



People's Democratic Republic of Algeria
Ministry of Higher Education and Scientific Research

University of Mohamed Lamine Debaghine Setif 2
Faculty of Letters and Languages
Department of English Language and Literature

Level: Licence

First Year

Semesters: First and Two

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Subject Field

Corrective and Articulatory

Phonetics

2016 - 2017



Abstract

The general outline of this pedagogical document lies on 14 lectures about English Phonetics and Phonology at both segmental and supra-segmental levels. The current document is designed for First year level English Foreign Language “EFL” students (Semesters 1 and 2). Its general aim is to enable EFL students at Setif 2 University in Algeria to describe, transcribe, produce and pronounce English language sounds correctly. Through the developments of the lectures concerning the segmental features of EFL sounds students will have a general knowledge about the following topics: English language accents, meaning of Phonetics, meanings of Phonology, macro picture about speech sound production, micro picture about speech sound production, classification of speech sounds, description of speech sounds, production, classification and description of consonants, production, classification and description of vowels. Furthermore, through the developments of the lectures concerning the supra-segmental features of English sounds students will have also a general knowledge about the following topics: phonemic versus phonetic transcription, sound symbols of English language, English syllable structure, consonants clusters in initial and final positions, stress placements in English syllables, stress rules in English syllables and words, and weak forms versus strong forms. The content of the document is organized upon three main axes which are as follows: the theoretical lectures, the practical materials “exercises”, and the evaluation section. So the whole content turns around twelve chapters in which each one is concerned with one particular theme and topics. Each theme in return is composed of two sections “theoretical lecture and practical material”. Moreover, the multiple lectures are arranged according to specific order starting from early stages of speech sounds production into the most advanced stages. Finally, it is worth to mention, that the entire content is supported with some illustrating sources and materials such as diagrams for the vocal tract, diagrams of speech mechanisms, figures for places of articulation, charts about vowels positions, tables for consonants, figures for vowels. These illustrations are sound images for each idea and topic in each lecture. All in all, the current document is an attempt to compile a number of lectures and tests in appropriate and structured method to help students pronounce English sounds correctly either inside the classroom setting or in real life situations.

Key Words

Phonetics, Phonology, English Pronunciation System, Segmental Features of Pronunciation, Supra-segmental Features of Pronunciation, Speech Sounds Production, Speech Sounds Classification, Speech Sounds Description



Résumé

Le plan général de cette édition pédagogique consacré à la phonétique de langue anglaise. Ce document est planifié pour les étudiants de première année anglais (le premier semestre et le deuxième). L'objectif principal de ce document consiste à acquérir chez les étudiants de l'université Sétif 2 la description et la prononciation correcte de l'Anglais. A partir des conférences relatives au premier semestre, l'étudiant pourra acquérir des compétences générales relatives aux sujets suivants : les dialectes de la langue anglaise, les significations des phonèmes, les significations de la phonologie, l'image globale concernant la production des sons de la parole, classification des sons de la parole, description des sons de la parole, production et description des voyelles et des consonnes. EN outre, à travers des conférences données aux premier et second semestres, les étudiants auront des connaissances et compétences à propos : des symboles phonétique et la transcription phonétique en langue anglaise, la structure de segment phonique en Anglais, les constitutions des consonnes au début de segment phonique, positionnement et les règles pour mettre les accents dans un segment phonique. Le contenu de l'édition comprend trois axes et qui sont : les conférences théoriques, les travaux dirigés et pratiques et la partie d'évaluation. A partir de là, le contenu général de ce document est axé sur douze conférences. Chaque conférence traite un sujet unique et chaque sujet comprend le volet théorique et l'autre pratique. Ajoutant à cela, est que l'ensemble des conférences sont classées suivant un ordre qui convient aux étapes préliminaires pour la production des sons de la parole jusqu'aux étapes les plus avancées. Enfin, il y a lieu de rappeler que le contenu du document est annexé par des matières illustratives tels que : tableaux, schéma illustratif, les photos pour illustrer toute les parties de la conférence. Le document actuel c'est une tentative de rassembler un nombre de conférence et des contrôles d'une façons méthodique en vue d'aider les étudiants à assimiler et prononcer les sons en langue anglaise correctement, soit lors de l'apprentissage en classe, soit dans un contexte de la vie réelle, hors de la classe.

Mots clés

Phonétique – phonologie - système phonétique en Anglais - caractéristiques de structure et l'unité phonique - caractéristiques de segment phonique – production de sons de la parole – Classification des sons de la parole – description des sons de la parole.

الملخص

يكمن المخطط العام لهذه المطبوعة البيداغوجية حول صوتيات اللغة الإنجليزية. لقد تم تصميم هذه الوثيقة لطلاب السنة الأولى لغة انجليزية (السداسي الأول والثاني). يتمثل الهدف العام منها في تمكين طلبة جامعة سطيف 2 على وصف و نطق أصوات اللغة الإنجليزية نطقا صحيحا وسليما. من خلال عرض المحاضرات المتعلقة بالسداسي الأول سوف يتمكن الطلبة من إكساب مهارات عامة متعلقة بالمواضيع التالية: لهجات اللغة الإنجليزية، معاني الصوتيات، معاني علم الأصوات، الصورة الكلية عن إنتاج أصوات الكلام، تصنيف أصوات الكلام، وصف أصوات الكلام، إنتاج ووصف الأصوات الساكنة والمتحركة. إضافة إلى ذلك، فمن خلال عرض محاضرات السداسي الثاني فإن الطلبة سوف تكون لديهم معارف ومهارات حول: الرموز الصوتية والكتابية للغة الإنجليزية، بنية المقطع الصوتي للغة الإنجليزية، تركيبات الحروف الساكنة في بداية ونهاية المقطع الصوتي، مواضع وقواعد وضع الشدة في المقطع الصوتي. لقد تم تنظيم محتوى هذه المطبوعة على ثلاثة محاور أساسية وهي كالتالي: المحاضرات النظرية، الأعمال الموجهة والتطبيقية وقسم التقييم. وعلى هذا الأساس فإن المحتوى العام لهذه الوثيقة يتمحور حول اثنا عشرة محاضرة من حيث كل محاضرة تهتم بموضوع واحد وكل موضوع يتألف من جانب نظري وتطبيقي. إضافة إلى هذا، فإن مجموع المحاضرات تم ترتيبها وفق نسق يتماشى مع المراحل الأولية لإنتاج أصوات الكلام إلى مراحل أكثر تقدما. أخيرا فمن الجدير بالذكر بأن محتوى الوثيقة قد تم تدعيمه ببعض المواد التوضيحية مثل: الجداول، الرسوم البيانية، والصور لتوضيح كل جزء من المحاضرة. الوثيقة الحالية هي محاولة لتجميع عدد من المحاضرات، الأعمال الموجهة والاختبارات بطريقة ممنهجة قصد مساعدة الطلاب على استيعاب ونطق أصوات اللغة الإنجليزية نطقا سليما سواء أثناء التمدرس داخل القسم أو في مواقف الحياة الحقيقية خارج القسم.

الكلمات المفتاحية

الصوتيات - علم الأصوات - نظام الصوتيات للغة الإنجليزية - خصائص بنية ووحدة الصوت - خصائص المقطع الصوتي - إنتاج أصوات الكلام - تصنيف أصوات الكلام - وصف أصوات الكلام



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List of Abbreviations

BBC: Broadcasting British Corporation

EFL: English Foreign Language

FL: First Language

SL: Second Language

FL: Foreign Language

IPA: International Phonetic Association

N: Number

PH: Phonetics

POA: Place of Articulation

RP: Received Pronunciation

SE: Standard English



Preface

This set of basic materials is designed to be used as handouts accompanying introductory courses in EFL Phonetics and Phonology, particularly for First Year level “Semesters 1 and 2” EFL graduate students at Mohamed Lamine Debaghine Setif 2 University. This document, specifically, has come into existence in the light of the needs for an introductory reference that best suits the level and needs of the target students who are exposed to this module for the first time. Of course, this document could potentially be adapted for use in parallel with other documents such as, books, references and textbooks of the same area of interest. In fact, the materials included here have been developed by myself over a number of four years of professional experience in teaching English Phonetics and Phonology at Setif 2 University, in conjunction with other courses, articles, books, references, and textbooks which are all acknowledged and cited. In this respect, this document has come to its current state through compiling a number of dispersed files and lectures into this one exhaustive document in which all its materials are intended primarily for educational and pedagogical use.

