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The Role of Intervention in Reducing Accented Pronunciation of English

Vowel Sounds

Case Study: Second Year Students at the Department of English, Jijel.

Dissertation submitted in partial fulfilment of the requirements for the master degree in
Didactics

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Dedication

In the name of Allah, the Most Gracious, the Most Merciful, all the praise is due to Allah alone, the Sustainer of all the worlds

I dedicate this work to most precious people to my heart; the ones who gave me strength and hope, who helped me so much and gave me their financial and emotional support: my dear mother and beloved father,

I dedicate this work to my dearest sisters Wissame, Sara, Djihan and Marriem and to my beloved brothers AHCEN and Yaakoub,

I dedicate this work to my aunts Leila, Malika and Fatima,

I dedicate this work to all my friends.

Boufekroune Hayat

I dedicate this work to:

- ❖ my source of happiness, my grandmother,
- ❖ my tender mother for her never ending love, “thank you mum”
- ❖ my father, I will be always grateful to him for confidence in me, love and for his financial support, “thank you dad”
- ❖ my adorable sisters, Hadjer, Ikram, Fatima and her husband Hakim,
- ❖ my cousin Hamza, Fares, Hassen and Mohammed,
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Abstract

This study investigates whether students at English department have accented pronunciation of English vowel sounds that results from the mother tongue and the previously learned French language. Using an experimental design, a group of six second year students of English at Mohammed Seddik Ben Yahia University, Jijel, have been given a list of words containing all English vowels to pronounce in order to judge the degree of accentedness of their pronunciation. This was done by the students evaluating themselves and two teachers of Phonetics who acted as judges of foreign accent. Later, it was experimented with the most vowel sounds that are problematic (/ɒ/, /e/, /ɜ:/, /ʊə/, /aɪ/, /əʊ/ and /eə/) in order to reduce accent through instruction and practice, classified as a small-scale intervention. Students who were post-tested on vowels which received treatment showed very little improvement on five treatment vowels, while two others /eə/ and /ʊə/ continued to be accented or problematic. On the other hand, students who were post-tested on vowels which did not receive treatment showed very little improvement two and five vowels remained very highly accented or problematic for students; these are /ʊ/, /ɪ/, /u:/, /ɔ:/, /aʊ/. More careful and guided practice is needed to be carried out by students to reduce accent in pronunciation.

Key Words: accent, vowel pronunciation, accent reduction

List of Abbreviations

AAVE	African American vernacular English
BBC	British Broadcasting Corporation
CA	Contrastive Analysis
CAH	Contrastive Analysis hypothesis
CPH	Critical period hypothesis
EA	Error Analysis
EFL	English as foreign language
ESL	English as second language
FL	Foreign language
GA	General American
IPA	International phonetic alphabet
L1	First language
L2	Second language
LMD	License .Master. Doctorate
RP	Received pronunciation
TL	Target language
USA	United State of America

Preface (Beghoul, 2007, xvii-xxii)

Standard Arabic

A-Simple vowels

Sescription	Example	Transcription	Meaning
-------------	---------	---------------	---------

i close, front, unrounded, short	شهد	Sahida	to witness
i: close, front, unrounded, long	سبيل	sabi:l	way
a Central, front, unrounded, short	ضرب	Daraba	hit
a: Central, front, unrounded, long	منى	muna:	wishes
u close, back, rounded, short	يأكل	ja?kulu	to eat
u: close, back, rounded, long	جنون	dZunu:n	madness

B- Diphthongs

example		Transcription	Meaning
aj	سيد	Sajjid	Master
aw	حوّل	h0awwala	Changed

Standard French A-Vowels

Description	Examples	Transcription	Meaning
i close, front, unrounded	Ami	Ami	Friend
y close, front, rounded	Lune	Lyn	Crescent
e half close, front, unrounded	Et	E	And
ø half close, front rounded	Ceux	Sø	Those
ɛ half open, front, unrounded	Maître	mɛtr	master
ɛ^ half open, front, unrounded, nasal	Vin	vɛ^	wine
œ half open, front, rounded	Club	Klœb	club

Standard English

œ [^] half open, front, rounded, nasal	Un	œ [^]	one
a open, front, unrounded nasal	La	La	The
â open, front, unrounded nasal	Exemple	εgâpl	Example
u close, back, rounded	Tous	Tus	all
O half close, back, rounded	Dos	Do	back
ɔ half open, back, rounded	Alors	al ɔr	so
ɔ [^] half open, back rounded, nasal	Ton	t ɔ [^]	your
ə half close, central, unrounded	Regard	Rəgard	Look

A-Simple vowels

Description	Example	Transcription
/ɪ/ close ,front ,unrounded	Hit	Hit
/i:/ close ,front ,unrounded long	Heat	hi:t
/e/ half close, front ,unrounded	Let	Let
/æ/ half close ,central, unrounded	Add	Æd
/ə/ half close ,central ,unrounded	Listener	lisnə
/ɜ:/ half close, central unrounded long	Bun	bɜ:n
/ʌ/ open ,central ,unrounded short	Cut	kʌt
/ʊ/ close, back rounded	Pute	pʊt
/u:/ close ,back rounded long	Too	Tu:
/ɒ/ open, back, rounded	Lot	lɒt
/ɔ:/ open ,back ,rounded long	Hors	h ɔ:s

/ɑ:/ open ,back ,unrounded ,long

Art

a:rt

B-Diphthongs

Vowels	Example	Transcription
/ɪə/	near	nɪə
/eə/	Care	keə
/eɪ/	Date	deɪt
/aɪ/	Bit	bɑɪt
/aʊ/	Loud	laʊd
/əʊ/	Low	ləʊ
/ʊə/	Poor	pʊə
/ɔɪ/	Boil	bɔɪ

C-triphthongs

Vowels	Example	Transcription
/aʊə/	Our	aʊə
/aʊə/	Lawer	laʊə
/aɪə/	Fire	faɪə
/ɔɪə/	Lawyer	lɔɪə
/eɪə/	Player	pleɪə

List of Tables

Table 3.1:	Accent in the Pronunciation of Student One in the Pre-Test (S1).....	41
Table 3.2:	Accent in the Pronunciation of Student Two in the Pre-Test (S2).....	42
Table 3.3:	Accent in the Pronunciation of Student three in the Pre-Test (S3).....	43
Table 3.4:	Accent in the Pronunciation of Student four in the Pre-Test (S4).....	44
Table 3.5:	Accent in the Pronunciation of Student five in the Pre-Test (S5).....	45
Table 3.6:	Accent in the Pronunciation of Student six in the Pre-Test (S6).....	46
Table 3.7:	Factors contributing to accent for student one in pre-test (S1)	47
Table 3.8:	Factors contributing to accent for student two in pre-test (S2).....	48
Table 3.9:	Factors contributing to accent for student three in pre-test (S3).....	49
Table 3.10:	Factors contributing to accent for student four in pre-test (S4)...	50
Table 3.11:	Factors contributing to accent for student five in pre-test (S5).....	51
Table 3.12:	Factors contributing to accent for student six in pre-test (S6).....	52
Table 3.13	Average accent in the pronunciation of six student in the pre-test	53
Table 3.14	Identification of the most accented vowels in the pronunciation of six student	54
Table 3.15:	Evaluation of untreated vowels for student (1).....	55
Table 3.16:	Evaluation of untreated vowels for student (2).....	56
Table 3.17:	Evaluation of untreated vowels for student (3).....	57
Table 3.18:	Evaluation of untreated vowels for student (4).....	58
Table 3.19:	Evaluation of untreated vowels for student (5).....	59
Table 3.20:	Evaluation of untreated vowels for student (6).....	60
Table 3.21:	Evaluation of treated vowels for student (1).....	60
Table 3.22:	Evaluation of treated vowel for student (2).....	61
Table 3.23:	Evaluation of treated vowels for student (3).....	61

Table 3.24:	Evaluation of treated vowels for student (4).....	62
Table 3.25:	Evaluation of treated vowel for student (5).....	62
Table 3.26:	Evaluation of treated vowel for student (6).....	63
Table 3.37:	Evaluation of untreated vowels the six students in the post-test	64
Table 3.38:	Evaluation of treated vowels the six students in the post-test	64
Table 3.29:	Degree of improvement of untreated vowels for student (1).....	65
Table 3.30:	Degree of improvement of untreated vowels for student (2).....	66
Table 3.31:	Degree of improvement of untreated vowels for student (3).....	67
Table 3.32:	Degree of improvement of untreated vowels for student (4).....	68
Table 3.33:	Degree of improvement of untreated vowels for student (5).....	69
Table 3.34:	Degree of improvement of untreated vowels for student (6).....	70
Table 3.35:	degree of improvement of treated vowels for student (1).....	71
Table 3.36:	degree of improvement of treated vowels for student (2).....	72
Table 3.37:	degree of improvement of treated vowels for student (3).....	73
Table 3.38:	degree of improvement of treated vowels for student (4).....	73
Table 3.39:	degree of improvement of treated vowels for student (5).....	74
Table 3.40:	degree of improvement of treated vowels for student (6).....	75
Table 3.41:	Effect of non-Intervention on the Accentedness of vowel production ...	7
Table 3.42:	Effect of Intervention on the Accentedness of vowel production.....	76
Table 3.43:	Identification of the most Accented untreated vowels in the pronunciation.....	75
Table 3.44:	Identification of the most Accented treated vowels in the pronunciation.....	77

List of Figures

Figure 01:	Cardinal vowel diagram.....	11
Figure 02:	Horizontal position of the tongue	13
Figure 03:	Vertical positions of the tongue	14
Figure 04:	The shape of the lips	17
Figure 05:	French vowels	21

CONTENTS

DEDICATIONS.....	I
ACKNOWLEDGEMENT.....	II
ABSTRACT.....	III
List of Abbreviations and Symbols.....	IV
Preface.....	V
List of Tables.....	IV
List of Figures.....	VIII
CONTENTS.....	XI

GENERAL INTRODUCTION

Introduction.....	1
1. Review of Previous Research.....	1
2. Statement of the problem.....	3
3. Aim of the Study.....	3
4. Research Questions.....	4
5. Research Hypotheses.....	4
6. Research Methodology.....	4
7. Structure of the Study.....	5

Chapter One: Description and Classification of Vowels

Introduction.....	6
Description of English Phonetics and Phonology.....	6
Phonemes.....	7
Allophones.....	8
Definition of vowel.....	9
Vowel versus consonant	9

Classification of vowels	10
Criteria for classification.....	10
Vowel height.....	10
Tongue advancement	11
Vowel length and tenseness	12
Shape of the lips	12
The cardinal vowel diagram	13
Further classifications of English vowels	14
Orally versus Nasality	15
Reduced vowels	15
Voiceless vowels	15
The English vowel system	16
Monophthongs in English	16
Diphthongs in English	18
Triphthongs in English	19
The French vowel	20
The Arabic vowels.....	21
Conclusion	22

Chapter Two: Accented Pronunciation

Introduction	23
Definition of Accent.....	23
Native Accent versus Foreign Accent.....	24
Native Accent.....	24
Foreign Accent.....	25
Sources of Accented Pronunciation.....	26

Mother Tongue Interference.....	26
Age.....	27
Personality.....	28
Phonetic Ability.....	29
Errors versus Mistakes.....	29
Contrastive Analysis in Phonology.....	30
Definition and Scope of Contrastive Analysis.....	30
Strong and Weak versions of Contrastive Analysis.....	32
Language Transfer.....	32
Criticism of Contrastive Analysis.....	33
Contrastive Analysis Predictions for French Speakers' Pronunciation of English.	34
Contrastive Analysis Predictions for Arabic Speakers' Pronunciation of English.	34
Error Analysis.....	35
Error Analysis versus Contrastive Analysis.....	35
Conclusion.....	36
Chapter Three: Field Work	
Introduction.....	37
Population and Sample.....	37
Research Procedures.....	37
Test of Accent in the Pronunciation of English Vowels.....	39
Description of the Test of Accent in the Pronunciation of English Vowels.....	40
Analysis of Pre-Test Results.....	40
Global evaluation of accent in pronunciation	40
Factors contributing to accent.....	46
Interpretation of Pre-Test Results.....	52

Analysis of Post-Test Results.....	55
Teachers' Evaluations of Students' Accent in the Post-Test with Untreated Vowels	55
Teachers' Evaluations of Students' Accent in the Post-Test with Treated Vowels	60
Interpretation of Post-Test Results.....	63
Comparative Analysis and Interpretation of results (prepost teachers).....	65
Comparative analysis and Interpretation of untreated vowels result.....	65
Comparative analysis and Interpretation of treated vowels result.....	71
Overall analysis.....	78
Conclusion.....	79
General Conclusion	
Putting it altogether.....	80
Pedagogical Recommendations.....	81
Limitations of the study.....	81
Suggestions for Further Research.....	81
References	
APPENDICES	

General Introduction

Introduction

1. Review of Previous Research

2. Statement of the Problem

3. Aim of the Study

4. Research Questions

5. Research Hypothesis

6. Research Methodology

7. Structure of the Study

Introduction

Correct pronunciation in of second and foreign languages is regarded as essential to communication. In order to communicate successfully, the message should be transmitted appropriately from the speaker to the hearer especially in terms of the intelligibility and conformity of speech sounds to those of the target language standards, as spoken by native speakers. Failure to adhere to those norms would result in foreign accent, or speech that is devious from the native norms, and that may cause communication breakdown or, at least, to judgement of speakers as incompetent as far as mastery of the target language is concerned. The deviations that are observed in non-native speakers' speech can occur at various levels, including the segmental level, concerning the production of the speech sounds and phonemes, and supra-segmental level, dealing with such features as stress, pitch and intonation.

Vowel mispronunciation in learning English constitutes one area that creates a foreign-accented speech. It can be traced back to the native language or languages of the speakers who may wrongly think that their native language has equivalent sounds for the mispronounced vowels or when they do not master the sound pattern of English in terms of the quality of its production.

1. Review of Previous Research

Accented pronunciation is identified as one of the problematic aspects for English as a foreign language (EFL) learners, and which has been investigated by many researchers to determine its nature. Close relationships have been found between the characteristics of native languages (L1s) of speakers and their mispronunciations of EFL. In addition, researchers have suggested strategies for getting students rid of their accents.

Cross-linguistic influences of mother tongue on foreign language were studied by Odlum (1989) (as cited in Bettach & Boulfous, 2015, p. 2). He highlighted the powerful influence of

an L1 on the sound system of foreign language and suggested that attention needs to be paid to both phonetic and phonemic differences. In the same vein, Otruba (2016) conducted a study about pronunciation of English by the French. He interviewed six French speakers of English, gave them a questionnaire to ask them to self-assess their level of English pronunciation. Results showed that French language lacks the reduced vowels /ɪ/ and /ʊ/, any inherently long vowels, and vowels like /ɒ/ and /æ/. It has been argued that the pronunciation of these vowels would be adapted to the French vowel system; the reduced vowels would become /i/ and /u/, long vowels would be shortened, and the vowels /ɒ/ and /æ/ would be realized as either /e/, /ɛ/, or /a/. (p.43).

Lack of practice in pronouncing English vowels was identified as a cause of foreign accent. In this regard, Gowhary, Azizifar and Rezaei (2016) investigated English vowel reduction in the pronunciation of 60 non-native EFL teachers. During their process of research, the researchers used a checklist as a means for research and they came to the conclusion that EFL teachers did not generally perform vowel reduction as it was expected; in fact, vowel reduction is neglected to a great extent. Moreover, Bounar & Boutana (2016) hypothesized that failure in pronouncing vowel sounds correctly lies in lack of authentic practice; hence, an experimental study was conducted using speaking activities to enhance learner's pronunciation of vowel sounds. EFL learners' pronunciation of vowel sounds not only became better, but learners became more motivated to learn pronunciation.

The perceptions of and difficulties in speaking English of teachers and learners of EFL in Finland and Japan were investigated by Paakki (2013). Using interviews with both adult learners and their teachers displayed many reasons as to why both Japanese and Finnish learners experienced difficulties when speaking. The study raised the awareness in that it helped learners recognize their errors as well as helped teachers recognize the types of errors made by students in order to reduce foreign accent related to negative transfer. In addition,

attitudes towards L2 accents were investigated by Risan (2014) among prospective English teachers in Norway. Results from a questionnaire and in-depth interviews showed that Norwegian was influenced by English accent in certain contexts. In addition to that, research on the L2 accent choice should be encouraged.

Audio-visual aids were introduced by Djouimaa and Ben makki (2012) for teaching pronunciation. Experimenting with audio visual aids in teaching pronunciation improved the learner's pronunciation performance. It was concluded that teachers of EFL/ESL should focus on the students' needs, level and ability, incorporate pronunciation whenever there is opportunity and time. Pronunciation must be viewed as more than correct production of individual sounds or isolated words. Instead, it must be viewed as a crucial and integral part of communication that should be incorporated into classroom activities.

2. Statement of the Problem

Accent is an important feature of language use, and it is considered as a part of people identity. As far as Algerian learners are concerned, the mispronunciation of EFL is deeply affected by the repertoire of sounds that they have acquired from the native language of dialectal Arabic, Sounds of classical Arabic and sounds from the French language. Learners' native language or previously learned languages may lead them to pronounce English vowels with different accents which are different from that of the native speaker

3. Aim of the Study

The objective of this research is to help teachers and learners diagnose the problem that student are facing in pronouncing English vowel sounds as well improve the learning pronunciation by investigating the role of intervention in reducing accented pronunciation of English vowel sounds.

4. Research Questions

In order to achieve the above objectives, the study attempts to answer the following questions:

- a) Do Algerian students at Mohammed Seddik ben Yahia University, jijel, have an accented pronunciation of English vowels? Or in other words, does the mother tongue and French language affect student pronunciation of English vowels?
- b) Which aspects of speech production contribute more to judgements of accented pronunciation of vowel sounds?
- c) Can small scale intervention contribute to reduce the accentedness of students' pronunciation of English vowels?

5. Research Hypotheses

We hypothesise that Algerian students (from Jijel) produce vowels differently from the way native speakers do. Students are not fully aware of the production requirements of vowel sounds in terms of shape of the tongue, the lips and vowel length. Once students' are made aware of these aspects, through practice in producing them, the degree of judgements of foreignness in the pronunciation of vowels will decrease, meaning that their pronunciation of these vowels would improve.

6. Research Methodology

In order to verify the hypotheses formulated in this research, that is, Algerian students of English language producing English vowels differently from the way native speakers do and role of the suggested solution, it is judged appropriate to use an experimental design. To do so, a sample of six second year student at the department of English university of Mohammed Seddik Ben Yahia, jijel, was randomly selected to take part in self-assessment of their own

pronunciation of English vowel sounds as pre-test. Similar to what students did, two teachers judged the degree of foreign accent in the pronunciation of those students and gave reasons why pronunciations deviate from the target language norms. The same students underwent a treatment in practising the pronunciation of the most accented vowels. The effect of such a treatment is measured along its effect on other untreated vowels when students took part in a post-test, and were subsequently judged from the teachers' perspective again.

