowel sounds system much variation will be appeared on the surface. Therefore, in learning one of these languages as L2, learners will experience some difficulties which are based on the mount of differences and similarities between L1 and L2 vowel sounds system. In order to find out the points of differences and similarities between English and Sudanese Arabic (SA) vowel sounds, the way of to do so is the use of contrastive analysis (CA).

Many studies have demonstrated that errors made by speakers of language, are something systematic rather than random. Gussenhovcn&Jacobs(1998)State thatSpeaking is an essential factor in learning and using English appropriately. This means that the most important part of learning English as a second language (L2) rests on pronunciation.Bluer (2005:3) argues that learners from a specific first language usually produce many similar mistakes, resulting from the influence of their mother tongue, they try, for example, to use the (L2) the same way they pronounce their mother tongue. He adds that most of the difficulties that learners face in learning English are the degree to which their first language is different from the second language. According to Seferoglu (2005) argues that segmental aspects of the sound system include

individual vowels and consonant, so it seems true that is no little doubt that native language phonetics and phonology are powerful influences on second language pronunciation. This means that learners mother tongue share characteristics of sounds with the foreign target language.

1.2 Statement of the Problem

No doubt that the errors experienced by Sudanese learners of English as foreign language are due to many factors when speaking English language. Therefore, and as a result of these factors, the Sudanese learners face difficulty in pronouncing English vowel sounds as a part of differences. A close observation of Sudanese Students disclosed that pronouncing English vowel sounds consider one of the most difficult areas that experienced by Sudanese Students. For example, they pronounce /ɔ:/ in a ward /show/ instead of /əʊ/, /e/ was pronounced in a ward /made/ instead of /eɪ/. Therefore, this research is conducted to investigate the difficulties face Sudanese learners in pronouncing English vowel sounds at Sudan University of Science and Technology Fourth year English students.

1.3 Objectives of the Study

The aim of this study is to investigate the difficulty of pronouncing English vowel sounds among Sudanese Students. The process of describing and analyzing the difficulties encountered Sudanese Students when pronouncing vowel sounds in both languages will be involved the following.

1.1 To Highlightthe importance of good pronunciation in English language learning.

2. To IdentifyErrors of pronunciation of English vowel sounds among Sudanese learners at SUST and major reasons then find the suitable solutions.

3. To Examine whether Sudanese learners can pronounce English vowel sounds correctly without any drawbacks or not.

1.4 Questions of the Study

This research attempts to find answers to the following questions:

I. To what extent do Sudanese learners face difficulties in pronouncing English vowel sounds?

2. To what extent does English spelling hinder the mastering of pronouncing vowel sounds?

3. What is the reason behind the difficulty in pronouncing English vowel sounds?

1.5 Hypothesis of the Study

In order to investigate the difficulties, the above questions have been put into hypothetical statements.

I. Sudanese learners face difficulties in pronouncing English vowel sounds.

2. English spelling hinders the mastering of pronouncing vowel sounds.

3. The reason behind mispronouncing English vowel sounds is mostly due to mother tongue interference.

1.6 Significant of the Study

The importance of this research comes from its objectives and questions that tackle the difficulties encountered or experienced by Sudanese Students in pronouncing English vowel sounds. Therefore, the findings of this study are expected to be useful to those who want to develop their pronunciation skills, and to go further in the field of learning English as a foreign language.

1.7Methodology of the Study

The researcheruses descriptive analytical method which is considered as useful method in such cases of problems. The researcher is going to describe

the problem exactly as it is at the present time. Therefore, the researcher will choose 30 Sample of the study randomly from 4th year English Students at (SUST) the necessary data will be collected from the sample via a diagnostic recoding Test. Then data will be statistically compared by means of percentages.

1.8 Limits of the Study

This study is limitedtoinvestigating difficulty of pronouncing English vowel sounds among Sudanese Students. It will be conducted in Sudan University of science and Technology College of languages four year English Students, It is in the academic year 2018-2019.

CHAPTERTWO

LITERATUREREVIEWAND PREVIOUSSTUDIES

CHAPTER TWO

LITERATURE REVIEW AND PREVIOUS STUDIES

2.0 Introduction:

This chapter introduces the sound system of English, spelling form of English, Sudanese Arabic vowel sounds, English and Sudanese Arabic vowel sounds in contrast and the lasted studies that relevant to this research.

2.1 The sound system of English

Roach (2000) mentions that the sound system of English are generally consist of two categories i. e vowels and consonant according to the British pronunciation (R. P) in the production of vowels the air comes out freely through the mouth. There is no closure of the air- passage and no narrowing of the passage that could cause audible friction. On the other hand, consonant sounds, which may be voiced or voiceless, are made with a narrow or complete closure in the vocal tract. The air flow is either blacked momentarily of restricted so much that noise is produced as air flow past the constriction.