This document is designed to focus on the basics of English Phonetics and Phonology. Bearing in mind that Phonetics and Phonology are so wide fields of science of language, I have restricted this document to the Articulatory Phonetics and Functional Phonetics. This document, in Twelve Chapters “Lectures”, has discussed the following main topics, introduction into English language, introduction in Phonetics and Phonology, macro process of speech sounds production, micro process of speech sounds production, criteria of speech sounds classification, production, classification and description of consonants, production, classification and description of vowels, English symbols and transcription, English syllables structure, English consonants clusters, stress placement and finally weak forms versus strong forms. To conclude this idea, the first six lectures are about segmental features of EFL pronunciation which are designed for the First Semester and the last six lectures are about the supra-segmental features of EFL pronunciation which are intended for the Second Semester. Almost after every theoretical lecture, a number of study questions and exercises appear. There is also a brief introduction at the beginning of every lecture as well as a summary after every lecture. The document has also integrated a number of diagrams, figures, tables and charts to illustrate and clarify particular topics and sections which need illustrations. It is worth to mention that this document included at the end of each Semester’s Syllabus a section for final recapitulation, assessment and evaluation. The latter section embraces a number of final conclusions, macro study questions, quizzes, exams and make up exams.



The current document includes a number of techniques that help in a way or another to make this material feasible and practical. Some of them are as follows: the general outline of the document, a table of contents, a list of tables, list of figures, a list of abbreviations, general aims of the document, procedures and activities of the document. More specifically, it includes at the beginning of each chapter a brief description of the lecture and a number of key objectives of every stage in the lecture.

To sum up, the author of the document hopes through it to be helpful to EFL first year students at the Department of English Language and Literature at Setif 2 University.

General Aims of the Document

The main aim of this document is to provide EFL students with a basic knowledge of the sound system of English language in order to make them able to pronounce English sounds and words correctly. Furthermore, the systematic incorporation of the lectures from basic matters into advanced ones will help students, at the end, to be understood while dealing with the productive language skills “speaking and writing” and to understand while dealing with the receptive language skills “listening and reading”. So the lectures aim to equip students with the necessary knowledge and skills which make them be able to use and to address issues through the medium of EFL pronunciation in areas related to the four language skills and functions of language. To conclude, the current document will help students to achieve the following general aims:

1. To get a general overview of how Phonetics and Phonology as a science of language function in terms of fields of interest.
2. To be familiar with the vocal tract and gain an overview of the process of speech sounds production.
3. To be able to describe and classify speech sounds.
4. To be able to describe speech sounds either consonants or vowels.
5. To gain a thorough understanding of the possible combinations of English sounds.
6. To acquire practical knowledge of the use of stress and weak form.
7. To understand the importance of each lecture, topic and task in the evaluation process as well as in the process of correct pronunciation of English sounds and words.
8. To raise learners’ awareness about the strong interconnection between the lectures.



Procedures and Activities

In order to ensure a better teaching and learning environment of English Phonetics and Phonology for first year EFL students “ Semester 1 and 2”, the current document set a number of related, working procedures and activities for each chapter, lecture, topic, section, and activity. The common procedures followed in each lecture “session” are as follows:

- Devote the first minutes “up to the five minutes are usually sufficient” for a brief revision about the previous lecture in order to make the relationship between the previous topic and the subsequent one clearer.
- Give a hard copy of the handout of each chapter to each student. Of course, each printed handout consists of both the theoretical lecture in the first section and a number of practical activities and materials in the second section.
- Discuss the general outline of the lecture in relationship with the topic title, the main points of the lecture, procedures, and the terminal and secondary objectives of every section of the lecture.
- Interact with the class as a whole about the handout’s content through discussion, examples, illustrations, and study questions.
- Re-explain briefly the lecture and then explain the instructions of each exercise and do at least one sample answer and then allow some few minutes to students to complete the exercise. Students should talk about their answers to a partner or other students in a small group. It is very important to remember that the practical sessions must be pair or group work and students-students or teacher-students interaction must be encouraged.
- Finally, discuss the keys to the exercises with the class as a whole. Different and similar answers of the students must be highlighted and discussed.
- Extra related work must be assigned to the students outside classroom setting in the form of home work, field work, role play, projects workshops and any available related material. This procedure help the teacher to check whether each key term of the lecture have been understood and help the students to invest and re-invest what they have learned in the classroom in their real-life situations.
- These procedures are repeated in each session either exactly or with very little modifications.
- Students and teacher are not obliged to discuss all the exercises in each chapter. It is up to them to select some of them for classroom discussion and keep others outside classroom to be further discussed.



Chapter 1

Introduction into English Language

Description	The lecture aims at introducing first year university graduate students to a kind of knowledge and culture about English language in relationship with its definition, varieties, accents, and status. Through this chapter students will become familiar with which English and accent they are dealing with. The emphasis is put on the right decision concerning the accent since the whole document is about English Articulatory Phonetic and Phonology. Key content of the chapter includes two sections; the first one deals with the related theoretical matters while the second one presents the likely practical materials and exercises.
Objectives	On successful completion of the lecture, students should be able, among other things, to; <ol style="list-style-type: none">1. Be familiar the best working definition of English Language in terms of role and accent.2. Be familiar with the multiple varieties and accents of English language.3. Learn about the different status, and assigned role to English language.4. Place students rightfully in the right learning environment. More specifically, to make them have the right decision about the accent of interest.5. Explore and pursue all the subsequent chapters on the basis of what they have learned and decided in this chapter.

Section A: Lecture

Introduction

This lecture is about some knowledge about English language in relationship with its definition, varieties, accents and status. It is meant through this introductory lecture to make students able to decide about the multiple available choices of English pronunciation features. Since there are plenty of accents and status so students must know about them and be conscious of what pronunciation features they study.



1. 1. Definition of English Language

English language is a special language due to the fact that it is used by people of all over the world as a first, second, and foreign language and it is also influenced by people all over the world. According to (Wierzbicka, 2006: 3), “English is the world’s most important language”. It is certainly the world’s most widely used language. As Crystal (2003), notes that English is spoken “by a large and ever- increasing number of people... It has official status in over 60 countries... English is also the language of international air traffic control and the chief language of world publishing, science, and technology”.

1. 2. Varieties “Accent” of English

Varieties of English refer to the differences in the systems of the language that comes as a result of the social, historical, geographical, and other contexts which bring changes. In this respect, a language variety is that system of linguistic expression, whose use is governed by regional or social distinctive features and manifested by particular vocabulary, pronunciation and grammatical structures (Crystal, 2008). In fact, there are many varieties of English, and each variety is linked with a particular society and its distinctive way of living and thinking. The following section provides a brief description of the varieties and accents of English language all over the world.

1. 2. 1. Standard English “SE”

Internationally, there are many varieties and accents of English as it is spoken worldwide as a first, second or foreign language. As a first language, it is spoken in the United States, United Kingdom and in many countries in the world. Today all English speaking countries have what is called their own national variety or accent of English. As a second or foreign language,

This state of English language is named under the term “Standard English” “SE”. The latter term refers to the norms of British English. Trudgill (1999) calls it as the most important dialect in the English speaking world from a social, cultural and intellectual point of view. Based on this definition, it seems that SE is not regionally based, but instead, it is a purely social dialect. It is that variety “accent” associated with high status, promoted by the educational institutions, used officially in the government agents, law court, and mass media. Furthermore, it is used in printed materials and formal speech. The linguistic features of the SE account more on grammar and vocabulary considerations at the expense of pronunciation. Consequently, SE is spoken in



various accents according to the given region, context, social group and ethnicity of its speakers. The accent which is most often associated with SE is known as Received Pronunciation “RP”.