7. Structure of the Study

The study is made up of a general introduction, outlining the broad lines along which the research is designed, two theoretical chapters and a practical chapter, and ends with a general conclusion.

The first chapter, entitled "Description and Classification of Vowels", defines the specialties of phonetics and phonology, the concepts of phoneme, vowel, cardinal vowels and consonants. It also discusses French and Arabic vowel systems in order to compare them to English. The place and manner of production of vowel sounds in English are discussed with regard to tongue position, shape of lips, and length of vowels in the English language.

The second chapter is entitled "Accented Pronunciation of English" presents the term 'accent', its features in addition to accent reduction techniques. Next, it moves to present the factors that affect English pronunciation. Contrastive analysis assumptions, explanation of transfer from French and Arabic to English as well as criticism of its weak and strong versions are discussed. The chapter also reviews the term error, and differentiates it from mistake.

The third and the last chapter, entitled "Fieldwork", provides a description of data collection procedures, analysis and interpretation of the results obtained from the experimental study that was carried out with second year students of English to measure the degree of accent as well as the role of intervention in reducing it.

Chapter One: Description and Classification of Vowels

Introduction

1.1. Description of English Phonetics and Phonology

1.2. Phonemes

1.2.1. Allophones

1.2.2. Definition of Vowel

1.2.3. Vowels versus Consonants

1.3. Classification of Vowels

1.3.1. Criteria for Classification

1.3.1.1. Vowel Height

1.3.1.2. Tongue Advancement

1.3.1.3. Vowel Length and Tenseness

1.3.1.4. Shape of the Lips

1.3.2. The Cardinal Vowel Diagram

1.3.3. Further Classifications of English Vowels

1.3.3.1. Orality vs. Nasality

1.3.3.2. Reduced Vowels

1.3.3.3. Voiceless Vowels

1.4. The English Vowel System

1.4.1. Monophthongs in English

1.4.2. Diphthongs in English

1.4.3. Triphthongs in English

1.5. The French Vowel System

1.6. Arabic Vowel System

Conclusion

Chapter One: Description and Classification of Vowels

Introduction

The sounds produced by humans are diverse and may differ slightly or greatly from one language to another. These are studied in the specialties of phonetics and phonology as pointed out at the outset of this chapter which is devoted to the description and classification of English vowels. The concepts of phoneme, vowel, vowels and consonants and allophones are discussed next. Next, the chapter discusses the criteria for describing and comparing human languages including place and manner of production of vowel sounds in English by considering tongue position, shape of lips, and length of vowels in addition to other less salient criteria. The vowel system is subsequently described in the target three languages, starting with English and then French and Arabic, which are also compared.

1.1. Description of English Phonetics and Phonology

The study of pronunciation consists of two main fields, which are phonetics and phonology. Phonetics is the scientific study of speech sounds (Kelly, 2000, p.9; Roach, 2001, p.5). It deals with speech sounds in terms of production, description and representation by written symbols which are usually referred to as phonetic transcription. The latter is based on universal system by the International Phonetics Association (IPA). The system represents all speech sequences of any language in the world in order to facilitate the process of language description and learning (Roach, 2001, p.5). Phonetics is also concerned with how the organs are used while speaking, how these organs work in order to produce speech, how speech is transmitted from the speaker to the hearer, how it is received by the listener as well as interpreted in the listener's brain (Roach, 2001, p.7).

Phoneticians distinguish between three branches of phonetics: articulatory phonetics, acoustic phonetics and auditory phonetics. The first of these, articulatory phonetics, deals with the production of sounds; while producing sound, air passes through a complex passage,

moving by the lung, the vocal folds, the throat, mouth and nose. In order to describe how sounds are made, we must be familiar with various speech production organs. It helps to learn how we change the shape of the vocal organs to make different sounds (Rogers, 2000, p.2).

The second branch is acoustic phonetics; it refers to the nature and acoustics of sound waves which are transmitted by speech (Kelly, 2000, p.9). It is also defined by Rogers (2000) as the study of the vibration of speech sounds with instruments in a laboratory, which make it possible to observe and measure various aspects of speech sounds. The third branch is auditory phonetics, which is the study of how speech is received by the hearers (Kelly, 2000, p.9).

Phonology, on the other hand, is the study of distinctive sound units of a language, the patterns they form, and the roles which regulate their use (Roach, 2001, p.111). It attempts to explain how and what roles are used by the speaker in order to produce and combine different speech sounds (phonemes) to produce meaningful words, sentences, and what kind of roles they may use to produce these meaningful words and sentences. The phonological roles tell the speaker where a sound can or cannot appear at the beginning, at the middle or at the end of a syllable, a word or an utterance and what sound combinations are possible are possible in a given language (Franklin radaman &Hyams, 2003, p.274).

In some languages such as English, since there is no perfect correspondence between spelling and sounds, it is important to learn pronunciation in terms of phonemes rather than letters of the alphabet (Roach, 2000, p.3). So, the study of both phonetics and phonology may help to acquire better understanding of sounds in speech (p.43).

1.2. Phonemes

Phonemes refer to the set of vowel and consonant sounds in a given language. A phoneme is defined by Kelly (2000) as “the different sound within a language.” Other definitions of a phoneme think of it as any ‘distinctive sound of the language’ (Roach, 2001, p.7) or as simply

a ‘speech sound’ (Murry & Christon, 2011). It is the smallest unit of the sound that gives a different meaning. For example, the word ‘rat’ has three phonemes /r/, /æ/ and /t/. If we change the middle phoneme, we get /rɒt/ rot, a different word with a different meaning (Kelly, 2000, p.1).

There are special kinds of phonetic symbols to present the phonemes of a particular language, usually enclosed between slant brackets; for example, book is transcribed as /bɒk/. Phonemes are the basic principle of contrast in language and they are used in order to identify the differences between words in particular language. For instance, in French, the word ‘tout’ is written in phonemic symbols as /tu/ and ‘tu’ phonemically /ty/ are recognizably different because of their vowel. In English, the word ‘two’ is phonetically [tu]; if we were to substitute the vowel [y], this would not result in an English listener identifying the word as part of the English language.

1.2.1. Allophones

An allophone is the different realization of some phoneme (its physical form). Phoneme is the abstract concept of a meaningful and distinctive sound in a language, like we would think of a letter of the alphabet; what we hear, however, is the realization of the phonemes, or allophone, and it is different from one speaker to another, or even slightly different in the performances of a single person (Roach, 2001 p.17). In further explanation by comparing to the abstract system of letters in the language, writing the letters comes in different forms or different handwritings, and one letter may not be drawn in exactly the same manner by a single writer. Phonemes are written between two slashes whereas allophones are written between square brackets. For instance, [K] and [k^h] are allophones of the phoneme /k/ and an allophone does not have other components; it does not change because a change will produce a different allophone. However, different allophones of the same phoneme do not affect the meaning of a word, unlike a change of phonemes would.

1.2.2. Definition of Vowel

Oxford dictionaries (2008) defined a vowel as a “speech sound in which the mouth is open and the tongue is not touching the top of the mouth, the teeth.” (p.496)

1.2.3. Vowels versus Consonants

All languages of the world contain and distinguish between vowels and consonants. There is actually more than one way to distinguish between the two. On the one hand, from a phonetic point of view, vowels are produced with no obstruction of airflow; however, consonants make an obstruction of airflow. On other hand, from a phonological point of view, we can differentiate between vowels and consonants by testing which sound may be in the nucleus of the syllabus (Forel & Puskas, 2005, p.13), or the part of the syllable that we cannot omit. For example, if we take a one-syllable word such as ‘cart’, transcribed into three component phonemes [k], [ɑ:] and [t] as [kɑ:t], if the initial [k] is omitted, we still have a syllable; we may also omit both [k] , [t] and we still have the syllable [ɑ:]. However, if we omit the [ɑ:], we will be left out with no syllable. This is summarised by Roach and Gimson (1997) who stated that: “a consonant is a sound that occurs at the edges of syllables” that is to say, consonants are marginalized; whereas, vowels stand in the centre (as cited in Otruba, 2016, p.8)

In exemplifying the basic differences between a vowel and consonant, the IPA (1999) specifies that the vocal tract or the air passage for producing sounds in speech is open for vowels and narrowed or closed at one or more points for consonant production. Thus, in the example of the word *banana* ([bə'nænə]) or [bə'nanə]),

The vocal tract is closed three times (first by the lips and then twice by the tongue), each closure being followed by an opening of the vocal tract. The successive openings are the basis of syllables, and the word banana consists therefore of three syllables. The open part of the cycle is regarded as the

centre, or nucleus, of the syllable. Sounds like [b] and [n] which involve a closed, or nearly closed, vocal tract, are consonants. Sounds like [æ] and [ɑ] which involve an open vocal tract are vowels. (p.18)

We can say that the main differences between a consonant and a vowel lies in the fact that consonant sounds are made by restricting or blocking of airflow and are central or prominent in syllables, while vowels are made with no contact or block between speech articulators, and are marginalised or occurring at the periphery of syllables.

1.3. Classification of Vowels

In order to describe the vowels in English, French and Arabic, we have to account for the criteria used in the classification of vowels and the vowel space.

1.3.1. Criteria for Classification

A four-term system for classification is adopted for the description of vowels in human languages. It includes accounts for the vowels height, tongue advancement, vowel length and tenseness as well as shape of the lips. The use of cardinal vowels can make the comparison as well as the description of vowels in different languages possible. Additionally, other criteria of vowels such as nasality and orality, vowel reduction and vowel devoicing help in describing and comparing languages

1.3.1.1. Vowel Height

According to Balčytytė-Kurtinienė (2014), there are two positions of the tongue which are vertical and horizontal. The vertical one refers to how low and high the tongue is positioned relative to the roof of the mouth when it moves to produce vowels. In other words, it is “the vertical distance between the upper surface of the tongue and the palate” (Roach, 2009, p.11). It is divided into close, mid and open positions. High or close vowels are produced with the tongue positioned as high as possible in the oral cavity in addition to their

narrowing of the passage for air. Mid vowels are located in the mid in the oral cavity; however, open vowels are articulated with the tongue position as lower as possible in order to have a lot of space for airflow.

The figure below shows that in order to produce the vowel /i:/ the tongue is raised very close to the hard palate without obstructing the flow of air; thus, /i:/ is described as a high vowel or close vowel. On the other hand, in order to produce the vowel /æ/, the tongue is held down so that there is a big distance between the surface of the tongue and the roof of the mouth; accordingly, /æ/ is described as an open vowel.

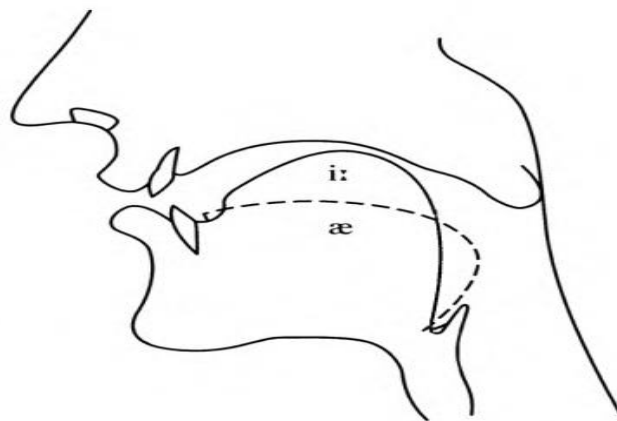


Figure 1.1: Horizontal and Vertical Positions of the Tongue (Roach, 2009, p.11)

1.3.1.2. Tongue Advancement

The horizontal position or what is known as advancement position, according to Balčytytė-Kurtinienė (2014), represents the part of the tongue: front, centre and back that moves in the production of vowels. More precisely, it refers to “the part of the tongue, between front and back, which is raised highest” (Roach, 2009, p.11). Front vowels are produced with the front part of the tongue being raised in the oral cavity towards the hard palate. Central vowels are articulated with the middle area of the tongue being raised in the

oral cavity. However, back vowels are produced with the tongue retracted far in the front of the oral cavity and raised close to the roof of the mouth towards the velum.

In producing the vowel /i:/, as illustrated in Figure 1.1 above, the part of the tongue which is raised very close to the hard palate is the front, making /i:/ a front vowel. On the other hand, the vowel that is raised highest for the production of /ae/ is the back of the tongue; hence /ae/ is described as a back vowel.

1.3.1.3. Vowel Length and Tenseness

The length of vowels is divided into long and short depending on how long the vowel lasts (Davenport & Hannah, 2005, p.39). However, vowels can have be produced in different lengths in different contexts; hence the terms: short and long are only relative. According to. Balčytytė- Kurtinienė (2014), tenseness is used to describe whether the organs utilized in the production of vowels are tense or lax. Tense vowels are relatively higher, generally longer and more marginal, while lax are shorter, lower, and slightly more centralized (p.34).

Balčytytė- Kurtinienė went on to explain that whenever there is a difference of length of a vowel, there is also a difference in the quality of the vowel because the shape of the tongue does not remain the same.

1.3.1.4. Shape of the Lips

Another characteristic of vowel description is the shape of the lips which refers to enlargement or reduction of the space within the mouth. The shapes of the tongue in vowel production can be rounded, spread and neutral (Kelly, 2000, p.30).

When the lips are rounded, the corners of the lips are brought towards each other and the lips are pushed forwards. When spread, the corners of the lips are moved away from each other. When neutral, the lips are not noticeably rounded or spread (Roach, 2009, p.13), as shown by the following diagrams.

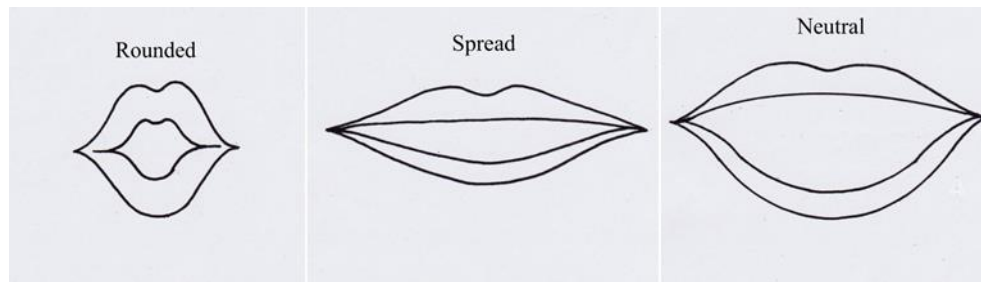


Figure 1.2: The shape of the lips in Vowel Production (Clark and Yallop in Balčytytė-Kurtinienė, 2014, p.34)

1.3.2. The Cardinal Vowel Diagram

IPA has created the cardinal vowel diagram which provides a reference for the articulation and recognition of vowels in human languages. In this cardinal vowel diagram, vowels are represented on a four sided figure which shows the shape of the tongue. Two dimensions of cardinal vowel diagram represent the position of the tongue vertically and horizontally. As explained previously, the vertical distance illustrates tongue height and the horizontal one illustrate the tongue fronting or advancement. The cardinal vowels are not the sound of particular language however, it illustrates the maximum of vowel quality i.e., the limits of vowels articulation in languages without obstructing airflow or causing strictures or hissing sounds, as stated by Davenport & Hannah (2005), “If the tongue is any higher than the highest high vowel, or further back than the furthest back back vowel, the articulation isn’t a vowel, but a consonant, since there will no longer be open approximation” (p.39).

Clark and Yallop claim that cardinal vowels “are best taken to be auditory qualities rather than articulatory specification” (Balčytytė- Kurtinienė, 2014, p.31). The following diagram presents the primary cardinal vowels, or the limits of the vowel space.

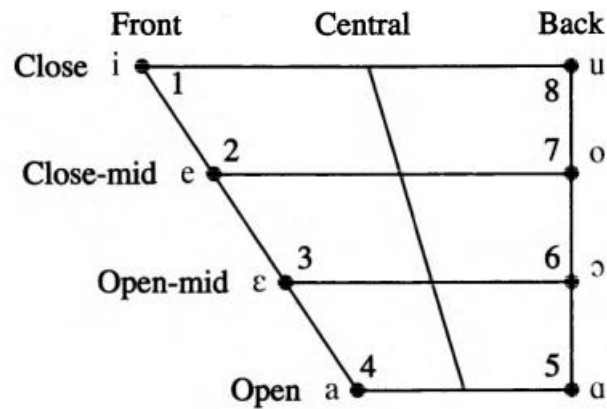


Figure 1.3: The Primary Cardinal Vowel Diagram (Roach, 2009, p.13)

According to Roach (2009, p.12), the vowels in the diagram above are extreme vowels, and so they sound strange and exaggerated, but they allow description, classification and comparison of vowel sounds in different languages. He described them as follows:

- Cardinal vowel no. 1 [i] is the vowel which is as close and as front as it is possible to make a vowel without obstructing the flow of air enough to produce friction noise.
- Cardinal vowel no. 5 [ɑ] is the most open and back vowel that it is possible to make.
- Cardinal vowel no. 8 [u] is fully close and back.
- Cardinal vowel no. 4 [a] is fully open and front.
- Cardinal vowels no. 2, 3, 6 and 7 represent intermediate points between the previous cardinal vowels positions.

1.3.3. Further Classifications of English Vowels

Other criteria of classification are commonly used by phoneticians. Orality and nasality of vowels are considered especially for the description of vowel sounds in French, while

vowel reduction and devoiced are considered especially for the description of vowel sounds in English.

1.3.3.1. Orality vs. Nasality

This classification takes into account whether the air moves out of the oral cavity and in this case the vowel is oral or out of the nasal cavity and is a nasal vowel (as cited in Beghoul, 2007, p.42). Such realisations are made at the level of the velum; when the velum is lowered, this results in a nasal vowel. On the other hand, oral vowels are produced with raised velums. Another type of vowel is produced with the velum lowered in anticipation of a following nasal consonant is called a nasalised vowel because it assimilates to the nasality of the following stop (Davenport & Hannah, 2005, p.42).

1.3.3.2. Reduced Vowels

When a syllable receives neither primary nor secondary stress, its vowel seems to be reduced and sometimes omitted altogether. The rhythmical reasons are one cause of vowel reduction; the unstressed vowels are always reduced in length and quality of vowels terms. For example in the word 'Japan', the second syllable receives primary stress with low front vowel /æ/, and in the adjective 'Japanese' the first syllable is stressed and the second one is unstressed; the low front vowel /æ/ is reduced to /ə/. (As cited in Dostàl, 2013, p.10)

According to Ogden (2009), English allows a narrow range of vowels in unstressed syllables than stress syllables. Reduced vowels are a number of vowels which are particular to unstressed syllables. The important ones are the unstressed vowels of *happy*, *comma* and *wanted*, or /i/, /ə/ and /ɪ/.