2. 1.1 English vowel sounds

There are twenty distinct vowel sounds in British Received pronunciation (R. P) Receive pronunciation or a form from English acceptable in all parts of the country. Roach (2000) states that vowels are made by voiced air passing through different mouth-shape; the differences in the shape of mouth are caused by different position of the tongue and of the lips.

1.Classification ofEnglish vowel sounds can be according to**:**

Any part of the tongue can be raised towards the roof of the mouth, and there can be different degrees of the rising of the tongue, that is, which part of the tongue that is raised up is it; (front center and back).

According to the degree of rising of the tongue, vowels are divided into four categories, that is; close (as near as possible to the roof of the mouth without causing friction or making a closure), half-close, half-open (as low as possible).

The state of the tongue, whether it is lax (in rest) or tense. The shape of the lips; whether they are, spread, neutral (un- spread), rounded or more rounded.

- **Pure vowel sounds**

In English pure vowel sounds are 12 in number; this includes short vowels and long vowels:

- **Short vowels /i ,e, æ , ə   , ʌ ,ɔ , u , /** for examples as in 'bit' / bit /, 'bet' / 'bet' / 'bad' / bæ d/ , 'account' / ə kount/, 'bus' / b ʌ s/ , 'hot' / h ə t /. 'book' /buk/, respectively.

- **Long vowels are , /i: , ə: , ʒ: , ɔ:, u: /** represented in these examples , 'these' / ð i:s/,sounds, Roach (2000).

The English pure vowel sounds are dividedinto three categories as follows:

Front vowel sounds. /i: i, e, æ /.

-/i:/ as in beat, mean

For /i: / vowel sound, it is more close and front the lips are only slightly spread and this results in rather different vowel quality.

-/i/as sit, kid

For /i/ the hinder part of the front of the tongue is raised to a position between close and half- close; the lips spread and the tongue is lax.

- **/e/ as in set , bet**

In /e/ vowel sounds, the front of the tongue is raised to a position between half – close and half- open the lipas are closely spread (un spread) and the tongue is tense this vowel is doesn't occur in the final position.

- **/ æ / as in man, land**

For the vowel / æ /   the front of the tongue is slightly below the half- open position and the lips are in the neutral un spread.

 / æ /doesn't occur in the final position.

- **The central vowels /ʌ, ʒ :, ə /**

/ ʌ / asin cat, bus

British R.P. / ʌ/ is a central vowel; between open and half-open the lips are neutral /un spread. This vowel doesn't occur in final position.

/ʒ: / as in first, firm

For /ʒ : / is a central vowel between half- close and half – open , the lips being neutral / un spread / it is a long vowel, but the length is reduced before voiceless consonants.

/ə/ as in ago, account

The R.P. / ə / is a central vowel with neutral / unspread lips position. The tongue raising between half – close and half –open in the non- final position and nearly half- open in the final position. In R.P. / ə/ is very frequent vowel, occurring only in unaccented syllables.

The back vowels /ɔ, ɔ:, u ,u: a:/

/ ɔ / as in hot, god.

For   / ɔ / is aback vowel fully open, articulated with rounded lips   / ɔ / is a short vowel doesn't occurred in final position.

/ɔ: / as in horse, force

/ɔ: / is a back vowel between half- close and half- open, articulated with rounded lips.

/u / as in book, look

/u / is a back vowel just above half- close articulated with more rounded lips.

/u: / as in food, soon

/u: / is back vowel if fully close, articulated with more rounded lips.

/ a: / as in arm, clam

/a:/ is along vowel produced by the raising of the front of the tongue to the open position , the lips angrounded with fully open of the mouth.

Roach (2000) The description of English diphthongs sounds, which consist of a movement or glide from one vowel to another are called diphthongs. A vowel, which remains consist and doesn't glide is called pure vowel. The total number of the diphthongs is eight , classified according to the vowel glide to as follows, /e, æ glide to /i/ , / æ /   glide to /u/ , and /i , e, u/ glide to / ə /.

1.Gide to /ɪ/, /eɪ /, /aɪ/,/ɔɪ/.

/eɪ / as in gate, age

This diphthong beginning slightly below the half-close position and moving towards /i/. The lips are spread.

/aɪ / as in try, high

In the production of / aɪ /; the starting is a glide from open position towards /i/. The lips change from un spread to a loosely spread position.

/ ɔɪ/as in boy, boil

The glide for this diphthong. Begins near the back half- open position and moves in the direction of /i/.The lips are unrounded at the beginning and un spread at the end.

2. Glide to /u/ , /əʊ, aʊ /

/əʊ/ as in home, bold.

This diphthong beginning at the central position just below half - closed and moving in the direction of /u/. The lips in the beginning are un spread and rounded towards the ends.