1. 2. 2. Received Pronunciation “RP”

The term Received Pronunciation “RP” is very important when the discussion is about English Phonetics and Phonology. The term means the pronunciation features of English that are associated with the educated, typically the middle and upper classes of the society. It has connotations of prestige and authority and as an indicator of formal speech. The term RP also includes the Queen’s of English, public school accent, Oxford English, BBC English, the Accent of the Court, and so on. So all the terms mentioned here account more on the importance of historical and social aspects of RP.

The historical origins of SE can be traced back to the 16th century (Fisher, 1993) when prestige and authority became attached to one accent, particularly the accent used by the court and the central administration in London. Being the language and accent used by the educated upper social class people, this pronunciation was perceived as the correct and accepted version, whereas other accents were treated as corrupted forms of the language norms. During the 19th there was a flowing of the prestige public school and this contributed greatly to the growing importance placed upon accent. At the same time, the Royal Family and the upper class members attended boarding school and graduated from them. As a result, they gained a unique status and “became the kind of pronunciation passed down from an educated generation to the next” (Crystal, 2004: 3). The term RP was proposed in 1869 by the Linguist A. J. Ellis and was adopted largely since the publication of the second edition of the English Pronunciation Dictionary in 1924 by the Phonetician D, Jones.

RP received its most accepted status in 1922 when it was adopted as the British Broadcasting Cooperation. The latter body employed only broadcasters who were RP speakers. Roach (2009) claimed that the BBC is still respected by many people in Britain and abroad as a model of good English and can be sill classed as a BBC English. Up to day, RP is still the language of the educated people and as the most widely spoken accent in the world. Furthermore, RP is also a concept in Phonetics. Consequently, Phonemic Transcriptions in dictionaries are based on this particular accent, and in contrastive studies with other languages and varieties this accent is widely used as a reference for comparison. More specifically, it serves as a SE for EFL learners in many parts of the world including Algeria.



1. 2. 3. Cockney and Estuary English

Cockney is a British accent, which originated in the East End of London. It is often associated with London's working class, and originally attributed to those who were "born with the sound of bow bells" (Wells, 1982). For a given period of time, the Cockney Accent was scorned and regarded as inferior. However, today it is an accent widely used among middle class Londoners. This accent has plenty of special pronunciation features such as glottal stop, fronting /v/ and /f/. (McAthur, 2005)

Estuary English best reflects the predominant modern accent in London. This accent seems to comprise both the prestige of RP and the back to modern features of working class Cockney. In other words, it is the accent between Cockney and the Queen. They claimed again that this accent is a new sort of SE, which has replaced the RP. Roach (2009) claimed that Estuary Accent is not really an accent, but a modern deviation from RP used in the London area.

1. 2. 4. British English and American English

The influence of British English and American English can not be ignored in any study of the language. The past seems to lend British English the absolute superiority. English originates from England and the language developed into a language of the world through dispersals from England to America and Asia and then to Australia and Africa, and finally it became international. Meanwhile, the rise of American economy, technology and politics is making English more and more American. So the economic power of US has ensured the continuing influence of English throughout the twentieth century and beyond". Therefore, the economic and political power of US and the colonial past of Britain are the direct causes of the globalization of English (Jiang, 2010:29).

1. 2. 5. Global English

English language has become an International Language because of many reasons such as it is widely used by many people all over the world. More specifically; it has developed into a special means of global communication embracing access to every new matter in the world. Crystal (2003) defines it as a language that achieved a Global status when it is recognized throughout the world. Thanks to this status it has plenty of terms such as the Global English or World English and it is used as a Lingua Franca or International Language. The term Global English means all the varieties and accents of English stemmed from it in different countries of the world, especially those that emerged in countries which were colonized by the UK.



Consequently, this language is spoken in all parts of the world taking different status such as the first language, second language, and foreign language. Thanks to all these matters about English language, the action of teaching and learning it requires to direct EFL students in the direction of near-native pronunciation throughout the process of interactions.

1. 2. 6. World Englishes

Because of the globalization nature of English language and its wide spread and use all over the world, so all the people who use it as their first language, second language, or foreign language are owners of the language. From its expansion throughout the world came its diversification and so many varieties and accents of English are now used in the world such as Chinese English, Japanese English, Nigerian English, Singapore English, and Indian English.

The term World Englishes comes to make a distinction between Old English and New English. Kachru's (1980s), concept of three circles continues to be true today that the Inner Circle is still providing the norms of the Old Englishes such as British English and American English, the Outer Circle represents New Englishes such as Chinese English, Japanese English, Nigerian English, Singapore English, and Indian English, and Expanding Circle represents countries where English is used as a Lingua Franca.

1. 2. 7. English as a Lingua Franca

It is highlighted in the previous section that English language enjoys a variety of status in all over the world. Furthermore, it is assumed that it is also the target language of many speakers and countries and the non-native speakers are becoming more and more over time. The latter justifies that English language is used as a Lingua Franca.

In its purest sense, English as a Lingua Franca refers to the function of language and purely how it is used only among non-native speakers. According to (Jiang, 2010:27), "English as a Lingua Franca often means English being used among non-native English speakers from the expending Circle, simply because these speakers exist in large numbers than English speakers in either of the other two contexts". But she further explains that speakers in the Outer or Inner Circle are not excluded from that definition: it can include all English users. In this line of definition, (Jiang, 2010:27), strongly supports the view that English as a LF refers to all Englishes which are used as means of communication among people who do not have any native language in common. So it may involve all the Circles. In addition, one may safely assume that the majority of interactions where English take place in the absence of native speakers, it shows a tendency towards further de-owing from its native speakers towards more adherences to

foreigners through hybridization, acculturation, and nativization processes “the aspects of international non-native English interactions have come to be called “Lingua Franca Communication” (Bublitz, Juker, and Schneider, 2010:363).

This means that English language has largely outgrown the norms of the Kachrurian’s inner circle (Kachru, 1992), and justifies explicitly that English reaches the planetary level which has not ever achieved by another language except English because of its multiplicity of voices (Selinker, 1992: 232).

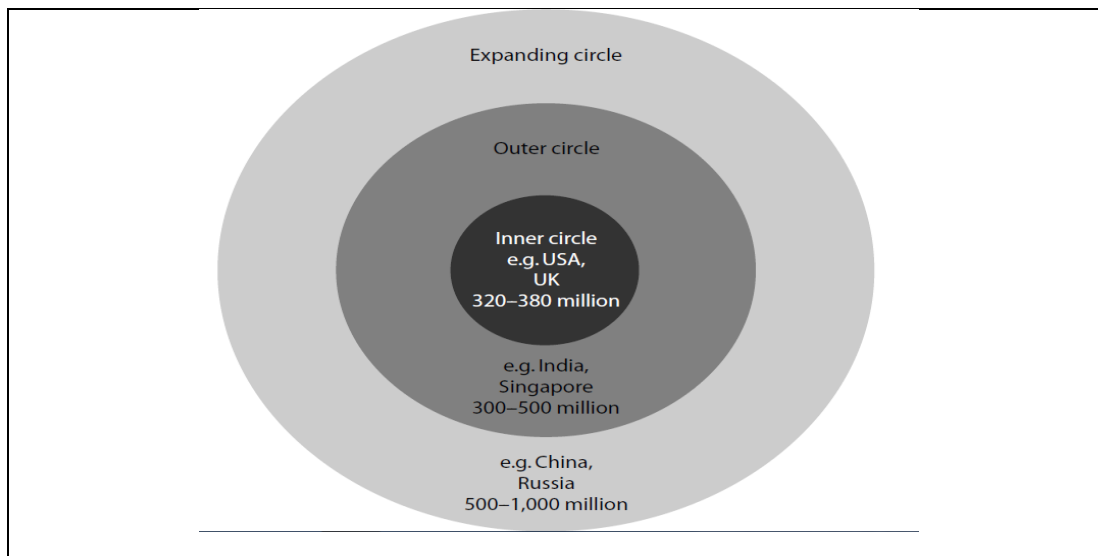


Figure 1-1: The Three Circles of English Language “Crystal, 2003: 60”

1. 2. 8. English as an International Language

There is no disagreement about the fact of English as the most widespread language in the present day “if English is not your mother tongue, you may still have mixed feelings about it, you may be strongly motivated to learn it, because you know it will put you in touch with more people than any other language” (Crystal, 2003:3). It seems clear that English plays an important role all over the world and it is used extremely by more people than any other language. This justifies that English language develops a special role of use and existence in every country all over the planet.