1.3.3.3. Voiceless Vowels

The main characteristics of conversational English is the devoicing of vowels in unstressed syllables, especially adjacent to voiceless consonants. [̥] is the diacritic that IPA

gives to voiceless vowels. The devoicing of vowels occurs when there is an unstressed vowel with voiceless consonants on either side. In some cases, devoicing can give rise to pairs of words which are different; for example, 'sport/support', [sp-, sɔp^h-]; 'please/police', [p^l-, pɔl-]. The core differences in these pairs are in the co-ordination of voicing with other articulatory events and the duration of the surrounding sounds. For example, in 'sport' vs. 'support', the main difference is in the immediate start of voicing on release of the plosive in 'sport', and the rounding starting earlier in 'sport' than in 'support'. In the 'please/police' example, the core difference is in whether there is voicing co-ordinated with lateral airflow or not (Ogden, 2009, p.75).

1.4. The English Vowel System

English vowels contains 25 vowel sound which are produced with no obstruction of airflow and all of them are voiced. The English vowel system can be described in terms of monophthongs, diphthongs and triphthongs. Monophthongs are vowels which are relatively steady and represented by single vowel symbols, but diphthongs and triphthongs are those which involve tongue movement and they are represented by two symbols, in the former, and three, in the latter.

1.4.1. Monophthongs in English

Also called pure vowels, these refer to short vowels and long vowels. The following diagram

And discussion deal with RP monophthongs only.

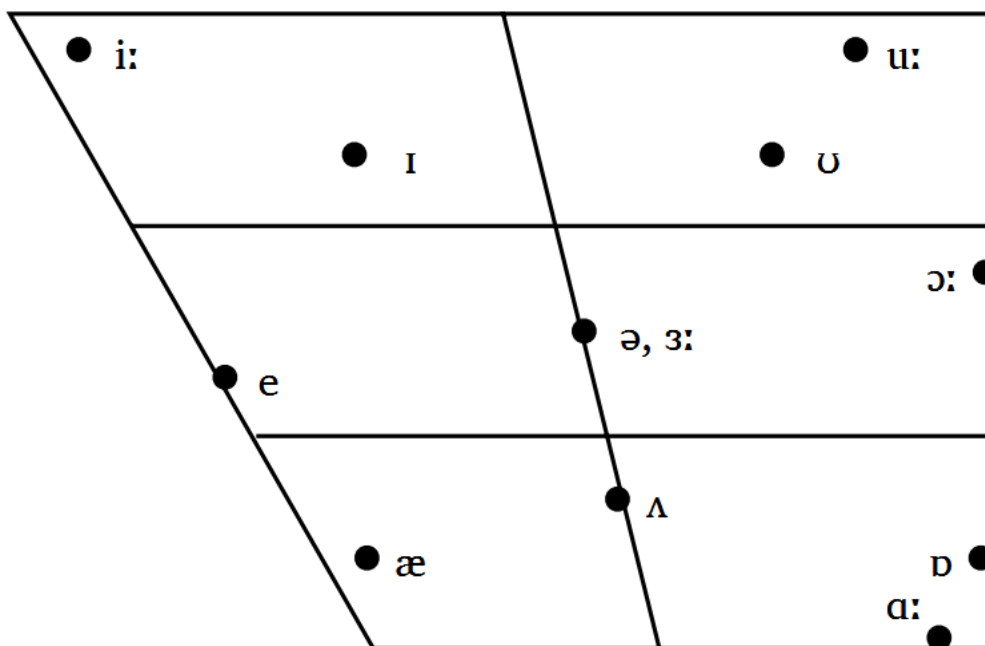


Figure 1.4: RP Monophthongs (Ogden, 2009, p.69)

English language has seven short vowels: /ɪ/, /e/, /æ/, /ʌ/, /ə/, /ʊ/, /ɒ/. To the exception of /ə/, which is definitely short, all other six vowels are only relatively short.

- /ɪ/: a front, mid and unrounded vowel, as in *fifth, rich, sit, with*.
- /e/: a front, mid and unrounded vowel, as in *let, egg, yet, health*.
- /æ/: a front, open and unrounded vowel, as in *had, pat, pan, rack*.
- /ʌ/: a central and unrounded vowel, as in *cut, sun, love, buckle*.
- /ɒ/: a back, open and rounded vowel, as in *dog, gone, was, what*.
- /ʊ/: a close, back and rounded vowel, as in *sugar, look, good*.
- /ə/: half close, central unrounded vowel, as in *listener, author, pleasure*.

As for long vowels, English counts five phonemes which are /i:/, /ɔ:/, /ɑ:/, /ɜ:/ and /u:/.

- /i:/: a front, close unrounded vowel, as in *feet, beat, feel, steel*.
- /ɔ:/: a back, open and rounded vowel, as in *horse, port, broad, source*.
- /ɑ:/: a back, open and unrounded vowel, as in *father, staff, calm, department*.

- /ɜ:/: a central, mid and unrounded vowel, as in birth, first, fur, worn.
- /u:/: a central, mid and unrounded vowel, as in June, moon, food, tool.

As pointed above, there is a difference between long and short vowels in terms of their length and quality in terms of height and backness. When producing the pairs words “seat” and “sit”, [ɪ] in “sit” is produced shorter than [i:] in “seat”. Sometimes long vowels are represented by doubling the symbols and they are typically fifty to one hundred per cent longer than short vowels.

1.4.2. Diphthongs in English

Diphthongs can be described as sounds which consist of a combination of two vowel sounds. According to Rogers (2000), a diphthong is defined as “a sequence of a single vowel and a glide” (p. 31). It consists of a movement or a glide from one vowel to another. The first part of the diphthong is usually more prominent than the last part. In fact, the second part is brief and its exact quality is difficult to determine. The duration of the diphthong is typically similar to long vowel.

There are eight diphthongs in RP; they are divided into two categories centering and closing diphthongs. Centering diphthongs end in the central vowel /ə/ and include /ɪə/, /ʊə/ and /eə/. Closing diphthongs are sounds that end with glide toward close vowels /ɪ/ and /ʊ/ and include /eɪ/, /aɪ/, /ɔɪ/, /əʊ/ and /aʊ/.

- /ɪə/: the starting point begins in /ɪ/ and is followed by a movement down and back towards /ə/ with neutral lips, but small movement from spread and open, as in peer, beard, and fear.
- /ʊə/: the glide starts in /ʊ/ and moves down toward /ə/ with close rounded lips and ending with neutral spread lips, as in pure, moor, tour.
- /eə/: the glide starts in /e/ position and moves back toward /ə/ with neutrally open lips, as in where, wear, dare.

- /eɪ/: a falling, narrow closing diphthong. The glide or the starting point is the same as in /e / in get, then moves back towards /ɪ/. The lips are spread, as in plate, aid, eight.
- /ɔɪ/: a falling, wide and closing diphthong. The front part of the diphthong has the same quality as /ɔ:/; during its production, the lips are open rounded (a quality of the first element) and end in neutrally spread, as in toy, coy, avoid (Kelly, 2000, p.36).
- /aɪ/: a falling, wide closing diphthong; it begins with an open vowel which is between front and back. In producing this sound, there is a closing movement of the lower jaw, and the lips tend to change from a neutral to a closely spread position, as in bite, cry, fine.
- /əʊ/: a falling, narrow closing diphthong. It starts with a central mid vowel /ə/ and glides to a back close vowel /ʊ/. The lips begin neutral, then move toward rounded lips, as in old, home, both.
- /aʊ/: a falling closing diphthongs. The glide begins in the position of /ɑ:/ and moves in the direction of /ʊ/. During its articulation, the lips change from a neutrally open to a weakly rounded position, as in out, loud, about. (Kelly, 2000, p.36)

1.4.3. Triphthongs in English

Triphthongs are the combination of three vowels. According to ~~dictionary~~

According to Roach (2009), RP consists of the five closing diphthongs with a schwa added on the end (p.19).

These five triphthongs are /aʊə/, /əʊə/, /aɪə /, /ɔɪə/and/eɪə/

- /aʊə/:, as in *our*
- /əʊə/:, as in *lower*
- /aɪə/:, as in *fire*
- /ɔɪə/:, as in *lawyer*
- /eɪə/:, as in *player*

1.5. The French Vowel System

The French vowel system is very large and elaborate. We can distinguish nasal and oral vowels. The nasal vowels are pronounced with lower soft palate and flows of air through both nasal and mouth cavity. In contrast to the English vowel system, French contains 16 vowels in total. The quality of a vowel is affected by the properties of a syllable. There are four such archiphonemes and each of them has two allophones, open and close. /E/ which can be known as [ø] or [œ], /E/ has the allophones of [e] and [ɛ], /O/ known as [o] or [ɔ], and /A/ can be either [a] or [ɑ].

It is important to mention that there are no long vowels in French; the length of vowel is not a special feature because it is given by “lengthening consonant” in a closed syllable or in a coda (or consonant after the vowel). The nasal consonants /o/, /ø/, /a/ are long in any close syllable (as cited in Otruba, 2016, p.16). Some phoneticians mention that there are only 15 vowels in French. The cause of this discrepancy is that the contrast between certain vowels tends not to be maintained any longer by the vast majority of French natives.

- /i/: oral, close, front, and unrounded.
- /E/: oral, open, front and unrounded. It occurs mainly in closed syllables.
- /e/: oral, mid, front, and unrounded. It occurs mainly in open syllables.
- /a/ vs. / A/: oral, open, central and unrounded.
- /o/: oral, mid, back and rounded. It occurs mainly in open syllables.
- /O/: oral, open, back and rounded. It occurs mainly in closed syllables.
- /ɔ/: oral, close, back and rounded.
- /u/: oral, close, front and rounded
- /y/: oral, mid, front and rounded
- /Ø/: oral, open, front and rounded.
- /ə/: oral, open, central and unrounded. It is the only vowel in French that is lax.

- /ɛ̃/: nasal, open, front and unrounded
- /â/: nasal, open, central and unrounded.
- /œ/: nasal, open, front and rounded
- /ɔ̃/: nasal, open, back and rounded

French Diphthongs are the combination of two glide consonants /j/ and /w/ with a vowel which forms the nucleus of the syllable, but triphthongs is one of the glide which may be consider as consonant.

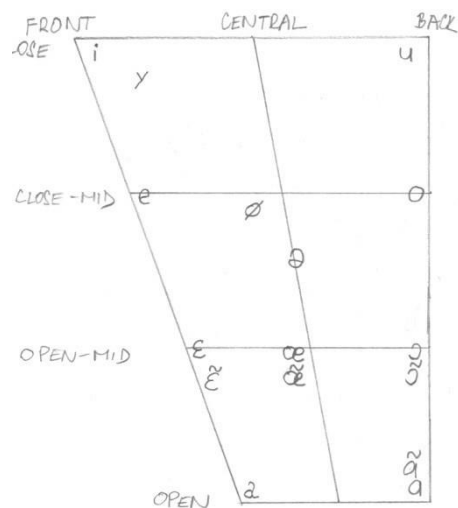


Figure 1.5: French Vowels

1.6. Arabic Vowel System

The English vowel system is more complex than that of Arabic especially in central and back areas. While the number of English vowel sounds is 25, and includes monophthongs, diphthongs and triphthongs, Arabic has only 6 vowel sounds. The vowel sounds in English are represented by five letters and those in Arabic by three letters and three diacritics in the written form. This non-correspondence between pronunciation and spelling is expected to cause many difficulties for learners of English. These are presented by Kopczyński & Meliani (1993) as follows:

- **/i/**: a high, front, short vowel with spread lips, represented in Arabic by the /kæsɾæh/, a small diagonal line placed below a letter.
- **/a/**: a low, front, short vowel with neutral lips, represented by the /fæθæh/, a small diagonal line placed above a letter.
- **/u/**: a high, back, short vowel with rounded lips, represented by the /dæmmæh/, a small curl-like diacritic placed above a letter.

The three Arabic long vowels are

- **/i:/**: a high, front long vowel, represented in Arabic by the letter (ي) /yæ'æ/and the lips are slightly spread.
- **/a:/**: a low, front long vowel, represented in Arabic by the letter (ا) /ælif/.
The lips are neutrally open.
- **/u:/**: a high, back long vowel, represented in Arabic by the letter (و) /wau/
with closed rounded lips. (As cited in Al-shoufi, 2014-2015, p.45-46).

Conclusion

Learning English requires good accent. In order to have a good pronunciation, learners should know the basic phonological rules of English vowels which are tongue position, shape of the lips and duration of the vowels as well as other criteria of the classification of vowel sounds. Learners of English as a foreign language also need to be aware about the differences in articulation between their native language and English so as not to feel free to substitute vowels across the two languages freely.

Chapter Two: Accented Pronunciation of English

Introduction

2.1. Definition of Accent

2.2. Native Accent vs. Foreign Accent

2.2.1. Native Accent

2.2.2. Foreign Accent

2.3. Sources of Accented Pronunciation

2.3.1. Mother Tongue Interference

2.3.2. Age

2.3.3. Personality

2.3.5. Phonetic Ability

2.4. Errors versus Mistakes

2.5. Contrastive Analysis in Phonology

2.5.1. Definition and Scope of Contrastive Analysis

2.5.2. Strong and Weak Versions of Contrastive Analysis

2.5.3. Language Transfer

2.5.4. Criticism of Contrastive Analysis

2.5.5. Contrastive Analysis Predictions for French Speakers' Pronunciation of English

2.5.6. Contrastive Analysis Predictions for Arabic Speakers' Pronunciation of English

2.6. Error Analysis

2.7. Error Analysis versus Contrastive Analysis

Conclusion

Chapter Two: Accented Pronunciation of English

Introduction

Contrastive analysis, transfer analysis and error analysis are methods used for investigating second language learning. These theories shaped the evaluation phase to show the differences between two languages. Each theory has its own view with aims to facilitate the process of target language learning and teaching. This chapter introduces the term ‘accent’, its features in addition to accent reduction techniques. Next, it moves to present the factors that affect English pronunciation. Later, contrastive analysis with its weak and strong versions is discussed to demonstrate its assumptions, criticism and explanation of transfer from French and Arabic to English. The chapter reviews also the definition of error, difference between error and mistake and the specialty of error analysis which is then compared to contrastive analysis.

2.1. Definition of Accent

Different definitions are given to the term accent, but most revolve around the central idea that it refers to specific pronunciation associated with a particular region or group. Crystal (as cited in Skibdahl & Svensater, 2012, p.11) stated that accent reveals clues about people’s identities and social and regional heritage. Simpson (1994) defined accent as “the spoken variety of language that is realized in speech sounds...and their combinatorial possibilities” (as cited in Rashid, 2011, p.59). It is also defined by Lippi-Green (1997), as a decisive factor for characterizing age generation, social identity and class, level of education, even ethnicity (as cited in Rashid, 2011, p.3). According to Lippi-Green (1997), different accents are, as a matter of fact, different bundles of prosodic and phonemic features that characterize different geographic areas and or social classes (as cited in Bettach & boulfous, 2015, .p36).

According to Anderson & Trudgill, the terms ‘accent’ describes the way in which a person pronounces a language, and because languages always have to be pronounced when speaking, everybody has an accent (as cited in Paakki, 2013, p.36).

2.2. Native Accent vs. Foreign Accent

Roughly speaking, accent is the term commonly used to refer to the way one sounds when he/she speaks. Two different kinds of accents can be distinguished; the first refers native accents of the same language while the second refers to foreign accent used by people speaking a second or foreign language using some sound rules from their mother tongue.

2.2.1. Native Accent

Every language is spoken in various ways by its native speakers, depending on several factors such as personality, gender, social class, region, ethnicity or generation. A native accent is associated with the special way in which a particular group of people speak their native language.

Accents in the world are divided into standard and non-standard; the former are more prestigious than the non-standard ones, and each are associated with particular regions, social classes or social groups. Each of those non-standard accents is different from the standard accent in the country where it is spoken, but people often mix between the two (standard and non-standard). The standard or prestigious accent of English is usually referred to as Received Pronunciation (RP); it is spoken by the royal family, the recent prime minister and most BBC announcers. However, it is spoken as a native accent by no more than 5 percent of the English population (Rogers, 2000, p.18). RP differs also from other standard varieties such as General American (GA) in several respects including the pronunciation of few vowels and in the pronunciation of the /r/ following vowels as well as its qualities in other contexts. The accents of the south of England are disjointed from the north. Moreover, the north accent well know and easier than southern accents due to its easier speech in films. This accent can be easily distinguished because there is no distinction between /ʌ/ and /ʊ/ both are pronounced like /ʊ/. Scottish and Irish English share one feature with the northern England accents; the vowels /e/,

/i/ and /o/ are not pronounced as diphthongs like in RP and GA. In addition, these accent are similar to GA rather than RP in how they treat /r/after vowels.

On the other hand, General American is the standard accent of the United States. According to Rashid (as cited in Bettache & Boulfous, 2015, p.36), it is spoken by the majority of people in the Midwest and west area and it used in broad-casting. Rogers (2000) stated that GA is the accent usually used in teaching an American accent of English to foreigners.

USA has regional accents, just like England, as stated by Gasser (2005) (as cited in Bettache & Boulfous, 2015, p.36). Northern accents differ from GA in the pronunciation of short vowels (lax). African American vernacular English (AAVE) is a dialect associated with an ethnic group rather than a region. AAVE is similar to southern US accent.

Furthermore, English is the native language of Australians, New Zealanders and sizable minority of South Africans. However, the Standard English accents of these countries tend to be RP. Accents of Standard English do not share the some cultural and historical background, they reflect to different culture, history in addition to the fact that they are taught at educational academic institution.

2.2.2. Foreign Accent

Foreign accent, also referred to as non-native accent or accented pronunciation, refers to pronunciation that deviates from the standard accent due to the use of sounds from a different language. According to the editor of the Linguistic Society of America, Birner (n.d), foreign accent occurs “when a person speaks one language using some of the rules or sounds of another one”. For native speakers, these deviant realizations are regarded as wrong or foreign. Though admitting that all humans are born with the capacity to both produce and perceive all of the sounds of human languages, Birner admits that “People have trouble with sounds that do not exist in the language (or languages) that they first learned as a young child”. In explanation, Birner points out that children pay attention to the sounds that are meaningful and important

for communication, and disregard the rest; hence the small details and slight distinctions between sounds that were overlooked in childhood become harder to learn when they are part of a different language or different languages. As an example, German native speakers learning English generally have trouble in pronouncing correctly the sounds at the beginning of the words ‘wish’ and ‘this’ because are not part of the German language; instead, they are most likely to be substituted with sounds that occur in German and pronounced as /v/ and /z/. This gives rise to foreign accent, and those speakers are said to be having a ‘German accent’.

In summary, it can be said that native accents and foreign accents can be distinguished by native speakers of the same language. For instance, native speakers of English can be generally easily recognized by their fellow speakers by virtue of pronunciation differences associated to groups of speakers of the same language. Foreign accent, on the other hand, is related to speakers having different mother tongues, and these can be identified, even in casual conversations at many levels. At the segmental level, as pointed out by Munro, “accented speech can be noticed, for example, by the omission or insertion of phones, the substitution of one phone for another, or the production of phonemes that differ from native-like phones” (as cited in Paakki, 2013, p.37).