/ aʊ / as in about, house

The glide from this diphthong begins between the front and the back open position and proceeds in the direction of /u/. the lips are un spread in the beginning.

3.Gide to / ə / ɪə, eə, ʊə /

/ ɪə / as in hear, clear

The glide from / ɪə/ begins with /i/ just above half- close front toward central / ɪə/. The lips are un spread

/ eə / as inair , chair

The glide from this diphthong beginsbetweenthefront half-close and half - open position and moves towards central /eə/. The lips are un spread.

/ʊə/ as in poor, tour

The glide from /ʊə/ begins from back just above half- close position towards /ʊə/.The lips are unrounded at the beginning and un spread at the end.

2.1.2 Spelling form

That means vowel sounds in relation to spelling form in this matter O'Connor (1980) in his book "better English pronunciation states that as following :

　i.　　e accented, generally e + consonant + muse e.

　British R. P.

　　　　Complete　　　　　/ kəmpliːt/

　　　　Even　　　　　　/ iːvən/

9

ii.   ee

cheese	/ ʃiːz/
feed	/ fiːd/

iii.   eə

cream	/ kriːm/
dream	/ driːm/
sea	/ siː/

ie

chief	/tʃiːf/
field	/fiːld/

V. ei

Deceive	/ disiːv/
Receive	/risiːv/
Seiz	/ siːz/

VI. i:

Machine	/məʃiːn/
Police	/ pliːs/

VII. other spellings

Key	/kiː/
People	/ piːpl/

Spellings

I.   i

bit	/ bit/
ink	/ iŋk /

II.   e unaccented

begin	/ begin/
biggest	/ bigist/
depend	/ dipend/

III. y, medialand final:

system	/sistim/
mystery	/mistəri/

IV. a, unaccented

baggage	/ bgidʒ/
private	/ praivit/
village	/ vilidʒ/

V. ie

carries	/ kæriz/
parties	/ pɑ:tiz/

VI. other spellings

busy	/ bizi/
coffee	/ kafi/
money	/ mʌni/

I. spelling

e. usually accented

bed	/ bed/
left	/ left/
melt	/ melt/

II. ea

Dead	/ded/
Head	/ hed/
Lead	/ led/
Measure	/ meʒə/

III. **a**

any	/ eni/
many	/ meni/

IV. **other spellings**

Friend	/ frend/
Said	/ sed/

Spelling a

Bad	/ bæd/
Fan	/ fæn/
Hat	/ hæt/

Spelling u

Cup	/ cʌp/
Hut	/ hʌt/
Much	/ mʌtʃ/

Spelling o

Come	/ kʌm/
Month	/ mʌnθ/
Son	/ sʌn/

Spelling ou

Country	/ kʌntri/
enough	/ enʌf/
rough	/ rʌf/

other spelling

blood	/ blʌd/
does	/ dʌz/

Spellings

i.   ar + consonant letter – ar final

art	/ ɑːt/
bar	/ bɑː/
farm	/ fɑːm/
hard	/ hɑːd/

ii.   as + consonant letter

ask	/ ɑːsk/
basket	/bɑːskit/
last	/ lɑːst/

iii.   an + consonant letter

answer	/ ɑːnsə/
branch	/ brɑːnʃ/
dance	/ dɑːns/

V.   ath final

| bath | / bɑːθ/ |
| path | / pɑːθ/ |

iv.   al + consonant

| calm | / kɑːm/ |
| half | / hɑːf/ |

VI.   au

| aunt | / ɑːnt/ |
| laugh | / lɑːf/ |

VII.   a

| drama | / drɑːmə/ |
| father | / fɑːðə/ |

VIII.   –erconsonant letter

Clerk   / klɑːk/

IX. –ear + consonant letter

Heart   / hɑːt/

Spelling

 i. O

  dog   / dog/

  hot   / hot/

  god   / god/

 ii. or accented + vowel letter

borrow   /borə/

moral   / morəl/

sorry   / sori/

 iii. /w/+a+ consonant letter

quality   /kwoliti/

want   /wont/

 iv. au

because   / bikoz/

cough   /kof/

 v. other spellings

shone   /ʃon/

knowledge   /nolidʒ/

Spelling

 i. all

 all   / ɔːl/

 ball   / bɔːl/

 wall / wɔːl/

 ii. or + consonant letter

corn /kɔ:n/

horse /hɔ:s/

north /nɔ:θ/

iii. our

court /kɔ:t/

four /fɔ:/

pour /pɔ:/

iv. or final

nor /nɔ:/

v. ore

before /bifɔ:/

more /mɔ:/

sore /sɔ:/

vi. ough+ t

bought /bɔ:t/

fought /fɔ:t/

thought /θɔ:t/

vii. –aw

Law /lɔ:/

Saw /sɔ:/

viii. Oor

Door /dɔ:/

floor /flɔ:/