If we look to the roles assigned to English, we would find that it has special roles in all the countries of the world and each role has many facets according to the country per se and to the ways it adopts English and internalize it within its life system. According to Crystal (2003:3), “for the sake of achieving an international status, a language has to be taken up by other countries around the world and they must decide to give it a special place within their communities, even with the fewest or total absence of mother tongue speakers”.



Based on the previous criteria developed by Crystal about assigning a special role for English in any country, we can term these different roles by the following three important terms; First Language, Second Language, Foreign Language.

1. 3. English Language Status

1. 3. 1. English as a First Language “FL”

The role of English as a first language is most evident in countries where large numbers of the people speak the language as a mother tongue. This would mean the USA, Canada, Britain, Ireland, Australia, New Zealand, South Africa, several Caribbean countries, and a sprinkling of other territories (Crystal, 2003: 4-5). First Language (FL) refers also to the native Language that a child learns directly from his mother and family from birth. It is also known as the primary language or the mother tongue (Gass and Selinker, 2008:7).

1. 3. 2. English as a Second Language “SL”

It is also referred to as Second Language Acquisition. The term refers to the learning of another language after the native language has been acquired. In general, it means the learning of non-native language after the learning of the native language regardless of whether it is the second, third, fourth, or fifth language. By the term of Second Language Acquisition, it is meant both the learning of a second language in a classroom situation as well as in more natural exposure situation (Gass and Selinker, 2007:7) so second language can be viewed as a learned and acquired language. The role of second language as an official language in a particular country is when it is used as a medium of communication in domains such as government, courts, media, and the educational system. In addition, it is seen as a compliment to a person's mother tongue. English language has the status of second language in over than 70 countries, such as China, India, Singapore, etc.

1. 3. 3. English as a Foreign Language “FL”

Foreign Language “FL” learning refers to the learning of a non-native language in the environment of one's native language (e.g., Arabic speakers learn English in Algeria or Tamazight speakers learn French in Algeria). FL learning is most commonly done with the context of the classroom (Gass & Selinker, 2008: 7).

English is now the language most widely taught as a FL in over 100 countries such as China, Germany, Egypt and Algeria. Moreover, in most of these countries, English is emerging



as the first and chief FL to be learned and taught often by displacing another language in the process (Crystal, 2003: 5). In reflecting on the previous status of EL, it is important to note that each status is assigned according to the special role played through the target language in any given country.

Summary

English language is a very special language which is used all over the world including Algeria. English language is a very special language through its multiple roles, status, varieties voices and accents. So thanks to this complexity it is very important for Algerian students to have a kind of knowledge and culture about it in order to engage successfully in interactions through the medium of English.



Section B: Practice: Exercises

Study Questions: discuss the following questions briefly.

1. What is meant by the term “English language”?
2. What are the prominent varieties “accents” of English language?
3. What are the norms of the Global language?
4. What are the qualities of the Lingua Franca language?
5. What are the relevant information about the term International language?
6. What are the relevant information about the World Englishes?
7. What are the relevant information about the Global Language?
8. What are the main the differences between British and American English?
9. What are the roots of Received Pronunciation?
10. What is the difference between RP, Cockney and Estuary English?
11. What is the accent do you study in your country? Say how is it used?

Exercise 1-1

Indicate whether the following statements are TRUE or FALSE, if false; say how the correct statement should be.

1. English language has many varieties as well as accents.
2. Received Pronunciation is the accent widely used by the middle working class in London.....
3. The term World Englishes does not come to make a distinction between Old English and New English
4. Cockney accent is about those the pronunciation features recognized by the upper class society, British Broadcasting channels and other official institutions.....
5. Differences about British English and American English is related only to the forms of language in grammar, pronunciation and syntax and does not represent any idea of the questions of comprehension and mutual understanding
6. Because of the globalization nature, English language is less widely spread and used all over the world and is very limited to the countries where it is spoken as a first language...
7. The purest senses of English language as a Lingua Franca refers to the function of language and purely how it is used only among non-native speakers



8. Global English, International Language, World English, and Lingua Franca are all different terms of the same coin.
9. There is a heavy disagreement about the fact of English as the most widespread language in the present day.....
10. British and American English represent similar forms of language in all aspects.....
11. The over spread of English language make it enjoys plenty of status and roles all over the word: as a first language, as a second language, and as a foreign language
12. In its purest sense, English as an international language refers to the function of language and purely how it is used only among non-native speakers.....
13. The role of English as a first language is most evident in countries where all the number of the people of the country speak it as a mother tongue.....
14. The term “foreign language” refers to the learning of another language after the native language has been learned. In general, it means the learning of non-native language after the learning of the native language regardless of whether it is the second, third, fourth, or fifth language.....
15. English language is adopted in Algeria as a second language in parallel with French language.....
16. The term Second Language learning refers to the learning of a non-native language in the environment of one’s native language.....
17. The common idea between first, second, and foreign language is learning.....

Exercise 1-2

Explain briefly the meaning of each term.

1. Standard English:
2. Received Pronunciation:
3. Foreign language.....
4. Accent:
5. First language.....
6. Global English:
7. Cockney English:
8. Lingua Franca:
9. Second language.....
10. International language.....
11. World Englishes.....

Exercise 1-3

Match in the table below the area of interest in relationship with its corresponding name.

Area of Interest	Correspondent Name
Upper class English	Lingua Franca
The norms agreed upon English language	Received Pronunciation
The language which has achieved a global status	Foreign language
The act of speaking a language as a native language	World Englishes
The act of learning of another language after the native language has been learned.	International language
British accent which originated in the East End of London	Estuary English
Language used among speakers of different languages	Cockney English
Mixture of upper and middle class English	First language
The globalization nature of English language	Standard English
The English language has special different roles in all the countries of the world	Second language
the act of learning of a non-native language in the environment of one's native language	Global English

Chapter 2

Introduction into English Phonetics and Phonology

Description	<p>The second lecture aims at introducing first year university graduate students to a kind of prior knowledge and culture about key concepts of Phonetics and Phonology. Through the developments of this chapter students will become familiar with the meanings of Phonetics, Phonology, Branches of Phonetics, Sections of Phonetics, and the relationship between Phonetics and Phonology in terms of differences and similarities. The emphasis is also put on the right decision concerning the domain of knowledge related to either phonetic or phonology since they are wide field of science “Articulatory Phonetics and Functional Phonetics”. Key content of the chapter includes two sections; the first one deals with the theoretical matters while the second one presents the more likely practical materials and exercises.</p>
Objectives	<p>On successful completion of the lecture, students should be able, among other things, to;</p> <ol style="list-style-type: none"> 1. Get an overview of the concept of Phonetics. 2. Be familiar with the different branches and sections of Phonetics, 3. Learn about the meanings and domain of Phonology. 4. Learn more about the relationship between Phonetics and Phonology. 5. Place students in the right learning environment by making them have the right decision about the concept, branch, and section of interest to them. 5. Know well how to explore and pursue all the subsequent chapters on the basis of what they have learned and decided in this chapter. in short, be able to know that they will deal with “Articulatory Phonetics and Functional Phonetics” 6. Understand the importance of the introduction into Phonetics and Phonology in the evaluation process. 7. Understand the importance of the introduction into Phonetics and Phonology in the process of correct pronunciation of English words correctly. 8. Raise learners’ awareness about this introductory lecture in relationship with the subsequent lectures.



Section A: Lecture

Introduction

The study of English Phonetics and Phonology is an imperative section of the process of English language teaching and learning as a foreign language. In order to best have a smooth entry into the realm of English pronunciation system it seems important to consider the issue of English Phonetics and Phonology. So the action of better placing all the subsequent elements in the coming chapters depends largely on students' knowledge about the meanings of Phonetics, Phonology, branches and sections of Phonetics. All of them are substantial elements to better understand how English language sounds are processed from early stages to the most advanced ones.