2.3. Sources of Accented Pronunciation

Several factors may lie behind the accented pronunciation of English as a second language (L2) or as a foreign language (FL). The factors to be reviewed below relate to mother tongue interference, age, personality, amount of exposure and phonetic ability.

2.3.1. Mother Tongue Interference

Cook (1992) claimed that L1 is present in the learner’s L2 mind whether the teacher wants it there or not. Learners acquired the basic system of their native language before they came to learn the foreign one. In many ways, L2 knowledge that is being produced by learners is related to L1 knowledge. Accordingly, learner interlanguage is open to L1 influence because of transfer

features from L1 to L2. This type of transfer is known as interference which occurs when the transferred feature is not found in target language.

Avery and Ehlich claim that the sound system of the L1 can influence the learner's pronunciation of the target language in three ways: first, when there is a sound in the target language, and it is absent from the L1, the learners may not be able to produce or perceive the sound. Second, when the rules of combining sounds into words are different in the learner's L1 from those of the target, they cause problems for learners because these rules are language specific as they vary from one language to another. Thirdly, since the rhythm and melody of a language determine its patterns of stress and intonation, learners may transfer these patterns into the target language (as cited in Al saidat, 2010, p.122)

2.3.2. Age

Age is a big issue in language learning and language acquisition; it has received much attention and research as a questionable factor. It may make adult learning more difficult than children learning, and that is why most adults do not achieve native like proficiency.

Land (1962) pointed out that despite the fact that adults received extensive discrimination training and have "a highly articulate verbal repertory, and a great deal of control over the language learning process, they cannot master the sound patterns of a second language with the fluency of a native speaker"; on the other hand, children can and do master the sound patterns of a language perfectly in the proper environment, and speak an L2 with the complete fluency of a native speaker (as cited in Scovel, 1967, p.245).

In the Critical Period Hypothesis (CPH), as named by Lenneberge in 1967, it is suggested that there is a period of time in our life when language learning is more successful than any other time, and after which language learning capabilities would become less efficient. Accordingly, our ability to learn languages starts at the age of two and closes at puberty. As

stated by Edwards & Zampini (2006), the CPH is mostly evident in learning L2 phonology, where

... While adult language learners may perfect their syntax and other domains of language, it is highly improbable (though possible in some extreme cases) for their L2 pronunciation to become indistinguishable from a native-speaker if L2 learning begins later in life. ... L2 researchers commonly believe that few adult L2 learners will attain the L2 pronunciation of a native-speaker.

(p.5)

On the other hand, Johnson & Newport (1989) criticized to Lenneberge's view because no a direct relationship between performance in language learning and age of learners. In CPH, the optimal biological and neurological conditions for learning which are presumed to end around the age of twelve are not based on empirical evidence. In this vein, Bougaert, planken and Schils (1997) showed that adult learners are capable of achieving native-like degrees of pronunciation, and that this ability varied from one learner to another, meaning that there are other factors, related to individual differences, that impact acquisition (as cited in Al-saidat, 2010, p.121-122) .

2.3.3. Personality

Nonlinguistic factors are related to an individual's personality, learning goals, native speakers' cultures, type of motivation, attitude towards the target language, and are beyond the teacher's control. All these factors have their role for the development of pronunciation skill (as cited in in Al-saidat, 2010, p.121-122).

Learner's personality has a great influence on learner pronunciation of L2. Some researchers believe that extroverted learners, or those who talk without being shy, take risks and have self-confidence. By contrast, introverted ones lack many opportunities to practise

English because they are not ready to show or practise their ideas, and should not be forced by the teacher to do so (as cited in Ammiche, 2012, p.23).

To sum up, personality factors will help the teacher to identify the difficulties in pronouncing a target language in order to help learners to improve their pronunciation (as cited in Al-saidat, 2010, p.121-122).

2.3.5. Phonetic Ability

The ability of acquiring one language differs from one learner to another; particularly, their ability to learn the sounds of a new language. Phonetic ability refers to aptitude for oral mimicry, phonetic coding ability or auditory discrimination ability. Studies show that learners with phonetic abilities are better placed to distinguish between two sounds and have a better ability to imitate than those who do not. In addition to that, learners with good phonetic ability benefit from pronunciation drills, unlike those poor learners who cannot benefit from them and fail in pronouncing the sound in FL (as cited in Grimes & belghiat, 2017, pp.29-30).

2.4. Errors versus Mistakes

Error in language learning can be defined as “a lack of or insufficiency that lags the learner to reach the correct form of language”. Littlewood (as cited in Abdullah Alli, Faraj Mossa et al, 2017, pp.12-13) showed that errors are not the ones that are causing problems or are considered failure in L2, but he presented them as ways for identifying the learner’s development in L2. According to linguists, there are two major sources of errors in L2 learning which are inter-lingual and intra-lingual in nature. When the mother tongue influences the L2, this is inter-lingual, whereas intra-lingual factors occur when the learner faces difficulties in learning the L2 (as cited in Abdullah Alli, Faraj Mossa et al, 2017, pp.12-13).

Errors are made when the L2 learners produce incorrect forms and they do not know the corrections for them. On other hand, mistakes are made when learners produce incorrect forms,

even though they know the correct form and can correct their own mistake (as cited in Hanafi, 2004, p.32).

According to Keshavarz (2012), errors are considered to be systematic, governed by rules. They appear because of insufficient learner's knowledge of the rules of the target language. However, mistakes are random diversions, unrelated to any system and instead showing some kind of performance mistakes that might occur in writing or speech of the native speaker too; these include slips of the tongue and false starts. (pp. 60-61)

2.5. Contrastive Analysis in Phonology

Contrastive Analysis (CA) emerged in Europe towards the 1950s with the work of Fries (1945) and Weinreich (1953), and then was developed in the USA with the work of Lado (1957). At that time, the behavioristic theory was dominant in the study of languages. For behaviorists, learning is a habit formation; hence, errors in learning an L2 are the result of the influence of mother tongue habits. More attention was given to the comparison between L1s and L2s in order to predict and explain the notion of transfer and interference which are taken from psychological learning and applied to L2 learning (Yahia, 2010, p.15).

2.5.1. Definition and Scope of Contrastive Analysis

Lado defined CA as “the comparison of any two languages to discover and describe the problems that the speaker of the languages will have in learning the other. These comparisons are also applicable to the preparation of language text, machine translation and language variation in bilingual area” (Major, 2001, p.33). As for James (1980), CA is “a systematic comparison of specific linguistic characteristics of two or more languages” (p.5). Its aim is to describe the similarities and differences between the two languages and predict difficulties in learning a target language.

Leaders of CAH claim that difficulty in learning a feature in L2 is due to its difference from its correspondent feature in L1 or its inexistence in the learners L1. In this case, the learner will

use a feature that exists in his/ her language. This known as negative transfer. The second case is where a feature in L1 is similar to that in L2, which makes the learning process easy for learners. Researchers who follow this hypothesis describe language as a habit; hence, errors are due to transferring L1 habits to L2. This is the view of behaviorists such as Skinner. Gass & Selinker identified some assumptions for the Contrastive Analysis Hypothesis (CAH) as follows:

- CA is based on the theory that language is a habit.
- The major sources of errors are resulting from the native language.
- One way of predicting errors is due to the difference between L1 and L2.
- The greater difference, the more errors will happen.
- Learners L2 is involves learning the differences.
- Learning is only focusing on the similarity between L1 and L2 so language does not improve. (As cited in Huthaly, 2003, p.13)

CA compares between two languages in terms of the phonological system, the syntactic system, vocabulary system, writing system and cultural system. Gass & Selinker's (1993; 1994) stated that there are different steps involved while doing CA. These steps are the description of the two languages, the selection of certain areas or items of the two languages for detailed comparison, identification of areas of differences and similarities and prediction of where errors are likely to occur. (As cited in Huthialy, 2003, p.15)

In the field of phonology, Selinker (1992) stated that there are certain steps in comparing phonemes which are whether L1 has phonetically similar phonemes, and if the variants (allophones and phonemes) are similar in both languages as well as if they are similarly distributed (as cited in Huthialy, 2003, p.15).

2.5.2. Strong and Weak Versions of Contrastive Analysis

The strong version of CA is also called the predictive version by Wardhaugh (1974) who stated that by comparing the linguistic structure of L1 and L2 and recognizing their differences, learner's errors can be predicted. According to the strong version of CA, the main source of error is due to the language interference. Robert Lado (1957), the pioneer of CAH claims that in order to predict the error made by learner's, teachers should study the difference between L1 and L2 (as cited in Al-Shaufi, 2015, p.14). According to Keshavarz (2011, p.10) the strong version of CA focuses on the notion of interference which is coming from the first language to second language learning.

The weak version of CA came as a reaction to the strong version which focused on contrastive grammar. The weak version was suggested by Wardhaugh in 1970 (as cited in Keshavarz, 2012, p.12); it began with the evidence proposed by linguistic interference and used such evidence in order to explain the similarity and difference between L1 and L2. Within this version, errors are studied after they have been committed by L2 learners, and what is needed is to explain why learners made errors; it does not predict errors to be made in L2 on the basis of their differences from L1s.

2.5.3. Language Transfer

Transfer plays an important role in the learning process; Odlin (1989) defined language transfer as "the influence resulting from similarities and differences between the target language and any other languages that has been previously (and perhaps imperfectly) acquired" (as cited in Hathaily, 2003, p.9).

Language transfer has been a controversial issue for many linguists. Gass & Selinker (1995, 53) claimed that "the acceptance and or rejection of language transfer as a viable concept has been related to the acceptance or rejection of the specific theory with which it has been associated"

Language transfer has two main forms which are negative and positive. The positive transfer, also known as facilitation, occurs when there is a similarity between L1 and L2. This kind of transfer is easier in the learning or the acquisition process. However, the negative transfer, or what is known as interference, occurs where there is a difference between L1 and L2 and results to something incorrect. This type of transfer would make the learning process difficult for learners (as cited in Huthaily, 2003, p.10).

Moreover, Odlin (as cited in Yahia, 2010, p.34) stated that negative transfer has many consequences on the learning process. Among these consequences, he mentioned two main concepts: avoidance (underproductive) and overuse (overproduction). Firstly, avoidance refers to the influence of L1 on L2 items; the learners omit certain structures that do not exist in L1. Furthermore, the learners may avoid using linguistics structures in which they find difficulty due to the difference between L1 and L2. In this case, the focus is not where the learners made the error, but in what they do (omission). For example, learners in Middle Eastern countries avoid using words containing the voiceless /p/ due to the fear of using the voiced /b/, which they have in their mother tongue (Beghoul, 2007, p.25). Secondly, overuse or overproduction sometimes is a consequence of avoidance; a learner who avoids using a structure in a foreign language may use other structures which do not exist (as cited in Yahia, 2009-2010, p.34).

2.5.4. Criticism of Contrastive Analysis

In addition to questioning the validity of considering the mother tongue as the main source of error, there are three other weaknesses associated with CA. First, most of the studies failed to predict all areas of difficulty. Second, similarities in structure do not mean always the easiness of learning. Third, while comparing two languages, we do not know whether there exists a translation equivalent or not (as cited in Beghoul, 2007, p.12). In addition to that, CA does not focus on similarities which may create errors. Duscove (as cited in Yahia, 2010, p.21)

found many examples in which the similarities between two languages do not facilitate acquiring the new language because languages are not structurally isomorphic; there are always differences and similarities between L1 and L2. For instance, the words “lecture” have the same spelling in English and French, but have different meanings and pronunciations. In brief, CA is criticized for focusing on the differences between native languages and target languages, and considering them as the source of errors (as cited in Al-Shoufi, 2015, p.16).

2.5.5. CA Predictions for French Speakers’ Pronunciation of English

There is no longer vowel in French; that is why a French speaker of English forgets the length of vowel and confuses between words like ‘feel’ and ‘fill’, ‘seen’ and ‘sin’, ‘cart’ and ‘cat’. In addition, there is no /æ/ sound in French and this sound can be confused with French /e/ or it is open too much and becomes /a/. Furthermore, there are no reduced /ʊ/ or /i/ in French, so the important opposition with other vowels may be ignored. These vowels are pronounced /u/ and /i/ which leads the learner to confuse with /i: / and /u: /; for example, ‘pull’ and ‘pool’, ‘sit’ and ‘seat’. Last, the /ə/ sound is always pronounced correctly because it is one of the few sounds that are shared between the two languages systems (as cited in Otruba, 2016, p.20).

2.5.6. CA Predictions for Arabic Speakers’ Pronunciation of English

Tharma and Hajjij (1989) studied the difficulties that face Arabic learners when pronouncing vowel sounds. The resulting difficulties in pronunciation are related to diphthongs because Arabic does not have diphthongs. The latter are likely to be replaced by a long vowel. The diphthong /eə/ is replaced by /e: /, /ʊə/ is replaced it /u: /, /eɪ/ is replaced by /i: / and /əʊ/ is replaced by /ɔ:/. In addition to that, learners have difficulties because they cannot distinguish between minimal pairs /i/and /e /as in words ‘sit’ and ‘set’, /ʌ/ and /ɒ/ as in the words ‘luck’ and ‘lock’, and /əʊ/ and /ɔ:/ as in ‘coat’ and ‘caught’ (as cited in Al –shoufi, 2015, pp.17-18).

2.6. Error Analysis

Error analysis (EA) is formed by S.P. Corder as a reaction to the weak version of CAH which was unable to predict the majority of errors. EA is used as a means for investigating learner's language by identifying, describing and explaining the learner's errors (as cited in Keffous, 2001, p.18). Corder reported that EA has two objectives, a theoretical objective and an applied objective. The theoretical objective is to "elucidate what and how a learner learns when he studies a second language", while the applied objective is to enable the learner "to learn more efficiently by exploiting our knowledge of his dialect for pedagogical purposes" (as cited in Yahia, 2010, p.23).

Wheelock (2016) pointed out that the focus of EA is on the errors made by the learners aiming at describing learners errors and providing an explanation to them. In EA, learners' production of data is compared to the TL in order to reveal areas of pronunciation which learners are suffering from. One of the important points of error analysis is to identify the cause of errors which are made by learners. (p.42).

2.7. Error Analysis versus Contrastive Analysis

Although EA came as a kind of a replace to CA, it bore many of its features. The idea of comparing two languages has been inherent in all stages of EA. The predicting role of EA is always implicit; it has never been explicitly stated.

Corder claimed that EA helps psycholinguists by providing them with feedback on what the learners know and what is left for them to know; it also gives value to teachers because it exposes to them some facts about language. In addition to that, it helps the learner himself. The only difference between CA and EA is that EA took the mother tongue as the only source of error but, the strong version of CA took it as a major source (as cited in Beghoul, 2007, pp.21-22).

Conclusion

The pronunciation system and habits of the mother tongue influence our pronunciation of English especially that of vowel sounds. Many other factors such as age, personality, amount of exposure and phonetic ability play a role in learning correct pronunciation. However, though the contrastive analysis hypothesis views errors as the result of interference of mother tongue, error analysis considers them as signs of the development of interlanguage.

Chapter Three: Field Work

Introduction

3.1. Population and Sample

3.2. Research Procedures

3.3. Test of Accent in the Pronunciation of English Vowels

3.3.1. Description of the Test of Accent in the Pronunciation of English Vowels

3.3.2. Analysis of Pre-Test Results

3.3.2.1. Global Evaluation of Accent in Pronunciation Student 1

3.3.2.2. Factors Contributing to Accent

3.3.3. Interpretation of Pre-Test Results

3.3.4. Analysis of Post-Test Results

3.3.4.1. Teachers' Evaluations of Students' Accent in the Post-Test with Untreated Vowels

3.3.4.2. Teachers' Evaluations of Students' Accent in the Post-Test with Treated Vowels

3.3.5. Interpretation of Post-Test Results

3.3.6. Comparative Analysis and Interpretation of Results

3.3.6.1 Comparative Analysis and Interpretation of Untreated Vowels Results

3.3.6.2 Comparative Analysis and Interpretation of treated Vowels Results

3.3.6. Overall analysis

Chapter Three:

Field Work

Introduction

This chapter presents the experimental study which has been conducted at Mohammed Seddik Ben Yahia University, Jijel. It presents the procedures followed in the experimental study, the population, sample, presentation, analysis and interpretation of the test. The first step was the pre-test in which all the participants are tested through an oral test to evaluate their current pronunciation of vowel sounds. After the pre-test, we gave the participants treatment of the most accented vowels and the final stage is the post-test in which we tested the participant in much the same they did in pre-test.

3.1. Population and Sample

The population targeted by the study is that of second year students at the department of English, University of Mohammed Seddik Ben Yahia, Jijel. The sample was selected randomly from this population on the basis of their agreement to take part in this research and consists of six students. Our selection of population is based on the fact that second year student have already received specific instruction about pronunciation aspects of English for about two years of studying the modules of Oral Expression and Phonetics. At least, in phonetics, students are taught the place and manner of articulation of vowel sounds, phonemes of English and transcription. Hence, the role of awareness and practice is highlighted in this study because students are taught in groups and may not have had enough chances to practise their pronunciation.

3.2. Research Procedures

The aim of the experiment is to investigate the role of intervention in reducing accented pronunciation of English vowel sounds. Learners were not informed about the objective of the experiment. Yet, they are requested to take part in our master dissertation study.

Six second year students at the department of English were given a list of twenty words. The pre-test was administered individually and separately for each student. We started the pre-test by giving general instructions to pronounce a list of words carefully; all vowel sounds were given including the short vowels, long vowels and diphthongs in the following words: set, stop, colour, pen, and, flood, should, team, call, father, noon, girl, pen, scientist, appointment, old, announce, deer, hair, poor. When students pronounced this list of words that contain vowel sounds, we video recorded them and asked them to self-evaluate their production of vowel sounds by looking and listening to a native speaker pronouncing the same words. Self-assessment was done globally, as a first step, by situating one's pronunciation on a scale ranging from 1 to 9, where 1 indicates very high accent and 9 indicates accent free pronunciation similar to that of the native speaker. Second, the students were asked to examine tongue position, duration of the vowel and shape of lips in their production and that of the native speaker to self-assess their production on the same scale. The aim of this procedure is to see whether students are aware of their English pronunciation.

Treatment period

The second step of the experiment consisted in giving the participants treatment in pronouncing the seven vowel sounds which were found to be much accented in the pre-test. Some videos that contain the seven short vowels, long vowels and diphthongs, but in different words, were given to students to examine; the videos were accompanied by explanation and illustration of place and manner of production of vowel sounds. Students rehearsed pronouncing the vowels until they felt satisfied with their pronunciation. The materials used are taken from Lose your Accent (n.d) in addition to some video activities instructing them to practise (watch and repeat carefully until perfection). The practice session lasted one hour for every student. The treatment videos and activities aim to raise awareness about articulators and correct articulation.