ix. Au

Cause /kɔ:z/

Fault /fɔ:lt/

x. al + k

chalk   /tʃɔ:k/

talk   /tɔ:k/

walk   /wɔ:k/

  xi.   oar

board   / bɔ:d/

  xii.   augh + t

caught   /kɔ:t/

daughter   /dɔ:tər/

  xiii.   other spelling

broad   /brɔ:t/

story   /stɔ:ri/

war   /wɔ:r/

spellings

  i.   o alone

  a. o + consonant + letter

bone   /bəʊn/

home   /həʊm/

rope   /rəʊp/

nose   /nəʊz/

  a. o in other accented positions

  both   /bəʊθ/

  open   /əʊpən/

  social   /səʊʃəl/

  b. o final

go   /gəʊ/

no   /nəʊ/

so   /səʊ/

ii.   o + two consonants

bold	/bəʊld/
don't	/dəʊnt/
host	/həʊt/
post	/pəʊst/
most	/məʊst/

iii.   oll

roll	/rəʊl/

iv.   ow

blow	/bləʊ/
flow	/fləʊ/
know	/nəʊ/
sow	/səʊ/
window	/windəʊ/
narrow	/nærəʊ/

v.   oa

boat	/bəʊt/
coast	/kəʊst/
load	/ləʊd/
soap	/səʊp/

vi.   ou

shoulder	/ʃəʊldə/
though	/ðəʊ/

spellings

i.   oo, general followed by k:

book	/buk/
cook	/kuk/

foot	/fut/
good	/gud/
room	/rum/

i. O

Woman	/wumən/

ii. U

bush	/buʃ/
full	/ful/
push	/puʃ/
sugar	/ʃugə/

iii. OUL

Could	/kud/
Should	/ʃud/
Would	/wud/

Spelling

i. U, either alone in an accent or followed by a consonant letter and mute e.(often pronounced ju:/ when initial, or after a plosive, a nasal, /f, v, h/)

Duty	/dju:ti/
music	/mju:zik/
pupil	/pju:pl/
rude	/rju:d/
union	/ju:njən/

ii. OO + consonant letter

Choose	/tʃu:z/
food	/fu:d/
moon	/mu:n/

| soon | /su:n/ |
| tooth | /tu:θ/ |

iii. O

do	/du:/
lose	/lu:s/
move	/mu:v/
who	/hu:/

iv. Ou

Group	/gru:p/
soup	/su:p/
through	/θru:/
wound	/wu:nd/
you	/ju:/

v. ui

| fruit | /fru:t/ |
| suit | /su:t/ |

vi. ew

| new | /nju:/ |

vii. other spellings

beauty	/bju:ti/
shoe	/ʃu:/
two	/tu:/

i. er + consonant

perfect	/pɜ:fikt/
serve	/sɜ:rv/
term	/tɜ:m/

ii. ir + consonant letter

bird	/bɜːd/
circle	/sɜːkl/
firm	/fɜːm/
dirt	/dɜːt/
girl	/gɜːl/

iii.   ur + consonant letter

burn	/bɜːn/
curl	/kɜːl/
hurt	/hɜːt/
murder	/mɜːdə/
purple	/pɜːpl/
turn	/tɜːn/

iv.   wor + consonant letter

word	/wɜːd/

v.   ear + consonant letter

early	/ɜːli/
heard	/hɜːd/
learn	/lɜːn/
search	/sɜːrʃ/

vi.   our + consonant letter

journey	/dʒɜːn/

2.2 SA Vowel Sounds

Sudanese Arabic is one of the variants of Arabic language. Thus, SA follows the sound system of Modern Standard Arabic (MSA) but as any variant SA has some vowel sounds that don't exist in MSA. MSA is characterized with the type of short vowels which in a form of diacritic called in Arabic

(Harakt) that means Arabic has three pairs of vowel sounds phonemes. These phonemes are i, a, u and their long counterparts /i:/ , /a:/, and /u:/. As English, Arabic has diphthongs but they only two of them which are /ai/ and /au/. Arabic vowels are represented by notation under the alphabet (i) (kasrah/,/), (Fat'hah (-)) and (Damma).

The short vowels and their long counterparts have the same position but differ in duration.

- **MSA pure vowels**

Short vowels: In Arabic there are three short vowels, /i/, /a/ and /u/.

/i/ in Arabic is known as (kasrah(/) it is in a form of notation under the consonant and front of the tongue has closed lowered. It is described as short low closed front.

/**a/** this sound is called in Arabic (fathah (-)). It is a diagonal strake written above the consonant. When producing this vowel, the lips are neutral and the tongue is the half-open position. The description of the vowel /a/ is short-low –back neutral.