2. 1. Phonetics: Language as Available Sound

2. 1. 1. Definition

Phonetics is a branch of linguistics, like the other branches, such as lexicology and grammar. Lexicology studies the vocabulary of language, the origin and development of words, their meaning and word-building. Grammar (divided into morphology and syntax) studies the regularities and modifications which may take place in words and in combinations in words into sentences.

The term Phonetics comes from the Greek word (phone) meaning sound or voice. It is rather difficult to provide an exact and precise definition of the term. The Oldest and the most concise definition is that Phonetics is a science of speech. This definition is rather loose partly because it has very little consideration of the meaningful and functional aspects of speech sounds, partly because speech sounds are also studied in acoustics and physiology.

2. 1. 2. The Relationship between Phonetics and other Aspects of Language

Phonetics is also concerned with the relation between written and spoken language and is connected with other linguistic discipline such as grammar, lexicology and others. This relationship can be seen as follows:

- Phonetics is connected with grammar through the systems of rules of reading, which make it possible to pronounce correctly the past tense forms of regular verbs, the singular and plural forms of nouns, and so on.



- The differences in pronunciation in morphemes “**ed**” after voiced and voiceless consonants in past forms of verbs.
- The differences in pronunciation of root consonants observed in singular and plural forms of nouns.
- The vowel interchanges help to distinguish the singular and plural forms of nouns and the tense forms of irregular verbs.
- Phonetics is also concerned with lexicology, since the presence of stress in the right place helps to distinguish nouns from adjectives and from verbs.

2. 1. 3. Branches of Phonetics

As the morphology of the term “Phonetics” tells, Phonetics means the study of **phones**, i. e., the study of speech sounds. These sounds can be studied in many ways, each of which will be explained below. In fact, Phonetics has three main branches: Articulatory Phonetics, Acoustic Phonetics and Auditory Phonetics.

2. 1. 3. 1. Articulatory Phonetics

How do we produce speech sounds? Where are they produced? What body organs take part in the process of speech sounds production? Of course, when ever the term sound is mentioned, it refers to the speech sounds or language sounds. Such multiple questions are dealt with by a branch of Phonetics called “Articulatory Phonetics”. The latter branch is concerned with the study, description, and classification of speech sounds as regard to their production properties by the human beings speech apparatus” (Vassilyev, 1970: 10). It is sometimes called the Physiological Phonetics. It is described as the most productive, developed, and oldest branch of Phonetics. As its name tells, every speech sound is a complex of definite, finally coordinated and differentiated movements and positions of the speech organs. By and large, Algerian students have to deal with this branch of Phonetics.

2. 1. 3. 2. Acoustic Phonetics

Sounds can be studied in another way in a Branch of Phonetics called Physical or Acoustic Phonetics. This Branch of science studies the Physical features of the speech sounds. It is concerned with the physics of the air vibrating between the mouth of the speaker and the ear of the hearer and producing sound waves of different characters and acoustic effects or different speech sounds. Vassilyev (1970:12) defined sound as “from acoustic point of view, a speech



sound, like any other sound in nature, is a physical phenomenon, a kind of moving matter and energy”.

Acoustic Phonetics studies areas like sound frequency, cycle width, amplitude, sound spectrograms, regular frequencies, irregular frequencies, and musical and non-musical qualities of speech sounds.

2. 1. 3. 3. Auditory Phonetics

Once the speech sound reaches the hearer’s ears, it becomes the subject of what is called Auditory Phonetics. The latter term is the Branch of Phonetics in which the main concern is the investigation of the hearing process. At present it mainly deals with the brain activity rather than with the physiological process of signal delivery and transfer through the nervous system of the hearer. Its interest lies more on the sphere of experimental psychology not linguistics. But in its close connection between the Articulatory and Auditory aspects of speech sounds, the term has changed to cover also the physiological aspects. When our speech organs work, we at the same time hear what we speak, thus receiving feedback from our hearing system. Step by step, through accumulation of instrumental data, Auditory Phonetics finds its place in the sphere of Phonetic science. To conclude, this branch studies mainly the reception of speech waves, their analysis, and finally their perception by the hearing center in the human mind.

2. 1. 4. Sections or “Segments” of Phonetics

Besides branches of Phonetics, it is also divided into several sections. The main sections or segments are as follows:

2. 1. 4. 1. General Phonetics

This Section of Phonetics is concerned with study of all the sound-producing possibilities of human speech organs in various languages o the world. So it studies speech sounds in general, without focusing on one specific language. If the study focuses on a certain language, the science is called **Special** Phonetics such as English Phonetics or Arabic Phonetics. General Phonetics studies as an example the laws that govern the changes which speech sounds undergo in the flow of speech and tries to find out the types of such changes in various languages.

2. 1. 4. 2. Historical Phonetics

This Section of Phonetics is concerned with tracing and establishing the successive changes in the phonetic system of a given language or a language family at different stages of its



historical development. It helps to understand how this modern phonetic system came to be and what changes may take place in the future. So it looks back and sees how speech sounds developed along centuries up until now. They are interested in the history and developments of sounds across long periods of time. This kind of study is also called **Developmental** Phonetics

2. 1. 4. 3. Comparative Phonetics

This Section of Phonetics is concerned with the correlation between the phonetic systems of two or more languages, especially kindred ones. It seeks to find out the correspondences and differences between the sounds of kindred languages. For example, it is this section of Phonetics which tells us how languages are similar or different in a particular aspect. Such study is also called **Contrastive** Phonetics. It is an interesting field to those who find a special challenge in the contrastive analysis of languages.

2. 1. 4. 4. Theoretical Phonetics

This Section of Phonetics is concerned with the theoretical aspects and problems of a particular language. It provides the people of interest with the latest theories and view on many phonetic problems. It describes some moot points in particular language. So it seeks to establish standards to how people should produce the sounds of their language. They are perfectionists in a way: they want to see everything said and done in an ideal manner. Such study is also called **Standard** or **Prescriptive** phonetics

2. 1. 4. 5. Experimental Phonetics

This Section of Phonetics is concerned with various phonetic phenomena inside the laboratory conditions by means of all sorts of devices. The main concern of it is to rely on electronic equipments to discover the properties of speech sounds. So it uses machines to record tongue, velum and lip movements upon articulating a certain speech sound. It uses also instrument to record the movement of the vocal folds. It is also called **Laboratory**, **Machine**, or **Mechanical** Phonetics. It has gained far-reaching results in the last decades in parallel with the developments of technology.

2. 1. 4. 6. Descriptive Phonetics

This Section of Phonetics is in contrast with Theoretical Phonetics, we have what is called Descriptive Phonetics. This latter section is concerned with speech sound as they are, not as they ought to. This Section of Phonetics is not bothered by how sounds of a certain language should



be articulated; its focus is on how these sounds are actually performed by people at a certain place and at a certain time.

2. 1. 4. 7. Sentential Phonetics

This Section of Phonetics is concerned with producing speech sounds in a sequence. When you say a speech sound alone, you say it in a certain way. However, when the same sound is produced with other sounds during a normal conversation, this sound often shows some changes. A short sound in isolation may become longer or shorter in a sentence. A voiceless one may become voiced, and vice versa. What happens to sounds when used in sentences? This kind of subject is discussed in a section of phonetics called **Sentence** Phonetics or **Sentential** Phonetics.

2. 2. Phonology: Language as Organized Sound

2. 2. 1. Definition

As described before, Phonetics gives an account of the total recourses of the sound available to the human beings who which to communicate by speech sounds. In its essence it is thus independent of particular languages. Phonology gives an account of, among other things, the specific choices made by a particular speaker within this range of possibilities. In the first instance, therefore, phonology is concerned with a single language, or, to be more precise, a single variety of a language. Theories related to phonology can be built upon the facts established for particular languages. In other word, it means the organization of speech sounds (between or within languages, between or within words) in language. The phonological system of a language includes:

- An inventory of sounds and their feature, and
- Rules which specify how sounds interact with each other in a particular language.