Later, at a different session, students were invited to pronounce again all the twenty words that they pronounced previously as part of the pre-test. On this second occasion, the students were not asked to self-assess themselves.

Audio records of students pronouncing the words containing the target vowels, in both the pre-test and the post-test, were jumbled and given to two teachers of Phonetics at the department of English. The two teachers did not know whether they are dealing with the same students on different occasions, but were only asked to act as judges of accent in the pronunciation of a group of students. Even when they could identify the same student in two occasions, nothing was said that one performance pertained to the pre-test and the other to the post-test. The two teachers judged the degree of accentedness of pronunciations and decided on whether the degree of accentedness is related to the correct position of tongue, the duration of the vowel and the shape of lips. They also evaluated whether vowel pronunciation is more like English, Arabic or French both at the pre-test and the post-test.

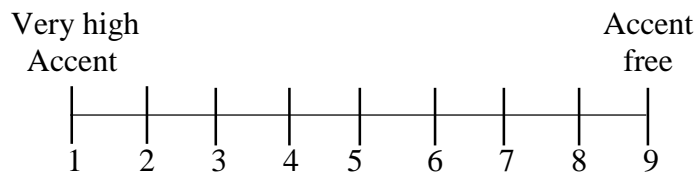
In order to get adequate results from data gathered during the experiment, we chose Microsoft excel. This programme is usually used for statistical analysis in social sciences. In our study, it was used to calculate the means of and the differences between pre-test and post-test in order to get exact result to evaluate the degree of an accented pronunciation of vowel sounds.

3.3. Test of Accent in the Pronunciation of English Vowels

In this section, the test of accent in pronunciation of English vowels is described; then, pre-test results from the judges' points of view and from the points of view of students themselves are analysed and interpreted. Post-test results are analysed and interpreted from the judges' points of view only.

3.3.1. Description of the Test of Accent in the Pronunciation of English Vowels

The participants in this study were given the following scale, and asked to tick the cell that corresponds to the nearest, most similar vowel sound in either Arabic or French of the pronunciation of each vowel. If the participant think that pronunciation is much like English, they were asked to leave the cells for Arabic and English blank. This step is referred to as global evaluation of pronunciation.



In a second step, teachers and students evaluated pronunciation of vowel sounds in terms of the factors that contribute to the appearance or not of an accent in their speech. These are related to whether the students applied correctly:

- a) Tongue position
- b) Duration of the vowel
- c) Shape of the lips

This second step looks for the main factors that potentially led to the rise of accent in the pronunciation of vowel sounds

3.3.2. Analysis of Pre-Test Results

3.3.2.1. Global Evaluation of Accent in Pronunciation Student 1

Table 3.1

Accent in the Pronunciation of Student One in the Pre-Test (S1)

Vowels	Self Evaluation	Teacher Evaluation	Average
1) /ɪ/	4.25	7.5	5.87
2) /ɒ/	2	2.5	2.25
3) /ə/	3.5	3	3.25
4) /e/	1	8	4.5
5) /æ/	5	4	4.5
6) /ʌ/	5	9	7
7) /ʊ/	4	1	2.5
8) /i:/	3.75	8.5	6.12
9) /ɔ:/	3.75	8.5	6.12
10) /ɑ:/	2	4.5	3.25
11) /u:/	6	1.5	3.75
12) /ɜ:/	3.75	1	2.37
13) /eɪ/	3.25	7.5	5.37
14) /aɪ/	3.5	1	2.25
15) /ɔɪ/	3.75	8.5	6.12
16) /əʊ/	3.75	1.5	2.62
17) /aʊ/	4.25	8.5	6.37
18) /ɪə/	5	5.5	5.25
19) /eə/	1	1	1
20) /ʊə/	1	6.5	3.75
Mean	3.47	4.95	3.94

Both teachers and student agree that they have moderately accented pronunciation of vowel sounds (3.94). Vowels 2) /ɒ/ and 19) /eə/ are highly accented. Next, both participants somehow agree that S1 have a bit accented in vowels 5) /æ/. From student's and teachers' evaluation we can notice that S1 has high accent concerning /ɒ/, /ʊ/, /aɪ/, /əʊ//eə/ and slight accent in /ʌ/, /i:/, /ɔ:/, /ɔɪ/, /aʊ/.

Student 2

Table 3.2

Accent in the Pronunciation of Student Two in the Pre-Test (S2)

	<u>Vowels</u>	<u>Self evaluation</u>	<u>Teacher evaluation</u>	<u>Average</u>
1)	/ɪ/	6.5	5	5.75
2)	/ɒ/	1	8	4.5
3)	/ə/	8	1	4.5
4)	/e/	2.25	2.5	2.37
5)	/æ/	7.25	1	4.12
6)	/ʌ/	6.25	1	3.62
7)	/ʊ/	7.25	1.5	4.37
8)	/i:/	7.5	8	7.75
9)	/ɔ:/	7.25	1.5	4.37
10)	/ɑ:/	7.25	6	6.62
11)	/u:/	7.25	1	4.12
12)	/ɜ:/	7	2.5	4.75
13)	/eɪ/	4.75	8	6.37
14)	/aɪ/	2.25	8	5.12
15)	/ɔɪ/	2.5	2.5	2.5
16)	/əʊ/	4.25	5	4.62
17)	/aʊ/	7.75	2	4.87
18)	/ɪə/	6	1	3.5
19)	/eə/	8.25	2	5.12
20)	/ʊə/	5.5	2	3.75
Mean		5.45	3.47	4.40

Both teachers and student agree that they have moderately accented pronunciation of vowel sounds (4, 40). Vowels 4) /e/ and 15) /ɔɪ/ are highly accented. Next, both participants somehow agree that vowels 1) /ɪ/ and 10) /ɑ:/ are a bit accented. The results obtained from the student's and teachers' evaluation show that S2 has almost no accent in producing vowel /e/, /ɔɪ/ and free accented /i:/, /ɑ:/ and /eɪ/.

Student 3

Table 3.3

Accent in the Pronunciation of Student three in the Pre-Test (S3)

Vowels	Self evaluation	Teacher evaluation	Average
1) /ɪ/	6.5	8.5	7.5
2) /ɒ/	6.75	8	7.37
3) /ə/	6.5	4	5.25
4) /e/	6.75	7	6.87
5) /æ/	6.75	5.5	6.12
6) /ʌ/	7.25	2.5	4.87
7) /ʊ/	8	4.5	6.25
8) /ɪ:/	7.75	2	4.87
9) /ɔ:/	4.75	3.5	4.12
10) /ɑ:/	6.25	5.5	5.87
11) /u:/	7.75	4	5.87
12) /ɜ:/	7.75	6.5	7.12
13) /eɪ/	8	7.5	7.75
14) /aɪ/	7.5	3.5	5.5
15) /ɔɪ/	5.75	6.5	6.12
16) /əʊ/	6	7.5	6.75
17) /aʊ/	6.5	7	6.75
18) /ɪə/	8	3	5.5
19) /eə/	4.5	6	5.25
20) /ʊə/	5	3	4
Mean	6.7	5.45	5.98

Both teachers and student agree that they have moderately accented pronunciation of vowel sounds (5, 98). (Vowels 9) /ɔ:/ and 20) /ʊə/ are somehow accented. Next both participants somehow agree that vowels 1 /ɪ/, 2 /ɒ/, 4 /e/, 12 /ɜ:/ are free accented. The results obtained from student's and teachers' evaluation show that S3 has free accented when she produced the vowels /ɪ/, /ɒ/, /e/, /æ/, /ʊ/, /ɜ:/, /eɪ/, /ɔɪ/, /əʊ/ and /aʊ/.

Student 4

Table 3.4

Accent in the Pronunciation of Student four in the Pre-Test (S4)

<u>Vowels</u>	<u>Self evaluation</u>	<u>Teacher evaluation</u>	<u>Average</u>
1) /ɪ/	4.5	8.5	6.5
2) /ɒ/	2.5	7.5	5
3) /ə/	4.25	3.5	3.87
4) /eə/	5.25	4.5	4.87
5) /æ/	6.5	8	7.25
6) /ʌ/	4	8	6
7) /ʊ/	6.5	3	4.75
8) /ɪ : /	5	8	6.5
9) /ɔ:/	5.25	2.5	3.87
10) /ɑ:/	6.5	3.5	5
11) /u:/	5.5	2.5	4
12) /ɜ:/	4.75	4	4.37
13) /eɪ/	5.5	7.5	6.5
14) /aɪ/	4.5	7.5	6
15) /ɔɪ/	7.25	8	7.62
16) /əʊ/	4.25	2	3.12
17) /aʊ/	6	3	4.5
18) /ɪə/	5.25	2.5	3.87
19) /eə/	6	5.5	5.75
20) /ʊə/	7	3.5	5.25
Means	5.31	5.15	5.22

Both teachers and student agree that they have moderately accented in producing vowel sounds (5, 22). Vowels 3) /ə/, 11) /u:/and 12) /ɜ: / are somehow accented. Next, both participants agreed that the vowels 5) /æ/ and 15) /ɔɪ/ are almost free accented. In general, the results obtained from the student's and teacher's evaluation show that S4 has almost free accent in /æ/, /ɔɪ/ and a slight accent in producing the remaining vowels.

Student 5

Table 3.5

Accent in the Pronunciation of Student five in the Pre-Test (S5)

<u>Vowels</u>	<u>Self evaluation</u>	<u>Teacher evaluation</u>	<u>Average</u>
1) /ɪ/	6.75	8	7.37
2) /ʊ/	5	7.5	6.25
3) /ə/	3.5	4	3.75
4) /e/	6	5.5	5.75
5) /æ/	5	7.5	6.25
6) /ʌ/	3.75	4.5	4.12
7) /ʊ/	2	2	2
8) /ɪ:/	5.5	5.5	5.5
9) /ɔ:/	4	4	4
10) /ɑ:/	5	4.5	4.75
11) /u:/	1	3	2
12) /ɜ:/	1	5	3
13) /eɪ/	5.25	7.5	6.37
14) /aɪ/	3.75	7.5	5.62
15) /ɔɪ/	4.5	7.5	6
16) /əʊ/	1	3	2
17) /aʊ/	6	2.5	4.25
18) /ɪə/	2.25	3	2.62
19) /eə/	3.5	4	3.75
20) /ʊə/	4.5	3	3.75
Mean	3.96	4.95	4.45

Both teachers and student agree that they have a bit accented in producing vowel sounds (4, 45). Vowels 3) /ə/, 7) /ʊ/, 9) /ɔ:/, 11) /u:/, 12) /ɜ:/, 16) /əʊ/, 18) /ɪə/, 19) /eə/ and 20) /ʊə/ are highly accented. Next, both the participants somehow agree that the vowel 1) /ɪ/ is pronounced without accent. The results also point out that student five has a very high accent in pronouncing /ʊ/, /u:/, /əʊ/, /ɪə/ and free accent in /ɪ/.

Student 6

Table 3.6

Accent in the Pronunciation of Student six in the Pre-Test (S6)

<u>Vowels</u>	<u>Self-evaluation</u>	<u>Teacher evaluation</u>	<u>Average</u>
1) /ɪ/	3.25	5	4.12
2) /ɒ/	3	7.5	5.25
3) /ə/	3.25	7	5.12
4) /e/	3	8.5	5.75
5) /æ/	3.5	8	5.75
6) /ʌ/	3.75	8.5	6.12
7) /ʊ/	3.5	9	6.25
8) /ɪ/	3.75	8.5	6.12
9) /ɔ:/	3.25	8	5.62
10) /ɑ:/	4	7	5.5
11) /u:/	1.5	1.5	1.5
12) /ɜ:/	2.5	4.5	3.5
13) /eɪ/	3.5	7.5	5.5
14) /aɪ/	3.25	7.5	5.37
15) /ɔɪ/	3.25	8.5	5.87
16) /əʊ/	3.5	7.5	5.5
17) /aʊ/	2.75	6.5	4.62
18) /ɪə/	3.25	6	4.62
19) /eə/	3.5	4	3.75
20) /ʊə/	2.5	5	3.75
Mean	3.18	6.72	4.95

Both teachers and student agree that they have moderately accented in producing vowel sounds (**4, 95**). The vowel 11 /u:/ and 19 /eə/ are highly accented. The result that obtain from teacher and student evaluation show that student six has very high accented in pronouncing /u:/, /eə/ and /ʊə/ and the remaining vowel are produced as somehow without accent.

3.3.2.2. Factors Contributing to Accent

This section discusses the factors that are thought to contribute to the appearance of accent in students' pronunciations. These factors may be related to tongue position, duration of the vowel and shape of the lips. Other factors are judged by the two teachers in terms of possible effects of the Arabic and French vowel systems. If no accent is indicated, that means that teachers think that the sounds produced are more like English vowel sounds.

Student 1

Table 3. 7

Factors Contributing to Accent for Student One in the Pre-Test (S1)

Vowel	Aspect of Evaluation			Teachers' Evaluation of Accent			
	Tongue position	Duration	Shape of lips	T1		T2	
				French	Arabic	French	Arabic
1) /ɪ/	4	3	5				
2) /ɒ/	3	3	1	✓		✓	
3) /ə/	4	3	3				
4) /e/	1	1	1				
5) /æ/	5	5	5		✓	✓	
6) /ʌ/	5	5	5				
7) /ʊ/	4	4	4	✓			✓
8) /ɪ/	2	5	2				
9) /ɔ:/	3	4	2				
10) /ɑ:/	2	2	2			✓	
11) /u:/	6	6	6		✓		✓
12) /ɜ:/	4	4	2				
13) /eɪ/	4	2	2				
14) /aɪ/	2	3	3	✓		✓	
15) /ɔɪ/	3	3	3				
16) /əʊ/	3	3	3		✓		✓
17) /aʊ/	2	5	5				
18) /ɪə/	5	5	5		✓	✓	
19) /eə/	1	1	1	✓			✓
20) /ʊə/	1	1	1				
Mean	3.2	3.4	3.05	English=23 (57.5%) Arabic=8 (20%) French=9 (22.5%)			

The table above represents aspect of evaluation for both student and teachers. For student one, all the factors of tongue position, duration and shape of the lips are the three factors that contribute to the appearance of accent. The results obtained from the analysis of this aspects of evaluation show that S1 has high accent concerning the production of vowels. The first teacher indicated that four vowels come from the influence of French accent (/ɒ/, /ʊ/, /aɪ/, /eə/) and four other vowels come from the Arabic accent (/æ/, /u:/, /əʊ/, /ɪə/). The second teacher indicated that five vowels come from the influence of French accent (/ɒ/, /æ/, /ɑ:/, /aɪ/, /ɪə/) and four vowels come from the influence of Arabic accent (/ʊ/, /u:/, /əʊ/, /eə/). French influenced the pronunciation of 22.5% of the vowels and Arabic 20%.

Student 2

Table 3. 8

Factors Contributing to Accent for Student Two in the Pre-Test (S2)

Vowel	Aspect of evaluation			Teachers' Evaluation of Accent			
	Tongue position	Duration	Shape of lips	T1		T2	
				French	Arabic	French	Arabic
1) /ɪ/	7	6	5	✓			
2) /ɒ/	1	1	1				
3) /ə/	7	8	8		✓		✓
4) /e/	3	4	1				
5) /æ/	7	6	8	✓		✓	
6) /ʌ/	8	5	8		✓	✓	
7) /ʊ/	8	7	8		✓	✓	
8) /ɪ/	7	8	8				
9) /ɔ:/	5	7	9	✓		✓	
10) /ɑ:/	7	6	8				
11) /u:/	8	6	8		✓		
12) /ɜ:/	6	6	8		✓		
13) /eɪ/	4	5	9				✓
14) /aɪ/	1	4	3				
15) /ɔɪ/	2	4	3		✓		
16) /əʊ/	3	5	8				✓
17) /aʊ/	7	8	8	✓		✓	
18) /ɪə/	5	4	7		✓		
19) /eə/	8	8	9	✓			✓
20) /ʊə/	7	7	1		✓		
Mean	5.55	5.75	6.4	English=18 (45%) Arabic=12 (30%) French=10 (25%)			

For S2, tongue position, duration and shape of the lips are somehow positioned correctly in the production of vowels. Teacher 1 indicated that five vowels are influenced by the French accent; these are /ɪ/, /æ/, /ɔ:/, /aʊ/ and /eə/ and eight vowels by Arabic (/ə/, /ʌ/, /ʊ/, /u:/, /ɜ:/, /ɔɪ/, /ɪə/ and /ʊə/). Teacher 2 indicated that five vowels are influenced by French; these are /æ/, /ʌ/, /ʊ/, /ɔ:/ and /aʊ/ and four vowels by Arabic (/ə/, /eɪ/, /əʊ/ and /eə/). French influenced the pronunciation of 25% of the vowels and Arabic 30% of them.

Student 3

Table 3. 9

Factors Contributing to Accent for Student Three in the Pre-Test (S3)

Vowel	Aspect of evaluation			Teachers' Evaluation of Accent			
	Tongue position	Duration	Shape of lips	T1		T2	
				French	Arabic	French	Arabic
1) /ɪ/	7	8	4				
2) /ɒ/	6	8	8				
3) /ə/	7	8	7		✓		✓
4) /e/	5	8	6				
5) /æ/	4	8	8				
6) /ʌ/	7	8	8		✓		✓
7) /ʊ/	8	8	8	✓		✓	
8) /ɪ/	8	8	7				
9) /ɔ:/	4	7	4	✓			
10) /ɑ:/	6	7	7				
11) /u:/	8	7	8		✓		✓
12) /ɜ:/	8	8	8				
13) /eɪ/	8	8	8				
14) /aɪ/	7	8	8		✓		✓
15) /ɔɪ/	5	7	5				
16) /əʊ/	7	6	5				
17) /aʊ/	6	7	6				
18) /ɪə/	8	8	8		✓		✓
19) /eə/	4	5	5				
20) /ʊə/	5	5	5	✓		✓	
Mean	6.4	7.35	6.65	English= 25 (62.5%) Arabic=10 (25%) French=5 (12.5%)			

From the analysis of the aspects of pronunciation, we can notice that S3 has very little accent concerning her production of vowels in tongue position, shape of the lips and almost free accent in duration of the vowels. The evaluation of two teachers show that teacher 1 indicated that three vowels are produced with a French accent; these are /ʊ/, /ɔ:/ and /ʊə/ and five vowels with an Arabic accent (/ə/, /ʌ/, /u:/, /aɪ/ and /ɪə/) and teacher 2 evaluated two vowels as influenced by French (/ʊ/ and /ʊə/) and five vowels by Arabic; these are /ɒ/, /ʌ/, u:/, /aɪ/ and /ɪə/. French influenced the pronunciation of 12.5% of the vowels and Arabic 25%.