The vowel **/u/** /,/(Damma): Damma is an apostrophe-like shape written half-close position. This vowel is characterized as short-high- back round.

Long vowels: Arabic has three long vowels /i:/, /a:/, and /u:/ which are the counterpart of the short vowels. These are called (huruufu al-madd).

/**i:/** this vowel is formed when the prolongation sound (j) (yaa) is preceded by the notation (,) "kasrah.

/u:/ this long vowel is formed by the prolongation sound (u) preceded by the notation (,) (Damma).

/a:/The third Arabic long vowel is formed by the prolongation sound (a:) preceded by the notation (-) ' fat hah'.

- **MSA diphthongs**

Arabic has two diphthongs/ai/ and /au/. That means Modern Standard Arabic has eight vowel sounds six of them representing pure vowel sounds /i/, /a/ and /u/ with their corresponding long ones /i:/, /a:/ and /u:/, and two are diphthongs /ai/ and/au/. **adopted from Wikipedia. Com,15. 12. 2018.** Therefore, SA Vowel sounds are based on MSA vowel sounds, and very from MSA in some vowel Sounds.Here are some illustrative examples of SA vowel sounds **adopted from Sanhori (2018).**

- SA short front vowel (a) such as in word /da/ دا /this/ in English
- SA long back vowels (ɔː ,eː) such as in words :

/ɔː / /mɔːja/ مويه /water/ in English,/aa/ /daalek/ ديلاك /those in English. This sound /eː/ in MSA doesn't exist in SA is exist.

- SA diphthongs, /eː ,ɪə , aɪ , ʊə , ɔɪ / appear in such words as:

/eː/ /weːn/ وين /where/.This sound /eː/ seems very close to English diphthong sound /eɪ/ but I prefer to /eɪ/ rather than /eː/.

/ɪə//bahrɪə/ بحريه /female name/, as in /mɪə/(ميه), (one hundred), /almaaɪə/ (ماهيه)(salary), very strong, I believe this sound has existence in MSA in word such as /hɪə/(هي)(she).

/aɪ/ /wai/ واى /expression for fear/.

/ʊə/ this sound appears in words,/ hʊə/ (هو), (he), / qʊə/ (قوه),(power),/ tʊə/ توا /after that /.This sound also I guess to be one of MSA dipthongs as in second person singular, / hʊə/(هو).

/ɔɪ/ rarely appears in SA/ hɔɪ/ هوي /a warning expression/.

2.3English and SAvowel soundsin contrast

In comparing the two languages English and Sudanese Arabic vowel sounds system much variation will be appeared on the surface. Therefore,

thelearners will experience some difficulties which are based on the mount of differences and similarities between L1 and L2 vowel sounds system. In order to find out the points of differences and similarities between English and SA vowel sounds, the way of to do so is the use of contrastive analysis (CA).

In contrast English and SA languages are distinct in term of vowel sounds:

In English pure vowel sounds are 12 in number; this includes short vowels and long vowels;**Short vowels /i ,e, æ , ə , ʌ ,ɔ , u , and Long vowels are , /i: , ə: , ʒ: , ɔ: , u: /.**

SA has twelve vowel sounds seven of them representing pure vowel sounds / i , a and u / with their corresponding long ones / ii , aa, uu and **ɔ:/** , and Five are diphthongs.

The total number of English diphthongs areeight; eɪ/ aɪ/ ʊə/ əʊ/ ɔɪ /ɪə/eə/aʊ/.

Sudanese Arabic diphthongs, /e: ,ɪə , aɪ , ʊə , ɔɪ /.

Based on this comparison there are eight English vowel sounds do not exist in SA ; Four pure vowel / e, ɜ:, ʌ, ɒ / and Four diphthongs / eɪ, eə, aʊ and əʊ/.

Therefore, based on this comparison overall that means, it is clear cut evidence that the absence of some vowel sounds in both languages might cause difficulties to the learners.

2.4 Previous studies:

Many studies have been carried about pronunciation.

Study by Mohammed BallaAlsammani (2016) M.A, Thesis, Sudan University of Science and Technology College of Education English department. Thedifficulties facing University Students in pronouncing English vowel sounds.The aims to investigate some difficulties encountered

by Sudanese students of English language as foreign language in pronouncing English vowel sounds. The researcher uses descriptive analytical method. Data were derived from a questionnaire administrated for a number of 50 teachers and a test administrated for a number of 100 Students from Sudan University of Science and Technology. The results of the study reveals that; there are some difficulties which encounter students in pronouncing English vowel sounds, because of they have more than one way of pronunciation as well as the mother tongue interference and the difference in the sounds system. The researcher recommends that special attention should be drawn to use audio and audiovisual aids they will help in solving the difficulties encountered by Students in pronouncing English vowel sounds.