So there are thus many fundamental differences between the two disciplines. So Phonetics, in principle if not in fact, thus concerned about all observable; the same is however, is not true for phonology. That is to say, phonetics is concerned with technical apparatus of the ways of speech sounds production. This fact is not quite the same with phonology. The latter concept's analysis does not produce new concrete facts which must be acknowledged by everybody in the same way as phonetics. So the phonological schools differ chiefly in having different general views due to the general historical and philosophical context in which they are placed.



2. 2. 3. The Relationship between Phonetics and Phonology

The relationship between Phonetics and Phonology is very intricate and intimate. It can be understood by saying that Phonetics is “the science which studies the characteristics of human sound making, especially those sounds used in speech, and provides methods for their production, description, classification, and transcription”, whereas phonology is a “branch of linguistics which studies the sound systems of languages” (Crystal, 2007: 349-351).

The phonology is also known as the Functional or Linguistic Phonetics which deals with phonological properties of phonemes, syllables, accents, intonation and interprets them as socially significant elements. It studies the way how speech sound function in the language, how many or how few of all the sounds of the language are utilized in that language, and what part they play in manifesting the meaningful distinctions of the language. It also studies variations of pitch since pitch variation may be quite different in different languages. So the aim of phonology is first to determine differences in sounds according to different languages, and secondly, to find the inventory of sound system of a language. In doing so, we must arrange sounds into functionally similar groups.

Summary

To conclude, the best idea about teaching and learning English Phonetics and Phonology is to define Phonetics and Phonological features of the language that make the message of the speaker understandable by the hearer. Consequently, the pedagogical priorities and choices in pronunciation have to be decided upon the idea of the features necessary to the mutual understanding among speakers. For this sake, among the areas of interest we find Phonetics and Phonology which help to pronounce English words correctly. But the latter concepts are wide to cover so limitations must be established to the Articulatory Phonetics and Functional Phonetics. Consequently, Articulatory Phonetics represents the contents of the first semester while Functional Phonetics represents the content of the second semester.



Section B: Practice: Exercises

Study Questions: discuss the following questions briefly.

1. What is meant by the term Phonetics?
2. What is meant by the term Phonology?
3. What are the areas of interest of Phonetics?
4. What are the areas of interest of Phonology?
5. What is the relationship between Phonetics and Phonology?
6. How can knowledge in Phonetics and Phonology help English foreign language students to speak English language correctly?
7. What are the domains of Phonetics and Phonology that interest you?

Exercise 2-1

Indicate whether the following statements are TRUE or FALSE, if false; say how the correct statement should be.

1. Phonetics is that science of language which studies sounds like other branches of linguistics.
2. Phonetics and phonology are two terms of the same coin. In the sense that both of them cover the pronunciation features of particular language.
3. The study of phonetics is limited only with the sounds of the language and it does not help to understand language matters like grammar, plural, singular, adjectives, and nouns and so on.
4. Phonology is concerned with the general rules that govern how words are pronounced in a specific language.....
5. The action of production, description, and classification of speech sounds is the domain of the phonetic science called acoustic phonetics.
6. The act of controlling the brain activities while speech sounds are generated is investigated under the branch of phonetics called articulatory phonetics.
7. Articulatory phonetics is sometimes called the Physiological Phonetics.....
8. The way of how speech sounds of language are grouped together, function, and manifesting the meaningful distinctions of the language are presented through phonetics.
9. While the physiological manifestations of the production and transcription of the speech sounds are explored by phoneticians.



10. When the speaker and the hearer are brought together in terms of the quality of the speech sounds are studies under auditory phonetics.
11. Phonology is not limited to one specific language. Its theories can be applied to all languages.
12. Functional Phonetics is similar in meaning with the linguistics phonetics.....
13. In order to understand better the sound of English language it is advisable to study first the phonological features than move o the phonetics areas.
14. Branches and sections of phonetics have the same meanings and connotations.
15. Segmental features of the languages are dealt with in phonology while the supra-segmental features of the language are dealt with in phonetics.
16. The distinction between the different branches of phonetics is important to decide what type and knowledge of the sound system student should deal with.....

Exercise 2 -2

Explain briefly the meaning of each term.

1. English Phonetics and Phonology:
2. English Phonetics:
3. English Phonology:
4. Articulatory Phonetics:
5. Special Phonetics:
6. Acoustic Phonetics:
7. Accent:
8. Developmental Phonetics:
9. Language as available sound:
10. History of speech sounds:
11. Ideal pronunciation of sounds:
12. Language as organized sound:
13. Sound comparison in different languages:
14. Segmental and supra-segmental features of sounds:

Exercise 2 -3

Match in the table below the area of interest in relationship with its corresponding name.

Area of Interest	Correspondent Name
Production of speech sounds	Laboratory Phonetics
Producing speech sounds in a process way	General Phonetics
Using equipment to observe the actions of the speech organs	Auditory Phonetics
The act of providing the latest ideas about the speech sounds.	Articulatory Phonetics
The investigation of the hearing process	Acoustic Phonetics
Contrastive investigation among sounds of languages	Segmental Features
Understanding how modern phonetics came to its state	Supra-segmental Features
Speech organs, consonants and vowels	Special Phonetics
Speech sounds of a certain language	General Phonetics
The focus on special sound system of a particular language	Sentential Phonetics
The description of the physical features of speech sounds	Standard Phonetics
The physiological properties of speech sounds	Developmental Phonetics
Syllable, stress, pitch and intonation	Comparative Phonetics
Speech sounds in general	Descriptive Phonetics
	Phonology

Chapter 3

The Production of Speech Sounds: Stages of Production

Description	<p>This lecture aims at introducing a macro picture of the process of speech sounds production. It explores key concepts of the actions of the upper part of the body in relationship with speech sounds production. Through the developments of the lecture students will become familiar with the physiological process of sounds production. The emphasis is put on the description of the stages and mechanisms of speech sounds through the human beings apparatus. Key content of the lecture includes two sections; the first one deals with the theoretical matters while the second one presents a number of practical materials and exercises. It is worth to mention that this lecture is supported by illustrations and diagrams for each stage and mechanism of speech sounds production.</p>
Objectives	<p>On successful completion of the lecture, students should be able, among other things, to;</p> <ol style="list-style-type: none"> 1. Introduce a general overview of the process of speech sounds production. 2. Enable learners to reflect more on the four stages of sounds production. 3. Enable learners to distinguish between the three mechanisms of speech sounds production. 4. Raise learners' awareness of macro description of speech sounds production. 5. Raise learners' awareness about the contribution of the macro picture of speech sounds production on the subsequent lecture "micro picture of speech sounds production". 6. Understand the importance of the speech sounds production in the evaluation. 7. Understand the importance of the speech sounds production in the process of correct pronunciation of English words correctly.

Section A: Lecture

Introduction

The sounds of languages are produced by the interactions of three mechanisms in the upper part of the body "the respiratory mechanism, the laryngeal mechanism, and the articulatory mechanism". For practical reasons it seems better to divide the process of speech production into two main pictures: macro picture and micro picture. That is why the chapters 3 and 4 come as a



response to this division. So the interactions among the mechanisms altogether represent the macro picture of speech sounds production.

3. 1. Speech Sound: Human Beings versus Animals

The ability to produce sounds is a common feature among both animals and humans beings. But the most prominent fact is that the quality of sounds being produced is not the same. One characteristic that distinguishes human beings from animals is his ability to produce speech sounds or language sounds while animals can produce only sounds. This distinctive quality of man over animals is made possible by the following factors:

- Human beings' mental ability that enables them to think, create and innovate.
- Human beings articulation organs that make speech sound possible.

3. 2. Functions of the Organs of Speech

It is very interesting to notice that human beings speech organs are not created solely for speech; they have other roles such as:

- The nose and the mouth are breath passages.
- The teeth and the tongue have essential role for food.
- Most speech organs, if not all, have breathing, eating, and drinking as their primary functions while speech comes as a secondary function.
- So it seems that the so-called speech organs have both primary and secondary functions.

The human beings speech system consists of quite many speech organs, most of which are located in the upper part of the human beings body. That is to say most of which are in the chest, throat, and head. In other words, most of them are represented through the vocal tract.