Student 4

Table 3. 10

Factors Contributing to Accent for Student Four in the Pre-Test (S4)

Vowel	Aspect of evaluation			Teachers' Evaluation of Accent			
	Tongue position	Duration	Shape of lips	T1		T2	
				French	Arabic	French	Arabic
1) /ɪ/	7	2	5				
2) /ɒ/	1	4	3				
3) /ə/	3	4	5		✓		✓
4) /e/	5	6	4		✓		✓
5) /æ/	4	8	7				
6) /ʌ/	3	4	5				
7) /ʊ/	5	8	7		✓	✓	
8) /ɪ/	4	6	5				
9) /ɔ:/	4	6	6			✓	
10) /ɑ:/	6	8	7	✓			
11) /u:/	5	7	4		✓		✓
12) /ɜ:/	6	3	5				
13) /eɪ/	5	7	6				
14) /aɪ/	3	6	4				
15) /ɔɪ/	7	8	8				
16) /əʊ/	4	3	5		✓		✓
17) /aʊ/	5	7	6	✓		✓	
18) /ɪə/	5	5	7		✓	✓	
19) /eə/	6	5	6				
20) /ʊə/	6	7	8				
Mean	4.7	5.7	5.65	English=24 (60%) Arabic=10 (25%) French=6 (15%)			

From the results showed in the table we can notice that S4 is moderately accented in all aspects. The evaluation of two teachers came as follows: teacher 1 reported that S4 has a French accent in two vowels which are /ɑ:/, /aʊ/ and Arabic accent in six vowels (/ə/, /e/, /ʊ/, /u:/, /aʊ/ and /ɪə/). Teacher two indicated that S4 has four French accented vowels: /ʊ/, /ɔ:/, /aʊ/ and /ɪə/ and four Arabic accented vowels; these are /ə/, /e/, /u:/ and /əʊ/. French influenced the pronunciation of 15% of the vowels and Arabic 25% of them.

Student 5

S5

Table 3. 11

Factors Contributing to Accent for Student Five in the Pre-Test (S5)

<u>Vowel</u>	<u>Aspect of evaluation</u>			<u>Teachers' Evaluation of Accent</u>			
	<u>Tongue position</u>	<u>Duration</u>	<u>Shape of lips</u>	<u>T1</u>		<u>T2</u>	
				<u>French</u>	<u>Arabic</u>	<u>French</u>	<u>Arabic</u>
1) /ɪ/	6	7	7				
2) /ɒ/	5	6	4				
3) /ə/	4	4	4		✓		✓
4) /e/	6	6	6		✓		✓
5) /æ/	5	5	5			✓	
6) /ʌ/	4	3	5		✓	✓	
7) /ʊ/	2	1	3		✓		
8) /ɪ/	6	5	5				
9) /ɔ:/	5	3	4				
10) /ɑ:/	5	5	5	✓		✓	
11) /u:/	1	1	1		✓		✓
12) /ɜ:/	1	1	1	✓			
13) /eɪ/	5	5	6				
14) /aɪ/	5	1	5				
15) /ɔɪ/	4	6	5				
16) /əʊ/	1	1	1		✓		✓
17) /aʊ/	6	6	6		✓		✓
18) /ɪə/	2	3	3		✓		✓
19) /eə/	4	3	4		✓		✓
20) /ʊə/	4	5	5	✓		✓	
Mean	4.05	3.85	4.25				
					English=23 (57.5%)		
					Arabic=16 (40%)		
					French=1 (2.5%)		

From the table above we can notice that S5 has moderately accented configurations in tongue position and shape of lips and high accented pronunciation in duration aspect. The evaluation of two teachers show that teacher 1 indicates that three vowels are produced with a French accent, which are /ɑ:/, /ɜ:/ and /ʊə/, nine vowels with an Arabic accent (/ə/, /e/, /ʌ, /ʊ/, u:/, /əʊ/, /aʊ/, /ɪə/ and /eə/); and teacher 2 showed that four vowels are pronounced as French; these are /æ/, /ʌ/, /ɑ:/ and /ʊə/ and seven vowels are pronounced as Arabic (/ə/, /e/, /u:/, /əʊ/, /aʊ/, /ɪə/ and /eə/). French influenced the pronunciation of 17.5% of the vowels and Arabic 40%, according to the two teachers.

Student 6

Table 3. 12

Factors Contributing to Accent for Student Six in the Pre-Test (S6)

Vowel	Aspect of evaluation			Teachers' Evaluation of Accent			
	Tongue position	Duration	Shape of lips	T1		T2	
				French	Arabic	French	Arabic
1) /ɪ/	3	4	2	✓			✓
2) /ɒ/	5	2	1				
3) /ə/	3	3	2				
4) /e/	4	2	3				
5) /æ/	3	4	3				
6) /ʌ/	4	5	3				
7) /ʊ/	3	2	4				
8) /ɪ/	5	3	3				
9) /ɔ:/	3	4	2				
10) /ɑ:/	4	3	4		✓		
11) /u:/	1	2	1				
12) /ɜ:/	2	3	2		✓		✓
13) /eɪ/	3	5	2				
14) /aɪ/	3	2	3				
15) /ɔɪ/	4	3	2				
16) /əʊ/	3	4	3				
17) /aʊ/	2	4	2				
18) /ɪə/	4	3	2				
19) /eə/	4	3	4				
20) /ʊə/	4	2	1		✓		✓
Mean	3.35	3.15	2.45	English=33 (82.5%) Arabic=6 (15%) French=1 (2.5%)			

3.3.3. Interpretation of Pre-Test Results

The table below provides a summary for the results of the pre-test. It shows that students generally are characterized by a medium foreign accent with mean of 4.82 out of the 9 point scale indicated above. Accent result from the manner of articulation in terms of tongue position, vowel duration and shape of the lips, quite equally. 25.83 of the foreign accent is attributed to students' mother tongue and 13.33 of the seeming accent is because of the influence of French. More than half the vowels (60.83%) are considered to be produced quite like native speakers

Table 3.13

Average Accent in the Pronunciation of the Six Students in the Pre-Test

Student	Global Evaluation of Accent	Tongue position	Vowel Duration	Shape of lips	Accent		
					English	Arabic	French
Student 1	3.94	3.2	3.4	3.05	57.5	20	22.5
Student 2	4.40	5.55	5.75	6.4	45	30	25
Student 3	5.98	6.4	7.35	6.65	62.5	25	12.5
Student 4	5.22	4.7	5.7	5.65	60	25	15
Student 5	4.45	4.05	3.85	4.25	57.5	40	2.5
Student 6	4.95	3.35	3.15	2.45	82.5	15	2.5
Mean	4.82	4.54	4.87	4.74	60.83	25.83	13.33

The pre-test was conducted to evaluate students' production of vowel sounds and whether their accent is due to the influence of French or Arabic. The students are asked to pronounce 20 words that contain short vowels, long vowels and diphthongs. After that the students were asked to look and listen to a native speaker pronouncing the vowel sounds and judge their pronunciations from extremely accented to accent-free pronunciation. The following table summarises students' self-evaluations of their pronunciations, and on the basis of which a treatment of the most difficult or accented vowels is to be conducted.

Table 3.14

Identification of the Most Accented Vowels in the Pronunciation of the Six Students

Vowel Sounds	Students						Average Accent
	S1	S2	S3	S4	S5	S6	
1) /ɪ/	4.25	6.5	6.5	4.5	6.75	3.25	5.29
2) /ɒ/	2	1	6.75	2.5	5	3	3.38
3) /ə/	3.5	8	6.5	4.25	3.5	3.25	4.83
4) /e/	1	2.25	6.75	5.25	6	3	4.04
5) /æ/	5	7.25	6.75	6.5	5	3.5	5.67
6) /ʌ/	5	6.25	7.25	4	3.75	3.75	5.00
7) /ʊ/	4	7.25	8	6.5	2	3.5	5.21
8) /i/	3.75	7.5	7.75	5	5.5	3.75	5.54
9) /ɔ:/	3.75	7.25	4.75	5.25	4	3.25	4.71
10) /ɑ:/	2	7.25	6.25	6.5	5	4	5.17
11) /u:/	6	7.25	7.75	5.5	1	1.5	4.83
12) /ɜ:/	3.75	7	7.75	4.75	1	2.5	4.46
13) /eɪ/	3.25	4.75	8	5.5	5.25	3.5	5.04
14) /aɪ/	3.5	2.25	7.5	4.5	3.75	3.25	4.13
15) /ɔɪ/	3.75	2.5	5.75	7.25	4.5	3.25	4.50
16) /əʊ/	3.75	4.25	6	4.25	1	3.5	3.79
17) /aʊ/	4.25	7.75	6.5	6	6	2.75	5.54
18) /ɪə/	5	6	8	5.25	2.25	3.25	4.96
19) /eə/	1	8.25	4.5	6	3.5	3.5	4.46
20) /ʊə/	1	5.5	5	7	4.5	2.5	4.25

The results, indicated in bold in the table above, show that students perceived that they have very high accent in the pronunciation of seven vowel sounds: /ɒ/, /e/, /ʊ/, /ʊə/, /aɪ/, /əʊ/ and /eə/. These vowels will be experimented with in order to see whether there will be a reduction in accent in their pronunciation.

3.3.4. Analysis of Post-Test Results

3.3.4.1. Teachers' Evaluations of Students' Accent in the Post-Test with Untreated

Vowels

Student 1

Table 3.15

Evaluation of Untreated Vowels for Student One (S1)

<u>Vowel</u>	<u>Accent Score</u>	<u>Foreign accent</u>	
		<u>Teacher</u>	<u>Teacher 1</u>
/ɪ/	8	8	8
/ə/	6	6	6
/æ/	8.5	9	8
/ʌ/	7.5	8	7
/ʊ/	3.5	3	4
/ɪ/	7.5	8	7
/ɔ:/	8	8	8
/ɑ:/	5.5	7	4
/u:/	4.5	2	7
/eɪ/	6.5	7	6
/ɔɪ/	3.5	4	3
/aʊ/	6	6	6
/ɪə/	3.5	2	5
Mean	6.03	6	6.07

The table above represents evaluation of student's one production of untreated vowels for both teachers. From the table, we notice that student one has very high accent in producing /ʊ/, /ɔɪ/ and /ɪə/, a bit of accent in /ɑ:/, /u:/, /ə/ and /aʊ/ and free accent in the remaining vowels. The average of the evaluations amounts to (6.03); which means that vowel pronunciation of student 1 is somehow accented.

Student 2

Table 3.16

Evaluation of Untreated Vowels for Student Two (S2)

<u>Vowel</u>	<u>Accent Score</u>	<u>Foreign accent</u>	
		<u>Teacher 1</u>	<u>Teacher 2</u>
/ɪ/	9	9	9
/ə/	4.5	4	5
/æ/	9	9	9
/ʌ/	7.5	8	7
/ʊ/	2.5	2	3
/ɪ/	6.5	7	6
/ɔ:/	2	2	2
/ɑ:/	7.5	7	8
/u:/	1	1	1
/eɪ/	4.5	4	5
/ɔɪ/	1.5	2	1
/aʊ/	3	3	3
/ɪə/	5.5	5	6
Mean	4.92	4.84	5

From the table, we can notice that S2 has very high accent when she produced untreated vowels /ʊ/, /ɔ:/, /u:/, /ɔɪ/ and aʊ/, a slight accent in /ə/, /eɪ/ and /ɪə/, free accent in /ɪ/, /æ/ and almost free accent in /ʌ/, /ɪ/ and /ɑ:/. The mean **4, 92** shows that S2 has a somehow accented pronunciation.

Student 3

Table 3.17

Evaluation of Untreated Vowels for Student Three (S3)

<u>Vowel</u>	<u>Accent Score</u>	<u>Foreign accent</u>	
		<u>Teacher 1</u>	<u>Teacher 2</u>
/ɪ/	5	3	7
/ə/	2.5	2	3
/æ/	3.5	3	4
/ʌ/	4.5	3	6
/ʊ/	3	2	4
/ɪ/	2.5	1	4
/ɔ:/	1.5	1	2
/ɑ:/	5	4	6
/u:/	2.5	2	3
/eɪ/	3.5	3	4
/ɔɪ/	1.5	1	2
/aʊ/	2	3	1
/ɪə/	1	1	1
Mean	2.92	2.23	3.61

Eight vowels are produced with a very high accent in the case of S3; these are /ə/,/ʊ/ , /ɪ/, /ɔ:/, /u:/,/ɔɪ/,/aʊ/,/ɪə/ and five others are moderately accented (/ɪ/,/æ/,/ʌ/ , /ɑ:/ and /eɪ/). Both teachers agree that she has very high accent in producing untreated vowels (**2.92**).

Student 4

Table 3.18

Evaluation of Untreated Vowels for Student Four (S4)

<u>Vowel</u>	<u>Accent Score</u>	<u>Foreign accent</u>	
		<u>Teacher 1</u>	<u>Teacher 2</u>
/ɪ/	8	8	8
/ə/	4	2	6
/æ/	7.5	8	7
/ʌ/	3.5	3	4
/ʊ/	7	7	7
/ɪ/	7	8	6
/ɔ:/	5.5	6	5
/ɑ:/	4.5	4	5
/u:/	6	6	6
/eɪ/	7.5	8	7
/ɔɪ/	5	6	4
/aʊ/	1	1	1
/ɪə/	1.5	1	2
Mean	5.23	5.23	5.23

The table above shows evaluation of S4's pronunciation of untreated vowels; we can notice that she has free accented products: /ɪ/, /æ/, /ʊ/, /ɪ/, /eɪ/ and very high accented products: /aʊ/, /ɪə/. The remaining products are somehow accented. From the mean of both teachers' evaluation (**5.23**), we can notice that she has some accent in pronouncing untreated vowels.

Student 5

Table 3.19

Evaluation of Untreated Vowels for Student Five (S5)

<u>Vowel</u>	<u>Accent Score</u>	<u>Foreign accent</u>	
		<u>Teacher 1</u>	<u>Teacher 2</u>
/ɪ/	9	9	9
/ə/	7.5	8	7
/æ/	8.5	8	9
/ʌ/	9	9	9
/ʊ/	7.5	8	7
/ɪ/	8	3	9
/ɔ:/	7	8	6
/ɑ:/	8	8	8
/u:/	8.5	8	9
/eɪ/	8.5	8	9
/ɔɪ/	8	8	8
/aʊ/	8.5	8	9
/ɪə/	4	3	5
Mean	7.84	7.38	8

The table above show teachers' evaluation for untreated vowels for S5 in which they consider her evaluation a bit accented in producing /ɪə/ and free accented in producing the vowels /ɪ/ and /ʌ/ almost free accented in /ə/, /æ/, /ʊ/, /ɪ/, /ɔ:/, /ɑ:/, /u:/, /eɪ/, /ɔɪ/ and /aʊ/. The mean of S5 pronunciation (7.84) shows that she has free accented pronunciation in producing untreated vowels.

Student 6

Table 3.20

Evaluation of Untreated Vowels for Student Six (S6)

<u>Vowel</u>	<u>Accent Score</u>	<u>Foreign accent</u>	
		<u>Teacher 1</u>	<u>Teacher 2</u>
/ɪ/	6	7	5
/ə/	5.5	3	8
/æ/	7	8	6
/ʌ/	3	2	4
/ʊ/	1.5	1	2
/ɪ/	5.5	3	8
/ɔ:/	7.5	8	7
/ɑ:/	7.5	7	8
/u:/	3	2	4
/eɪ/	7.5	7	8
/ɔɪ/	5	3	7
/aʊ/	1.5	1	2
/ɪə/	2.5	3	2
Mean	4.84	4.23	5.46

The table above represents the evaluation of untreated vowels for S6 in which she has very high accent in producing /ʊ/, /u:/, /aʊ/ and /ɪə/, a slight accent in pronouncing the vowels /ɪ/, /ə/, /ʌ/, /ɪ:/ and /ɔɪ/ and free accented /æ/, /ɔ:/, /ɑ:/, /eɪ/. Both teachers agree that S6 has somehow accented pronunciation of vowel sounds (4,84).

3.3.4.2. Teachers' Evaluations of Students' Accent in the Post-Test with Treated Vowels**Student 1**

Table 3.21

Evaluation of Treated Vowels for Student One (S1)

<u>Vowel</u>	<u>Accent Score</u>	<u>Foreign accent</u>	
		<u>Teacher 1</u>	<u>Teacher 1</u>
/ɒ/	8	8	8
/e/	8	8	8
/ɜ:/	1.5	1	2
/aɪ/	5.5	5	6
/əʊ/	4.5	4	5
/eə/	2.5	2	3
/ʊə/	2	2	2
Mean	4.57	4.28	4.85

The table above reveals to teachers' evaluation for treated vowels by student one; she has very high accent in producing /ɜ:/, /eə/ and /ʊə/, some accent in producing /aɪ/ and /əʊ/ and almost free accented vowels /ɒ/ and /e/. Both teachers agree that S1 has a bit accented in producing treated vowels (**4.57**).

Student 2

Table 3.22

Evaluation of Treated Vowels for Student Two (S2)

<u>Vowel</u>	<u>Accent Score</u>	<u>Foreign accent</u>	
		<u>Teacher 1</u>	<u>Teacher 1</u>
/ɒ/	7	8	6
/e/	9	9	9
/ɜ:/	6.5	7	6
/aɪ/	2	2	2
/əʊ/	7	7	7
/eə/	4.5	4	5
/ʊə/	7.5	7	8
Mean	6.21	6.28	6.14

S2 has very high accented /aɪ/, somehow accented /ɜ:/ and /eə/, free accented /e/ and slightly accented /ɒ/, /əʊ/ and /ʊə/. Both teachers agree that S2 has somehow accented in producing treated vowels (**6.21**).

Student 3

Table 3.23

Evaluation of Treated Vowels for Student Three (S3)

<u>Vowel</u>	<u>Accent Score</u>	<u>Foreign accent</u>	
		<u>Teacher 1</u>	<u>Teacher 1</u>
/ɒ/	4.5	4	5
/e/	2	1	3
/ɜ:/	4.5	5	4
/aɪ/	3.5	2	5
/əʊ/	1.5	1	2
/eə/	2.5	2	3
/ʊə/	1	1	1
Mean	2.78	2.28	3.28

The table above represent the evaluation of treated vowels in which the student has very high accent in /e/, /əʊ/, /eə/ and /ʊə/ and a bit accented in producing /ɒ/, /ɜ:/, /aɪ/. Both teachers agree that S3 has very high accented pronunciation of treated vowels (2.78).

S4

Table 3.24

Evaluation of treated vowels for student 4

<u>Vowel</u>	<u>Accent Score</u>	<u>Foreign accent</u>	
		<u>Teacher 1</u>	<u>Teacher 1</u>
/ɒ/	7.5	7	8
/e/	7	7	7
/ɜ:/	5	4	6
/aɪ/	8	8	8
/əʊ/	3.5	3	4
/eə/	1	1	1
/ʊə/	3.5	3	4
Mean	5.07	4.71	5.42

The table above shows S4 evaluation of treated vowels in which she has very high accent in /eə/, some accent in producing /ɜ:/, /əʊ/ and /ʊə/ and almost free accent in producing /ɒ/, /e/ and /aɪ/. Both teachers agree that S4 has somehow accented in producing treated vowels (5.07).