Study by Mohammed Osman Abdulazeem, M.A Thesis, Sudan University of Science and Technology College of languages (2014). This study aims at examining the pronunciation competence; investigating English Allomorphs among Second year Students in English department at Sudan University of Science and Technology of the problem of pronouncing final-s and final-d sounds. The study follows descriptive analytical method. Test was used for data collection. Data were analyzed undergo statistical processing. The study concludes that there are differences in pronouncing the final /s/ and final /d/ as shown before and most of errors were due to ignorance of rule. The researcher recommends that pronouncing competence should be given care for all undergraduates.

Study by Sami Balla Mohammed Sanhori, PD Thesis, Sudan University of Science and Technology College of language (2018). This study aims at; investigating English pronunciation difficulties among Sudanese English Teaching staff. The study adopted descriptive analytical method. The sample

of the study were Teaching staff at some Sudanese University in Khartoum state, who are teaching English as foreign language (EFL) at tertiary level. The samples were selected randomly from different Universities. In order to collect the necessary data the researcher used only one tool that is a diagnostic Test for the Teaching staff as the tool of the study which is to be read aloud by means of audio recording. Data were analyzed by means of percentages. The findings reveal that SLs of EFL find difficulties when pronouncing most of aspects of English language such as, English assimilation, weak forms, elision, English alveolar sounds /t, d, s, z and clusters.

2. 5 Summary

So, all the studies listed above seem to confirm the importance of investigating difficulties face Sudanese learners in pronouncing English vowel sounds.

CHAPTER THREE

METHODOLOGY

CHAPTER THREE
METHODOLOGY

3.0Introduction :

This chapter introduces methodology, population and sample, tools used for collecting the data for this study, the procedures and reliability and validity of the study.

3.1Methodology of the Study

The researcher follows descriptive analytical methodin order to investigate difficulties face Sudanese learners in pronouncing English vowel sounds and all the data were analyzed later on statistical basic.

3.2Population and Sample of the Study

The original population of this study was 4th year English students and the sample of the study contained 30 of the students who were chosen from Sudan University of science and technology (SUST) English department, they did the recording test.

3.3Tools of Data collection

The researcher designed a diagnostic test so as to investigate difficulties face Sudanese learners in pronouncing English vowel sounds. The test consists of a number of words representing English vowel sounds.

3.4 procedures:

The researcher followed the technique of recording and let the students to read aloud outside the classroom during their University day by means of mobile phone. The students were very interested during this meeting and the place was quiet. The researcher analyzed and calculated the data by means times in order to find out the result.

3.5 Reliability and Validity of the Study

In order to ensure the reliability and validity of the data collection instruments, the researcher designed one tool diagnostic recording Test for the sample confined to the study. Then presented to the supervisor for approval, after that the tool (recoding Test) is taken for judgment byEnglish language lecturers who were specialized in the field of English language teachingand they were two Ph. D holders(Abdal Rahman Awadlalh and Abbas Mukhtar Mohammed)from Sudan University of Science and Technology College of languages: who omitted, added and corrected. Their notes and suggestions were taken into consideration and the researcher made the necessary modifications. And before the distribution the tool is given to the supervisor for final evaluation. For the reliability of instruments, the researcher also used the statistical package for social study (SPSS) to conductdata analysis.

3.6 Statistical Reliability and Validity:

It is meant by the reliability of any test, to obtain the same results if the same measurement is used more than one time under the same conditions. In addition the reliability means when a certain test was applied on a number of individuals and the mark of every one were counted, then the test applied to the same group another time and the same marks were obtained, then we can describe this test as reliable. In addition reliability is defined as the degree of accuracy of the data that the test requires.

Here are some of the most used methods for calculating the reliability:

1. Split – half by using spearman –Brown equation.
2. Alpha – Cronnach coefficient.
3. Test and re-test method.

4. Equivalent images method.

5. Guttman equation.

Validity on the other hand, is also a measurement used to identify the validity degree among the respondents according to their answers on certain criterion. The validity is counted by a number of methods; one of them is the validity by using the square root of the (reliability coefficient). The value of the reliability and the validity lies in the range between (0-1). The validity of the test is that the tool should be measure the exact aim, which it has been designed for.

The researcher calculated the validity statistically using the following equation:

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

The researcher calculated the reliability coefficient for the measurement, which was used in the test, using (split-half) method. This method stands on the principle of dividing the answers of the sample individuals into two parts, i.e.; items of the odd numbers e.g. (1,3.5 , …..).

Then Pearson correlation coefficient between the parts is calculated. Finally, the (reliability coefficient) was according to spearman –Brown Equation as the following:

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

r = Pearson Correlation Coefficient

To calculate the validity and reliability of the test from the above equation, the test was distributed to the respondent. In addition, depending on the answers of the pre-test sample, the above spearman-Brown was used to calculate the reliability coefficient using the split – half method , the table shows the results:

Table (3-1) the statistical reliability and validity.