It is common that speech sounds of any language are produced by the interaction of three mechanisms in the upper part of the body. The respiratory, laryngeal, oral and nasal parts are the responsible mechanisms that altogether constitute the speech organs. All in all, the final outcome of all the speech organs is the production of speech **sounds**.

3. 3. Definition of Sound

The term “sound” means the perception of movement of air particles which causes a displacement of the ear-drum. The air particles are extremely small and thanks to the actions of the speech organs; some part of the air we breathe is turned into sounds at the level of the vocal



tract “larynx”. All the speech sounds could not occur without the presence of the air. The air is required for all speech sounds to be initiated either at the level of the lungs or larynx. The air movement in the vocal tract is so very important in regard to the sounds quality being produced either a consonant or vowel. So the relationship between the air and the vocal tract is the same one as the motor engine and oil in the sense that no one can function with the presence of the second one.

3. 4. Stages of the Speech Production

How can we produce speech sounds? In this section we will describe the macro production of speech sounds in relation with the three interrelated systems in order to better understand all the subsequent sections about speech organs, sounds, vowels and consonants description.

3. 4. 1. The Mental Stage

From early stages of speech sound production, it must be said that speech sounds do not start in the respiratory mechanism. First of all, it starts in the brain. After the creation of the message at the level of the mind, we need a representation of the sound sequence and at the same time a number of orders are directed to the speech organs in order to put into effects the messages related to the speech sounds.

All in all, the three systems or stages of the speech sounds production are controlled via the nervous system. So when the nervous system is compromised due to developmental abnormalities, acquired damage or illness, speech sounds production is also compromised.

3. 4. 2. The Initiation Stage

For most sounds all over languages, air is stored in and transmitted from the lungs. The latter organs are described as reservoir for air flow in much of speech sounds. The lungs consist of spongy material that is filled with air when we inhale it. The air is forced out of the lungs by actions of the rib-cage pressing down on the lungs, and of the diaphragm, a large dome shaped muscle, which lies beneath the lungs, pressing upwards on them. Air passes them through a series of branching tubes (the bronchioles and bronchi) into the windpipe (technically the trachea). Just at the top of trachea is the larynx. In English language, all speech sounds are the result of a “pulmonic egressive air stream” although that is not the same case in all languages in which some sounds are said to be ingressive. The following figure represents the parts of the body which is responsible for the initiation stage of speech sounds.

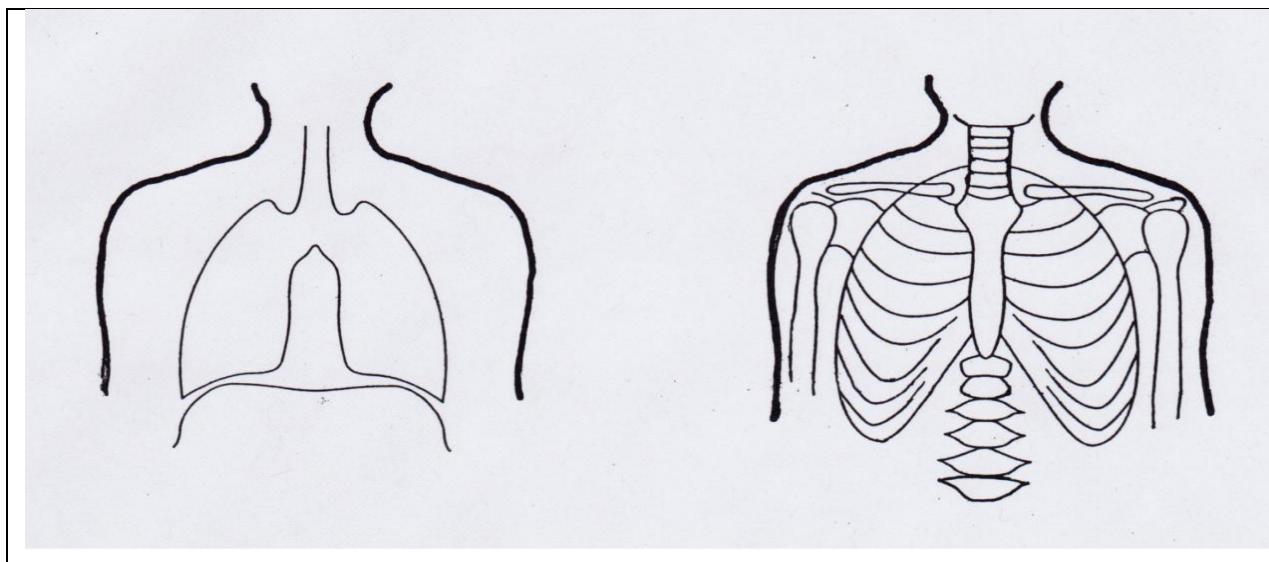


Figure 3-1: The Respiratory Mechanism (Roach 2009: 25)

3. 4. 3. The Phonation Stage

The phonation stage occurs at the level of the laryngeal mechanism. The main speech organ is the larynx. The latter has two horizontal folds of tissue in the passage of air; they are the vocal folds. The gap between these folds is called the glottis. When the air leaves trachea then it reaches the larynx. The latter organ represents the first step of the speech sound production in the vocal tract. The front of the larynx, the Adam's apple, is fairly prominent in many people's necks, especially men's. Anatomically speaking, the larynx is a complicated structure, but for speech sound production purposes it is sufficient to take account of only two aspects of it. One is its potential for movement; the other one is that it contains two pairs of structures, the Vocal Folds and Ventricular Folds. The latter organs lie above the former, separated by a small cavity on either side. The Vocal Folds are often called the Vocal Cords (or even the Vocal Chords) or Vocal bands. They lie horizontally in the larynx, and their front ends are joined together at the back of the Adam's apple but the rear ends remain separated. However, because of their attachment, they can move into various positions: inwards, outwards, forwards backwards and tilting slightly, upwards or downwards. They are fairly thick, and when observed from the back they are seen to bulge inwards or upwards within the larynx. The Ventricular Folds are capable of a similar, but less extensive, range of movements. For Phonetic purposes, it is sufficient to be able to say that the **Vocal Folds** are either:

- Apart from each other: in such a case the sound being produced is said to be voiceless.
- Close together and vibrating against each other: in such a case the sound produced is said to be voiced.
- Totally together: in such a case there is no passage for air to pass between them.

Directly behind the larynx lies a tube running down into the stomach, the Esophagus, both the Esophagus and the larynx open into the throat, the Pharynx. The latter is a muscular tube, part of which can be seen in the mirror (the back of the throat) is the back wall of the central part of the Pharynx. Out of sight, unless special instruments are available, are the lower and upper parts of the Pharynx. The lower part connects to the larynx. The upper part, the Naso-pharynx, connects directly with the back of the Nasal Cavities (which are bony chambers through which air passes).