Student 5

Table 3.25

Evaluation of Treated Vowels for Student Five (S5)

<u>Vowel</u>	<u>Accent Score</u>	<u>Foreign accent</u>	
		<u>Teacher 1</u>	<u>Teacher 1</u>
/ɒ/	8	8	8
/e/	8.5	9	8
/ɜ:/	8	7	9
/aɪ/	8.5	9	8
/əʊ/	8.5	9	8
/eə/	5.5	7	4
/ʊə/	2.5	2	3
Mean	7.07	7.28	6.85

The pronunciation of student 5 is consider her very high accent with regard to /ʊə/, some accent in /eə/ and free accent in producing /ɒ/, /e/, /ɜ:/, /aɪ/ and /əʊ/. Both teachers agree that she has free accented pronunciation of treated vowels.

Student 6

Table 3.26

Evaluation of Treated Vowels for Student Six (S6)

Vowel	Accent Score	Foreign accent	
		Teacher 1	Teacher 1
/ɒ/	5	6	4
/e/	4	2	6
/ɜ:/	3.5	3	4
/aɪ/	5	4	6
/əʊ/	3	2	4
/eə/	3.5	3	4
/ʊə/	2.5	2	3
Mean	3.78	3.14	4.42

It is clearly noticed from the table above that S6 has very high accent in producing the vowels /ɜ:/, /əʊ/, /eə/ and /ʊə/ and some accented in /ɒ/, /e/ and /aɪ/. The mean of the pronunciation shows that S6 has a bit accented in producing treated vowels (3, 78).

3.3.5. Interpretation of Post-Test Results

The two tables below provides a summary for the results of the post-test. It shows that students generally are characterized by a medium foreign accent with mean of 4.82 out of the 9 point scale indicated above. Accent result from the manner of articulation in terms of tongue position, vowel duration and shape of the lips, quite equally. 25.83 of the foreign accent is attributed to students' mother tongue and 13.33 of the seeming accent is because of the influence of French. More than half the vowels (60.83%) are considered to be produced quite like native speakers

Table 3.27

Evaluation of Untreated Vowels the Six Students in the Post-Test

Vowel	S1	S2	S3	S4	S5	S6	Average Accent
/ɪ/	8	9	5	8	9	6	7.50
/ə/	6	4.5	2.5	4	7.5	5.5	5.00
/æ/	8.5	9	3.5	7.5	8.5	7	7.33
/ʌ/	7.5	7.5	4.5	3.5	9	3	5.83
/ʊ/	3.5	2.5	3	7	7.5	1.5	4.17
/ɪ/	7.5	6.5	2.5	7	8	5.5	6.17
/ɔ:/	8	2	1.5	5.5	7	7.5	5.25
/ɑ:/	5.5	7.5	5	4.5	8	7.5	6.33
/u:/	4.5	1	2.5	6	8.5	3	4.25
/eɪ/	6.5	4.5	3.5	7.5	8.5	7.5	6.33
/ɔɪ/	3.5	1.5	1.5	5	8	5	4.08
/aʊ/	6	3	2	1	8.5	1.5	3.67
/ɪə/	3.5	5.5	1	1.5	4	2.5	3.00

From the analysis of post-test we can notice that students have very high accented pronunciations in producing five untreated vowels; these are /ʊ/, /u:/, /ɔɪ/, /aʊ/

Table 3.28

Evaluation of Treated Vowels the Six Students in the Post-Test

Vowel	S1	S2	S3	S4	S5	S6	Average Accent
/ɒ/	8	7	4.5	7.5	8	5	6.67
/e/	8	9	2	7	8.5	4	6.42
/z:/	1.5	6.5	4.5	5	8	3.5	4.83
/aɪ/	5.5	2	3.5	8	8.5	5	5.42
/əʊ/	4.5	7	1.5	3.5	8.5	3	4.67
/eə/	2.5	4.5	2.5	1	5.5	3.5	3.25
/ʊə/	2	7.5	1	3.5	2.5	2.5	3.17

From the analysis of post-test we can notice that students have very high accented pronunciations in producing two treated vowels; these are /eə/ and /ʊə/ and somehow accented /əʊ/ and /z:/.

3.3.6. Comparative Analysis and Interpretation of Results

3.3.6.1 Comparative Analysis and Interpretation of Untreated Vowels Results

Student 1

Table 3.29

Degree of Improvement for Student 1 in Pronouncing Untreated Vowels

<u>Vowel</u>	<u>Accent Score</u>		<u>Tongue position</u>		<u>Vowel Duration</u>		<u>Shape of the Lips</u>	
	<u>Pre</u>	<u>Post</u>	<u>Pre</u>	<u>Post</u>	<u>Pre</u>	<u>Post</u>	<u>Pre</u>	<u>Post</u>
/ɪ/	7,5	8	4	6	3	6	5	6
/ə/	3	6	4	5	3	5	3	5
/æ/	4	8,5	5	4	5	4	5	4
/ʌ/	9	7,5	5	7	5	7	5	7
/ʊ/	1	3,5	4	5	4	5	4	5
/ɪ/	8,5	7,5	2	6	5	6	2	6
/ɔ:/	8,5	8	3	5	4	5	2	5
/ɑ:/	4,5	7,5	2	9	2	9	2	9
/u:/	1,5	3	6	4	6	4	6	4
/eɪ/	7,5	7	4	6	2	6	2	6
/ɔɪ/	8,5	3,5	3	5	3	5	3	5
/aʊ/	8,5	6	2	4	5	4	5	4
/ɪə/	5,5	3,5	5	8	5	8	5	8
Mean	3.76	4	3,76	5.69	4	5.69	3,38	5.69
Difference	+0.24		+1.93		+1.69		+2.31	

For student 1, accent score, position of the tongue, duration of the vowel and shape of the lips developed positively to become more approximated to accent-free. As for the accents involved student 1 improvement can be illustrated as follows: French accounted for **15.38%** of untreated vowels in the pre-test but only **7.6%** in the post-test were produced with less French accent. Arabic influenced **19.23%** of untreated vowels in the pre-test, and **26,9%** in the post-test were produced with more Arabic accent.

Student 02

Table 3.30

Degree of Improvement for Student 2 in Pronouncing Untreated Vowels

<u>Vowel</u>	<u>Accent score</u>		<u>Position of tongue</u>		<u>Duration</u>		<u>Shape of the lips</u>	
	<u>Pre</u>	<u>Post</u>	<u>Pre</u>	<u>Post</u>	<u>Pre</u>	<u>Post</u>	<u>Pre</u>	<u>Post</u>
/ɪ/	5	8	7	8	6	9	5	9
/ə/	1	6	7	9	8	9	8	9
/æ/	1	8,5	7	8	6	8	8	9
/ʌ/	1	7,5	8	9	5	9	8	9
/ʊ/	1,5	3,5	8	9	7	8	8	9
/ɪ/	8	7,5	7	9	8	8	8	9
/ɔ:/	1,5	8	5	9	7	7	9	9
/ɑ:/	6	7,5	7	9	6	7	8	9
/u:/	1	3	8	1	6	1	8	1
/eɪ/	8	7	4	9	5	9	9	9
/ɔɪ/	2,5	3,5	2	9	4	8	3	9
/aʊ/	2	6	7	9	8	7	8	9
/ɪə/	1	3,5	5	9	4	9	7	9
Mean	3,03	6,11	6,30	8,23	6,15	7,61	8,07	8,38
difference	+3.08		+1.95		+1.46		+0.35	

For student 2, accented score, position of the tongue, duration of the vowel and shape of the lips developed positively to become more approximated to accent-free. As for the accents involved student 2 improvement can be illustrated as follows: French affected **30.7%** of untreated vowels in the pre-test but only **3.84%** in the post-test. Arabic affected **30.7%** of untreated vowels in the pre-test, and **26, 92%** in the post-test.

Student 3

Table 3.31

Degree of Improvement for Student 3 in Pronouncing Untreated Vowels

<u>Vowel</u>	<u>Accent score</u>		<u>Position of tongue</u>		<u>Duration</u>		<u>Shape of the lips</u>	
	<u>Pre</u>	<u>Post</u>	<u>Pre</u>	<u>Post</u>	<u>Pre</u>	<u>Post</u>	<u>Pre</u>	<u>Post</u>
/ɪ/	8.5	5	7	8	8	6	4	7
/ə/	4	2.5	7	7	8	8	7	6
/æ/	5.5	3.5	4	8	8	8	8	8
/ʌ/	4	4.5	7	8	8	8	8	8
/ʊ/	4.5	3	8	7	8	8	8	8
/ɪ/	3,5	2.5	8	7	8	7	7	7
/ɔ:/	4	1.5	4	2	7	5	4	2
/ɑ:/	5.5	5	6	6	7	7	7	6
/u:/	4.5	2.5	8	6	7	7	8	7
/eɪ/	7.5	3.5	8	8	8	8	8	8
/ɔɪ/	6.5	1.5	5	7	7	7	5	7
/aʊ/	7	2	6	2	7	2	6	2
/ɪə/	3	1	8	3	8	3	8	3
Mean	5.23	2.96	6.61	6.07	7.61	6.46	6.76	6,07
difference	-2.27		-0.54		-1.15		-0.39	

Student 3 has not improved in producing the vowels in position of the tongue, duration of the vowel and shape of the lips aspects. As for the accents involved in student's improvement, they can be illustrated as follows: French accounted for **11.5%** of untreated vowels in the pre-test but **19.23%** in the post-test were produced with less French accent. Arabic influenced **30.7%** of untreated vowels in the pre-test, and **53.84%** in the post-test were produced with more Arabic accent.

Student 4

Table 3.32

Degree of Improvement for Student 4 in Pronouncing Untreated Vowels

<u>Vowel</u>	<u>Accent score</u>		<u>Position of tongue</u>		<u>Duration</u>		<u>Shape of the lips</u>	
	<u>Pre</u>	<u>Post</u>	<u>Pre</u>	<u>Post</u>	<u>Pre</u>	<u>Post</u>	<u>Pre</u>	<u>Post</u>
/ɪ/	8,5	8	7	7	2	6	5	7
/ə/	3,5	6	3	6	4	7	5	7
/æ/	8	8,5	4	6	8	5	7	5
/ʌ/	8	7,5	3	6	4	5	5	6
/ʊ/	3	3,5	5	5	8	6	7	5
/ɪ/	8	7,5	4	5	6	7	5	6
/ɔ:/	2,5	8	4	6	6	6	6	6
/ɑ:/	3,5	7,5	6	7	8	6	7	5
/u:/	2,5	3	5	6	7	4	4	5
/eɪ/	7,5	7	5	6	7	5	6	5
/ɔɪ/	8	3,5	7	7	8	6	8	5
/aʊ/	3	6	5	6	7	7	6	6
/ɪə/	2,5	3,5	5	7	5	7	7	6
Mean	5,26	6,11	4,84	6,15	6,15	5,92	6	5,69
Difference	+0.85		+1.31		-0.23		-0.31	

For student 4, there is improvement on the aspects global score and tongue position, and there was worse accent in the duration of the vowel and shape of the lips aspects. As for the accents involved student 4 improvement, they can be illustrated as follows: French accounted for **23.07%** of untreated vowels in the pre-test but **38.46%** in the post-test were produced with less French accent. Arabic accounted for **23.07%** of untreated vowels in the pre-test, and **34.61%** in the post-test were produced with more Arabic accent

Student 5

Table 3.33

Degree of Improvement for Student 5 in Pronouncing Untreated Vowels

<u>Vowel</u>	<u>Accent score</u>		<u>Position of tongue</u>		<u>Duration</u>		<u>Shape of the lips</u>	
	<u>Pre</u>	<u>Post</u>	<u>Pre</u>	<u>Post</u>	<u>Pre</u>	<u>Post</u>	<u>Pre</u>	<u>Post</u>
/ɪ/	8	9	6	5	7	5	7	5
/ə/	5	7,5	4	6	4	6	4	6
/æ/	7,5	8,5	5	5	5	5	5	5
/ʌ/	2,5	8,5	4	6	3	6	5	6
/ʊ/	1,5	8	2	6	1	4	3	6
/ɪ/	3	8,5	6	6	5	6	5	6
/ɔ:/	4,5	4,5	5	6	3	6	4	6
/ɑ:/	4	8	5	6	5	6	5	6
/u:/	3	8,5	1	4	1	5	1	5
/eɪ/	7	8,5	5	6	5	6	6	6
/ɔɪ/	6	8,5	4	6	6	6	5	6
/aʊ/	2	8,5	6	5	6	5	6	5
/ɪə/	3,5	4	2	5	3	5	3	5
Mean	8,57	7,07	4,23	5,53	4,53	5,46	4,53	5,61
difference	-1.5		+1.3		+0.93		+1.08	

For student 5, position of the tongue, duration of the vowel and shape of the lips developed positively to become more approximated to accent-free, but global accent became less accent-free. As for the accents involved student 5 improvement can be illustrated as follows. French accounted for **15.3%** of untreated vowels in the pre-test, but only **7.62%** in the post-test were produced with less French accent. Arabic influenced **38.4%** of untreated vowels in the pre-test, and **3.84%** in the post-test were produced with more Arabic accent.

Student 6

Table 3.34

Degree of Improvement for Student 6 in Pronouncing Untreated Vowels

<u>Vowel</u>	<u>Accent score</u>		<u>Position of tongue</u>		<u>Duration</u>		<u>Shape of the lips</u>	
	<u>Pre</u>	<u>Post</u>	<u>Pre</u>	<u>Post</u>	<u>Pre</u>	<u>Post</u>	<u>Pre</u>	<u>Post</u>
/ɪ/	5	6	3	7	4	6	2	5
/ə/	7	5,5	3	7	3	6	2	6
/æ/	8	7	3	5	4	7	3	6
/ʌ/	8,5	3	4	7	5	6	3	5
/ʊ/	9	1,5	3	7	2	6	4	5
/ɪ/	8,5	5,5	5	6	3	7	3	6
/ɔ:/	8	7,5	3	6	4	5	2	6
/ɑ:/	1,5	3	4	6	3	6	4	7
/u:/	7,5	7,5	1	6	2	5	1	6
/eɪ/	8,5	5	3	7	5	8	2	6
/ɔɪ/	6,5	2,5	4	7	3	6	2	7
/aʊ/	6	1,5	2	7	4	6	2	6
/ɪə/	5	6	4	6	3	7	2	6
Mean	6.84	4,73	3,23	6,46	3,46	6,23	2,46	5,92
difference	-2.11		+3.23		+2.77		+3.46	

For student 6, position of the tongue, duration of the vowel and shape of the lips

developed positively to become more approximated to accent-free. However, there was more accent in the post-test. As for the accents involved student 6 improvement can be illustrated as follows: French influenced 3.8% of untreated vowels in the pre-test and 3.84% in the post-test were produced with less French accent. Arabic was affected by **7.6%** of untreated vowels in the pre-test, and **46.15%** in the post-test were produced with more Arabic accent.

3.3.6.2 Comparative Analysis and Interpretation of treated Vowels Results

Student 1

Table 3.35

Evaluation of Treated Vowels for Student One (S1)

Vowel	<u>Accent score</u>		<u>Tongue position</u>		<u>Duration</u>		<u>Shape of the lips</u>	
	<u>Pre</u>	<u>post</u>	<u>Pre</u>	<u>Post</u>	<u>Pre</u>	<u>Post</u>	<u>Pre</u>	<u>Post</u>
/ɒ/	2,5	8	6	9	3	6	1	6
/e/	8	8	7	9	1	7	1	7
/ɜ:/	1	1,5	5	9	4	5	2	5
/aɪ/	1	5,5	6	9	3	6	3	6
/əʊ/	1,5	3,5	6	9	3	6	3	6
/eə/	1	2,5	1	8	1	1	1	1
/ʊə/	6,5	2	6	9	1	6	1	6
Mean	2,92	4,42	5,28	8,85	3,4	5,28	3,05	5,28
difference	+1.5		+3 .57		+1.88		+2.23	

For students 1, accent score, position of the tongue, duration of the vowel and shape of the lips developed positively to become more approximated to accent-free. Pronunciation remained fairly accented after the treatment, but it has become less severe. As for the accents involved student 1 improvement can be illustrated as follows: French accounted for **35.7%** of treated vowels in the pre-test but only **0%** in the post-test were produced with less French accent, and Arabic for **21.4%** of untreated vowels in the pre-test, and **57.14%** in the post-test were produced with more Arabic accent

Student 2

Table 3.36

Evaluation of Treated Vowels for Student Two (S2)

<u>Vowel</u>	<u>Accent score</u>		<u>Tongue position</u>		<u>Duration</u>		<u>Shape of the lips</u>	
	<u>Pre</u>	<u>post</u>	<u>Pre</u>	<u>Post</u>	<u>Pre</u>	<u>Post</u>	<u>Pre</u>	<u>Post</u>
/ɒ/	2,5	7	1	9	1	9	1	9
/e/	8	9	3	9	4	9	1	9
/ɜ:/	1	6,5	6	9	6	9	8	8
/aɪ/	1	2	1	9	4	8	3	9
/əʊ/	1,5	7	3	9	5	7	8	9
/eə/	1	4,5	8	8	8	9	9	9
/ʊə/	6,5	7,5	7	9	7	9	1	9
Mean	2,35	8,14	5,55	8,85	5,75	8,57	6,4	8,85
Difference	+5.79		+3.3		+2.82		+2.45	

For student 2, accent score, position of the tongue, duration of the vowel and shape of the lips developed positively to become more approximated to accent-free. As for the accents involved student 2 improvement can be illustrated as follows. French accounted for **1.7%** of the pronunciations of treated vowels in the pre-test but only **7.14%** in the post-test were produced with less French accent. Arabic accounted for **28.5%** of untreated vowels in the pre-test, and 14.28% in the post-test were produced with more Arabic accent.

Student 3

Table 3.37

Evaluation of Treated Vowels for Student Three (S3)

<u>Vowel</u>	<u>Accent score</u>		<u>Tongue position</u>		<u>Duration</u>		<u>Shape of the lips</u>	
	<u>Pre</u>	<u>Post</u>	<u>Pre</u>	<u>Post</u>	<u>Pre</u>	<u>Post</u>	<u>Pre</u>	<u>Post</u>
/ɒ/	8	4,5	6	1	8	8	8	8
/e/	7	2	5	3	8	8	6	7
/ɜ:/	6,5	4,5	8	6	8	6	8	6
/aɪ/	3,5	3,5	7	1	8	7	8	7
/əʊ/	7,5	1,5	7	3	6	6	5	6
/eə/	6	2,5	4	8	5	5	5	5
/ʊə/	3	1	5	7	5	7	5	7
Mean	5,92	2,78	6,4	5,55	7,35	6,71	6,65	6,57
Difference	-3.14		-0.85		-0.64		-0.08	

Student 3 has made no development in producing vowel sounds in all aspects. As for the accents involved, student 3 improvement can be illustrated as follows: French influenced the pronunciation of **14.2%** of treated vowels in the pre-test but only **7.14%** in the post-test were produced with less French accent. Arabic accounted for **14.2%** of untreated vowels in the pre-test, and **57.14%** in the post-test were produced with more Arabic accent.