Reliability	Validity
0.54	0.73

We note from the results in the table above, that the overall reliability and validity coefficient for the test are greater than (50%), this indicated to high validity and reliability of the answers, so the study test is valid and reliable.

CHAPTER FOUR

DATAANALYSIS AND DISCUSSION OF THE RESULT

CHAPTER FOUR

DATA ANALYSIS AND DISCUSSION OF THE RESULT

4.0 Introduction:

The previous chapter discussed the method of collecting data and appropriate tools of data analysis while this chapter provides and discusses how datawere analyzed and result discussion.

4.1 Data Analysis:

The data were analyzed by using correct and incorrect percentages. The following Tables state how data were analyzed and result were discussed.

Table (4-1): pure vowel sounds

Target sounds	Correct	Percentage	Incorrect	Percentage
/ʌ/	11	37%	19	63%
/e/	17	57%	13	43%
/ə/	3	10%	27	90%
/u/	29	97%	1	3%
/ɔ:/	21	70%	9	30%
/ɑ:/	12	40%	18	60%
Total answers	13	43%	17	57%

The table above represents the distribution of the correct, incorrect answers and percentages for the Sample at Sudan University of Science and Technology. It reveals that the averages (97%, 70% and 57%) Sample has correctly answered, while (90%, 63% and 60%) incorrectly. In addition, the

total averages (43%) Sample has correctly answered all questions, while (57%) did not.

Table (4-2): Diphthong sounds

Target sounds	Correct	Percentage	Incorrect	percentage
/əʊ/	10	33%	20	67%
/eɪ/	15	50%	15	5o%
/eə/	22	73%	8	27%
Total answers	9	30%	21	70%

The table above represents the distribution of the correct, incorrect answers and percentages for the Sample at Sudan University of Science and Technology. It reveals that the averages (73% and 15%) Sample has correctly answered, while (67%, 33% and 27%) incorrectly. In addition, the total averages (30%) Sample has correctly answered all questions, while (70%) did not.

4.2 Result Discussion:

The first hypothesis*:*

Sudanese learners face difficulties in pronouncing English vowel sounds.

Statistics indicate that Sample at Sudan university of science and technology face difficulties in pronouncing English vowel sound as the tables (1 and 2) haveshown that an average majority of the Sample haveincorrectly answered the questions (57%) and (43%) correct. Table 2 an average (30%) of the Samplehave correctly answered the questions, while (70%) of them did not.

The second hypothesis:

English spelling hinders the mastering of pronouncingvowel sound.

Some vowels are produced as in letters of alphabet (spelling) rather than phonemes.

The following are illustrative examples.

Spelling   o

/ o / they pronounced /ɒ / as in words (connect /kɒnkt/, money /mɒni/ and develop /divelɒp/) rather than / ə and ʌ/ /kənkt/, /mʌni/ and /diveləp/.

Spelling   oo

/oo/ they pronounced / uː / as in words (wood /wuːd, good /guːd/, rough /ruːf/ and blood /bluːd) rather than /wud/, /gud/, /rʌf/ and /blʌd/.

Spelling   ea

/ ea / they pronounced / eɪ / as in words (head /heɪd and dead /deɪd/ rather than /e//hed/ and /ded/.

/ ea / they pronounced / eː / as in words (break /breːk / and ate /eːt/ rathr than /eɪ/ /breɪk/ and /eɪt/.

/ ea / they pronounced /æ/ as in word (heart / hært/ rather than /ɑː/ /hɑːrt/.

Spelling   a and au

/ a/ they pronounced /æ/ as in word (part /pært/ rather than/ɑː//pɑːrt/.

/ au/ they pronounced /æ/ as in word (laugh /læf/ rather than /lɑːf/

All errors in the above examples hinder the mastering of pronouncing English vowel sound.

The third hypothesis*:

The reason behind mispronunciation English vowel sound is mostly due to mother tongue interference.

Analysis of the data revealed instances of errors which caused by the student's mother tongue interference the following are illustrative examples.

　　1- / əʊ/ to   / ɔː / .

The Students transferred the English vowel sound /əʊ/ as in (show / ʃəʊ/ to /ɔː/ /ʃɔː/.

2- / eɪ /   to / eː /.

The Students transferred the English vowel sound / eɪ /as in (make/meɪ k/ and face /feɪs/ to /eː/ /meːk/ and /feːs/.

3- / eə/ to /ai/.

The Students transferred the English vowel sound / eə/ as in (square/ skueə/ and pair /peə/ to /ai/ /skuair/ and /pair/.