Student 4

Table 3.38

Evaluation of Treated Vowels for Student 4

<u>Vowel</u>	<u>Accent score</u>		<u>Tongue position</u>		<u>Duration</u>		<u>Shape of the lips</u>	
	<u>Pre</u>	<u>post</u>	<u>Pre</u>	<u>Post</u>	<u>Pre</u>	<u>Post</u>	<u>Pre</u>	<u>Post</u>
/ɒ/	7,5	7,5	1	6	4	5	3	6
/e/	4,5	7	5	6	6	5	4	6
/ɜ:/	4	5	6	5	3	6	5	4
/aɪ/	7,5	8	3	6	6	5	4	5
/əʊ/	2	3,5	4	6	3	7	5	6
/eə/	5,5	1	6	5	5	4	6	5
/ʊə/	3,5	3,5	6	6	7	6	8	7
Mean	4,92	5,04	4,7	5,71	5,7	5,42	5,65	5,57
Difference	+0.12		+1.01		-0.23		-0.08	

For student 4, accent score, position of the tongue and duration of the vowel developed positively to become more approximated to accent-free. As for the accents involved, student 4 improvement can be illustrated as follows: French did not affect any of the treated vowels in the pre-test but affected **7.14%** in the post-test. Arabic, however, influenced **28.5%** of the pronunciations of untreated vowels in the pre-test, and **28.57%** in the post-test were produced with more Arabic accent.

Student 5

Table 3.39

Evaluation of Treated Vowels for Student Five (S5)

<u>Vowel</u>	<u>Accent score</u>		<u>Tongue position</u>		<u>Duration</u>		<u>Shape of the lips</u>	
	<u>Pre</u>	<u>post</u>	<u>Pre</u>	<u>Post</u>	<u>Pre</u>	<u>Post</u>	<u>Pre</u>	<u>Post</u>
/ɒ/	7,5	8	5	5	6	5	4	6
/e/	5,5	8,5	6	8	6	8	6	6
/ɜ: /	5	8	1	5	1	5	1	5
/aɪ/	7,5	8,5	5	6	1	5	5	6
/əʊ/	3	8,5	1	5	1	6	1	5
/eə/	4	5,5	4	6	3	6	4	6
/ʊə/	3	2,5	4	5	5	5	5	5
Mean	5,07	7,07	4,05	5,71	3,85	5,71	4,25	5,57
difference	+2		+1.66		+1.86		+1.32	

For student 5, accent score, position of the tongue, duration, shape of the lips of the vowel developed positively to become more approximated to accent-free. As for the accents involved student 5 improvement can be illustrated as follows. French accounted for **21.4%** of the treated vowels in the pre-test, but only **7.14%** in the post-test were produced with less French accent. Arabic: **42.8%** of untreated vowels in the pre-test, and **21.42%** in the post-test were produced with more Arabic accent

Student 6

Table 3.40

Evaluation of Treated Vowels for Student Six (S6)

<u>Vowel</u>	<u>Accent score</u>		<u>Tongue position</u>		<u>Duration</u>		<u>Shape of the lips</u>	
	<u>Pre</u>	<u>Post</u>	<u>Pre</u>	<u>Post</u>	<u>Pre</u>	<u>Post</u>	<u>Pre</u>	<u>Post</u>
/ɒ/	7,5	5	5	7	2	6	1	6
/e/	8,5	4	4	7	2	5	3	5
/ɜ:/	4,5	3,5	2	7	3	7	2	6
/aɪ/	7,5	5	3	6	2	7	3	6
/əʊ/	7,5	3	3	7	4	7	3	6
/eə/	4	3,5	4	7	3	6	4	6
/ʊə/	3,5	2,5	4	6	2	7	1	6
Mean	6,14	3,78	3,35	6,71	3,15	6,42	2,45	5,85
Difference	-2.36		+3.36		+3.27		+3.4	

For student 6, accent score, position of the tongue ,duration ,shape of the lips of the vowel developed positively to become more approximated to accent-free. As for the accents involved student improvement can be illustrated as follows: French: 0% of treated vowels in the pre-test but only 7.14% in the post-test were produced with less French accent. Arabic: 28.8% of untreated vowels in the pre-test, and 28.57% in the post-test were produced with more Arabic accent.

Table 3.41

Effect of Non-Intervention on the Accentedness of Vowel Production

<u>Students</u>	<u>Difference between Post-Test and Pre-Test</u>			
	<u>Accent score</u>	<u>Tongue position</u>	<u>Duration</u>	<u>Shape of the lips</u>
Student 1	+0.24	+1.93	+1.69	+2.31
Student 2	+3.08	+1.95	+1.46	+0.35
Student 3	-2.27	-0.54	-1.15	-0.39
Student 4	+0.85	+1.31	-0.23	-0.31
Student 5	-1.5	+1.3	+0.93	+1.08
Student 6	-2.11	+3.23	+2.77	+3.46
Total	-1.71	+9.18	+5.47	+6.5
Mean				
Difference	-0.29	+1.53	+0.91	+1.08

With regard to vowels which have not been treated, scores of the six students on the degree of accent got lower which means that foreign accent got worse or remained almost the same. As far other aspects are concerned, students' pronunciations were evaluated less severe by teachers in the post test especially as far as tongue position is concerned.

Table 3.42

Effect of Intervention on the Accentedness of Vowel Production

<u>Students</u>	<u>Difference between Post-Test and Pre-Test</u>			
	<u>Accent score</u>	<u>Tongue position</u>	<u>Duration</u>	<u>Shape of the lips</u>
Student 1	+1.5	+3 .57	+1.88	+2.23
Student 2	+5.79	+3.3	+2.82	+2.45
Student 3	-3.14	-0.85	-0 .64	-0.08
Student 4	+0.12	+1.01	-0.23	-0.08
Student 5	+2	+1.66	+1.86	+1.32
Student 6	-2.36	+3.36	+3.27	+3.4
Total	+3.91	+8.48	+9.6	+9.24
Mean Difference	+0.65	+1.41	+1.60	+1.54

With regard to vowels which have been treated, scores of the six students on all measures of accentedness got better. The total accent score increased by 0.65 which means that foreign accent became less severe or remained almost the same. As far other aspects of vowel production are concerned, students' pronunciations were evaluated less severe by teachers in the post test as far as tongue position, duration and shape of the lips are concerned.

Table 3.43

Identification of the Most Accented Untreated Vowels in the Pronunciation of the Six Students

Vowel	Average Pre-Test Accent	Average Post-Test Accent	Difference
/ɪ/	5.29	7.50	+2.21
/ə/	4.83	5.00	+0.17
/æ/	5.67	7.33	+1.66
/ʌ/	5	5.83	+0.83
/ʊ/	5.21	4.17	-1.04
/ɪ/	5.54	6.17	+0.63
/ɔ:/	4.71	5.25	+0.54
/ɑ:/	5.17	6.33	+1.16
/u:/	4.83	4.25	-0.58
/eɪ/	5.04	6.33	+1.29
/ɔɪ/	4.5	4.08	-0.42
/aʊ/	5.54	3.67	-1.87
/ɪə/	4.96	3.00	-1.96
Mean	5.10	5.30	0.20

Students who were post-test on vowels which did not receive treatment showed very little improvement. As mentioned above, five untreated vowels are very high accented or problematic for students; these are /ʊ/, /ɪ/, /u:/, /ɔɪ/, /aʊ/.

Table 3. 44

Identification of the Most Accented Treated Vowels in the Pronunciation of the Six Students

Vowel	Average Post-Test Accent	Average Post-Test Accent	Difference
/ɒ/	3.38	6.67	+3.29
/e/	4.04	6.42	+2.38
/ɜ:/	4.46	4.83	+0.37
/aɪ/	4.13	5.42	+1.29
/əʊ/	3.79	4.67	+0.88
/eə/	4.46	3.25	-1.21
/ʊə/	4.25	3.17	-1.08
Mean	4.07	4.92	+0.85

Students who were post-test on vowels which received treatment showed very little improvement on five treatment vowels. As mentioned above, two treated vowels continue to be problematic; these are /eə/ and /ʊə/.

3.3.6. Overall analysis

This section is devoted to answering the questions initially stated in the introduction of this study on the basis of the results obtained from the pre-test and the post-test.

A) Students' Accented Pronunciation of English Vowels

The results obtained in the pre-test point out that students speak English in an accented manner. The accent is medium as evaluated by students and teachers. Students perceived that they have very high accent in the pronunciation of seven vowel sounds: /ɒ/, /e/, /ʊ/, /ʊə/, /aɪ/, /əʊ/ and /eə/.

B) The Aspects of Speech Production that Contribute to Judgements of Accented Pronunciation of Vowel Sounds

In the pre-test, it was established tongue position, vowel duration and shape of the lips contribute equally to accent in the pronunciation. 25.83 of the foreign accent is attributed to students' mother tongue and 13.33 of the seeming accent is because of the influence of French. More than half the vowels (60.83%) are considered to be produced quite like native speakers

C) The Role of Intervention in Reducing the Accentedness of Students' Pronunciation of English Vowels.

Students who were post-tested on vowels which received treatment showed very little improvement on five treatment vowels on five vowels, while the two treated vowels eə/ and /ʊə continue to be accented or problematic. On the other hand, students who were post-tested

on vowels which did not receive treatment showed very little improvement too and five untreated vowels are very highly accented or problematic for students; these are /ʊ/, /u:/, /ɔɪ/, /aʊ /.

Conclusion

This chapter is concerned with getting real data about students' awareness of their pronunciation. The information was gathered through an experimental design for six second year students. The immediate conclusion that can be made after the analysis and the evaluation of the test is that student pronunciation is influenced by Arabic and French accents and that way they have very high accented pronunciations of some vowels. The treatment contributed slightly to get students rid of their accent.

General Conclusion

1. Putting it altogether
2. Pedagogical Recommendations
3. Limitation of the Study
4. Suggestions for Further Research

General Conclusion

1. Putting it altogether

The present research was conducted to investigate the role intervention in reducing accented pronunciation of English vowel sounds with special reference to Algerian second year LMD students of the Department of English at Mohammed Seddik Ben Yahia, Jijel who have been chosen to be the case study of our research .

This dissertation is split up into parts: a practical part and a theoretical part. The theoretical one is devoted to talk about the description and classification of vowel sounds in English, French and Arabic. The major field in pronunciation namely phonetics and phonology is referred to as a scientific study concerned with human sounds. Phonemes, being one of the key components of pronunciation, are discussed in terms of vowels and consonants, referring to the different variations or allophones. Next, we provide some definitions of the key term in our research, vowel, showing the main differences between consonant and vowel. After that, we deal with classification of the vowel system (English, Arabic and French) taking into consideration the following criteria: tongue position, shape of the lips and vowel duration. In addition, we talked about cardinal vowel diagram which describes and contains vowel sounds from all languages and ended with further classification of vowels sound, vowel reduction and voiceless vowels.

The second chapter on other hand is devoted to accented pronunciation. It asserted clear understanding of accent through defining it exhibiting two types of accent, native and foreign ones. The sources of accented pronunciation are discussed next, then, we present contrastive analysis and error analysis look at errors and explain their sources.

The practical part of the research is directed to investigate the role of intervention in reducing accented pronunciation of vowel sounds among EFL learners. The test given to students identified the degree of accentedness in pronouncing vowel sounds. Then, an

experiment has been implemented to reduce the most accented vowels in students' productions. The results obtained from this research point out to the influence of Arabic and French accents when producing vowel sounds and that the very highly accented vowels need more treatment and practice than that provided in this study.

2. Pedagogical Recommendations

On the issue of raising the student awareness about reducing accented pronunciation of vowel sounds, some insights have been gained from this study that may be helpful for learners:

- Learners should not stick to the sound systems they learned in either Arabic or French or even their teacher's pronunciation because English has its own sound system that is based on different configurations of the tongue, lips and durations of vowel sounds
- Learners should bear in mind that speaking English out of classroom will improve their English accent and make them speak fluently.
- Phonetics should be taught more at laboratories.
- Learners should listen and imitate the accent of native speakers.
- Teachers should focus more on pronunciation.

3. Limitation of the Study

The most obvious limitations of this study relate the duration and the conditions in which the treatment took place. Students could not spare time for more sessions of instruction and practice of vowel pronunciation because they were studying for exams. Access to a laboratory that contains necessary equipment for practice is also needed for such type of studies.

4. Suggestions for Further Research

A number of suggestions for future research are possibly warranted

- Future researchers can look at reduced vowels and devoiced vowels and how they contribute to the appearance of foreign accent.
- A parallel study could be conducted on the pronunciation of consonants.
- Many other phenomena that pertain to pronunciation can be explored. These include investigating the sociolinguistic norms in producing /P/, /b/, /K/ and /g/ following an experimental design.

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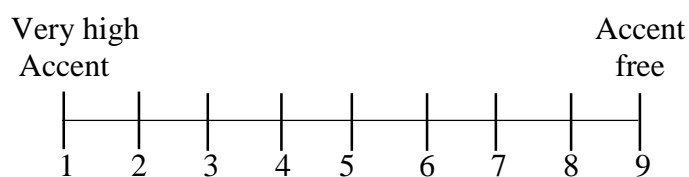
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Appendix A

Student evaluation:

Listen to the standard pronunciation and judge (evaluate) the quality of your production using the scale below.



Vowel	Self-evaluation	Tongue position	Duration	Shape of the lips
Sit				
Stop				
Color				
Pen				
And				
Flood				
Should				
Team				
Call				
Father				
Noon				
Girl				
Pain				
Scientist				
Appointment				
Old				
Announce				
Deer				
Hair				
Poor				

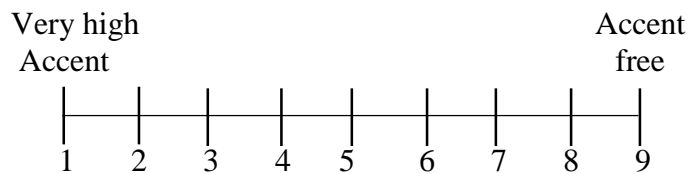
Appendix B

Teacher Evaluation Sheet

Dear teacher,

You find 12 recordings of students pronouncing English words. The latter represent short and long vowels as well as diphthongs.

Please, listen to and judge (evaluate) the quality of each student's pronunciation of the vowel in each word using the scale below.



If you perceive the student's pronunciation as accented, please tick the cell that corresponds to the nearest, most similar vowel sound in either Arabic or French. If it is more similar to English, though accented a bit, please tick English.

Thank you for your time, patience and collaboration.

Vowel Sound	Words	Accent Score	Vowel quality more similar to		
			English	Arabic	French
1) /ɪ/	Sit				
2) /ɒ/	Stop				
3) /ə/	Color				
4) /e/	Pen				
5) /æ/	And				
6) /ʌ/	Flood				
7) /ʊ/	Should				
8) /ɪ/	Team				
9) /ɔ:/	Call				
10) /ɑ:/	Father				
11) /u:/	Noon				
12) /ɜ:/	Girl				
13) /eɪ/	Pain				
14) /aɪ/	Scientist				
15) /ɔɪ/	Oppointment				
16) /əʊ/	Old				
17) /aʊ/	Announce				
18) /ɪə/	Deer				
19) /eə/	Hair				
20) /ʊə/	Poor				

Résumé

Cette étude essaie que les étudiants du département de l'anglais accentuent la prononciation de voyelle anglaise résultant de la langue maternelle et du français appris auparavant. En utilisant un design expérimental, un groupe de six étudiants en deuxième année d'anglais à l'université Mohamed Seddik Ben Yahia, Jijel, ont reçu une liste de voyelles avec un degré d'accentuation de leur prononciation. Cela a été fait par l'étudiant évaluant eux-mêmes et deux professeurs de phonétique qui ont agi en tant que juges de l'accent étranger. Plus tard, il a été expérimenté avec le son de voyelle la plus accentuée /ɒ/, /e/, /ɜ:/, /ʊə/, /aɪ/, /əʊ/, /eə/. afin de réduire l'accent par l'instruction et la pratique, classé comme une petite échelle d'intervention. L'étudiant qui a été post-testé sur les voyelles a très peu amélioré cinq voyelles de traitement. Tandis que les deux autres ont continué ou sont problématiques. D'autre part, les étudiants qui étaient post-testés sur les voyelles qui n'ont pas reçu de traitement ont montré très peu d'amélioration aussi et cinq voyelles sont restées ou sont problématiques pour les étudiants. Ceux-ci sont /ʊ/, /ɪ/, /u:/, /ɔɪ/, /aʊ/. Une pratique plus pratique et guidée est nécessaire pour que les étudiants puissent réduire l'accent dans la prononciation.

المخلص

تهتم هذه الدراسة بدراسة ما إذا كان الطالب الجامعي في كلية اللغات قسم اللغة الإنجليزية بجامعة جيجل قد قام بتأثير نطق حروف العلة الإنجليزية التي نتجت عن اللغة الأم واللغة الفرنسية التي سبق تعلمها. استعمال تصميم تجريبي، مجموعة من طلاب السنة الثانية في اللغة الإنجليزية بجامعة محمد الصديق بن يحيى. وقد أعطي الطلبة قائمة من الكلمات التي تحتوي على جميع حروف العلة الإنجليزية للنطق من أجل الحكم على درجة النطق. وقد تم ذلك من قبل الطلبة لتقييم أنفسهم ومعلمين اثنين من علم الأصوات لتقييم اللهجة بعد ذلك تم تجريبيها مع الطلبة الذين لهم لهجة عالية (/ə/, /e/, /ɜ:/, /ʊə/, /aɪ/, /əʊ/ /eə/) وذلك من أجل تقليل من اللهجة من خلال التعليم والممارسة. وقد أظهرت النتائج أن الطلاب الذين تلقوا معالجة في حروف العلة لديهم تحسن طفيف في خمسة حروف، أما الحرفين /ə/ /ʊə/ فيبقى لديهم مشكل في النطق. من جهة أخرى أظهرت النتائج أن الطلاب الذين لم يتلقوا معالجة لديهم تطور طفيف في حرفين ولكن تبقى لديهم مشاكل في نطق خمسة أحرف /ə/, /aʊ/, /ɔɪ/, /ɪ/, /u:/, /ʊ/. فيجب على الطلاب المزيد من التوجيه والممارسة لتقليل اللهجة.