Therefore, it is clear that the absence of some English vowel sounds in Sudanese Arabic (/əʊ/,/eɪ/,/eə/, /e/, /ɜː/, /ʌ/ and /ɒ/ might lead learner's mispronunciation when they attempt to speak the second language.

4.3Summary

Through this study, it can be said that the Sample at Sudan University of Science and Technology face difficulties in pronouncing English vowel sounds in their correct positions.

CHAPTER FIVE

SUMMARY, FINDINDS, RECOMMENDATION AND SUGGESTIONS FOR FURTHER STUDIES

CHAPTER FIVE

SUMMARY, FINDINDS, RECOMMENDATION AND SUGGESTIONS FOR FURTHER STUDIES

5.0 Introduction

This chapter includes summary, findings, recommendation and suggestionsfor furtherstudies.

5. 1 Summary

The aim of this study is to investigate the difficulty of pronouncing English vowel sounds among Sudanese Students. Through this study, it can be said that the Sample at Sudan University of Science and Technology face difficulties in pronouncing English vowel sounds in their correct positions. Therefore, it will be helpful if the teachers explain the English vowels (/əʊ/,/eɪ/,/eə/, /e/, /ɜː/, /ʌ/ and /ɒ/ which have no counterpart in Sudanese Arabic. Also emphasizing the manner and place of articulation of these sounds and contrasting them with the regularly replaced sounds may raise students' awareness of the difference between them. Hence, enable students to do self-correction for the mispronounced vowels. In addition, doing contrastive study regarding the sound systems of English and Sudanese Arabic is likely to be of great importance to eliminate English pronunciation problem related to the differences between the two languages.

5.2 The main findings of the study:

The most important findings of this study can be briefly indicated as follows:

1-The results of the statistical analysis indicate that the Sample at Sudan University of Science and Technology face difficulties in pronouncing

English vowel sounds as the tables (1 and 2) have shown that an average majority of the Sample have incorrectly answered the questions (57%) and (43%) correct. Table (2)an average (30%) of the Sample have correctly answered the questions, while (70%) of them did not.

2-In addition, the findings revealed instances of errors which caused by English spelling, Sample pronounced vowel sounds as letters of alphabet rather than phonemes.

3-The Analysis of the data also revealed that the mispronunciation committed by the Sample whentransferred the English vowel sounds which have no counterpart to their mother tongue.

5.3 Recommendation:

Based on the study findings the following recommendations are viewed by the researcher.

1- Students should be motivated to understand the importance of English vowel sounds.

2- Encouragingstudents to make use of the available technology to expose themselves to native English speaking e.g. listening to native English broadcast, TV channels, etc.

3- Updating phonology courses and strategies of learning pronunciation.

5-4 Suggestions for Further Studies

There are many other related issues that need to be investigated the following proposed topics could be complementary studies to the present research:

1. Investigating the relationship between different spelling and pronunciation difficulty of the English vowels and Sudanese learners.

2.Investigating teacher's difficulties to adapt appropriate teaching materials to be in teaching English vowel sounds.

REFERENCES

References

Abdulzeem, M. O. (2014) Investigating the problem of pronouncing final-s and final-d sounds among second year English students. Sudan university of science and Technology. M. A .These.

Alsammani, M. B. (2016) The difficulties facing University Students in pronouncing English vowel sounds. Sudan University of science and Technology. M. A. These.

Bluer: (2005) Teaching as a foreign language, Washington.

O'Conner (1980) Better English pronunciation. Cambridge: Cambridge University press.

Roach, P. (2003) English phonetics and phonology. Cambridge: Cambridge University press.

Saferoglu, G. (2005) Improving Student's pronunciation through accent reeducation software. British journal of educational Technology, 36(2), 303-316.

Sanhori, S. B. (2018) Investigating English pronunciation difficulties among Sudanese English staff. Sudan University of Science and Technology. Ph. D. These.

http://www. Wikipedia.com, 15. 12. 2018.

APPENDIX

Sudan University of Science and Technology

College of Graduate Studies

College of languages

Diagnostic Test

Dear Student:

This test is a part of M.A study on 4th year English students, under the title "Investigating difficulties face Sudanese learners in pronouncing English vowel sounds". I would be highly appreciated if you could read all words appropriately and honestly. I assure you that the information of this test will be treated as confidential for research purpose only.

Read loudly the following words in list (A) and (B)

List (A)		
1-show	7- laugh	13-spread
2-caught	8- heart	14-parliament
3-post	9-pair	15-elit
4-floor	10- square	
5-calm	11-face	
6-part	12-made	
List (B)various spelling for the different vowels		
1-connect	8- hut	15-plate
2- control	9-worry	
3-develop	10-rough	
4-concern	11-head	
5-good	12-dead	
6-wood	13-bread	
7-blood	14-break	