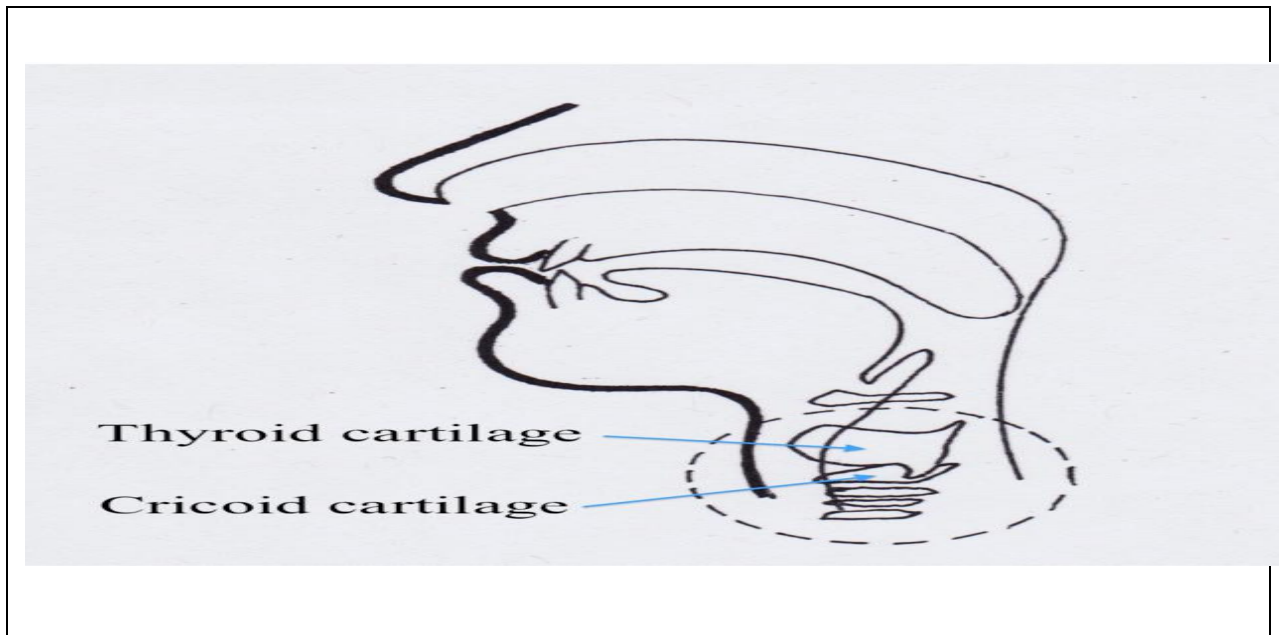


Figure 3-2: The Laryngeal Mechanism (Roach 2009: 25)

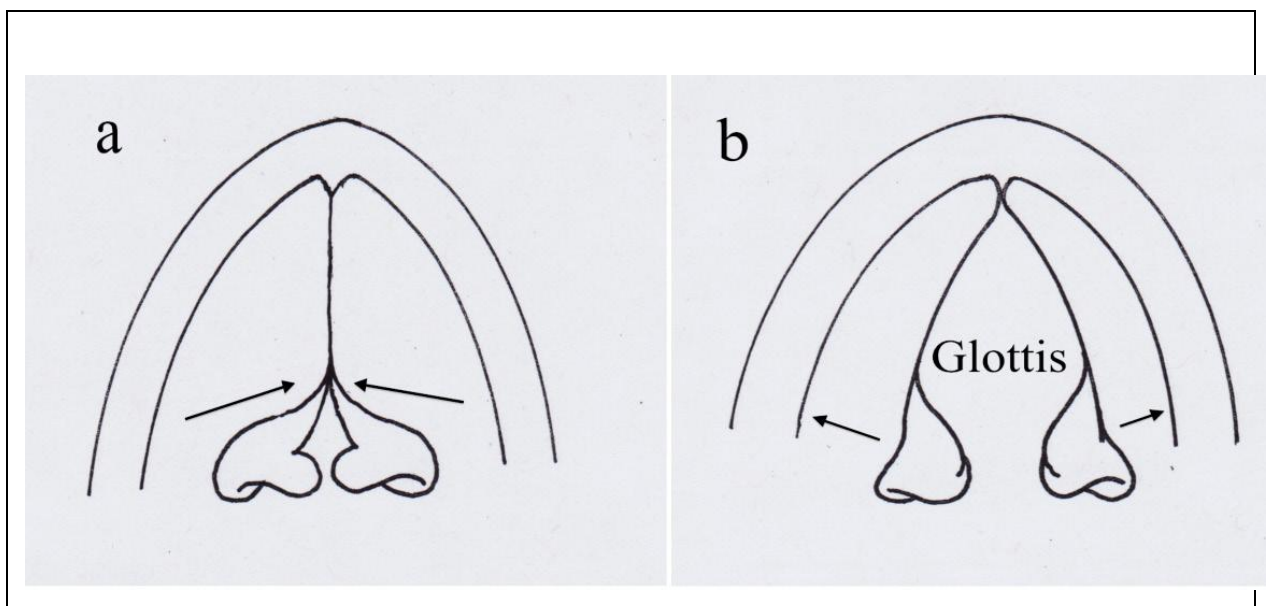


Figure 3-3: The Actions of the Vocal Folds (Roach, 2009)

3. 4. 4. The Oral-Nasal Stage

This stage in speech sound production involves the air flow in the upper vocal tract. After the air has gone through the larynx and pharynx, the air in this stage moves to the nasal or the oral cavity. So in order to produce sounds at this level there must be what is called Pharynx. The latter functions as an air passage during breathing and it branches into two cavities that act as resonators for the upward airflow: the **Oral** cavity and the **Nasal** cavity. In such a mechanism the soft palate plays a significant role because it is the organ that directs the airflow into either of the two cavities. If the soft palate is raised, it closes the entrance to the nasal cavity and directs the air through the oral cavity (mouth) to produce oral sounds (see figure 3 “a”). If the soft palate is lowered, the air flow is directed through both cavities, escaping through the nostrils and mouth at the same time. During this pattern of airflow, the sounds produced are defined as nasal sounds (see figure 3 - 5). The complex acoustic structure of the nasal cavity produces nasal sounds that sound relatively quiet a compared to oral sounds. Thanks to the oral and nasal cavities we can differentiate between the nasal sounds and other sounds.

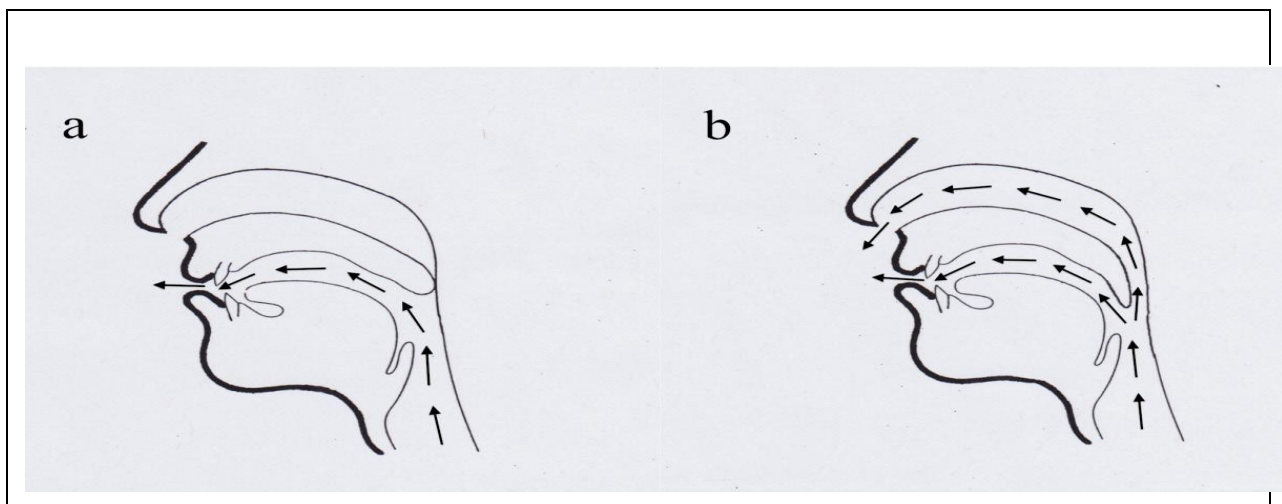


Figure 3-4: The Oro-nasal Mechanism (Roach 2009: 25)

3. 4. 5. The Articulation Stage

Finally the articulation process is the most obvious one. It takes place in the mouth and the nose and it is the process through which we can differentiate most of the speech sounds. In the mouth we can distinguish between the oral cavity and hence oral sounds from nasal sounds, which acts as a resonator, and the articulators, which can be active or passive: upper and lower lips, upper and lower teeth, tongue and the roof of the mouth. So, speech sounds are distinguished to a great extent from one another in terms of the place where and the manner how

they are articulated. The diagram below presents the upper part of the body “the articulation mechanism”.

After all the previous stage in the lungs, larynx and the soft palate, so the audible sound is formed into a concrete and identified sound with the help of the organs of speech “articulators”. The main organs of speech are illustrated in the (figure 3 - 6) below. Throughout the process of speech sounds production, the most important, complex and flexible processes take place at the level of the articulation stage. The latter embrace a great deal of speech organs such as the mouth and the tongue.

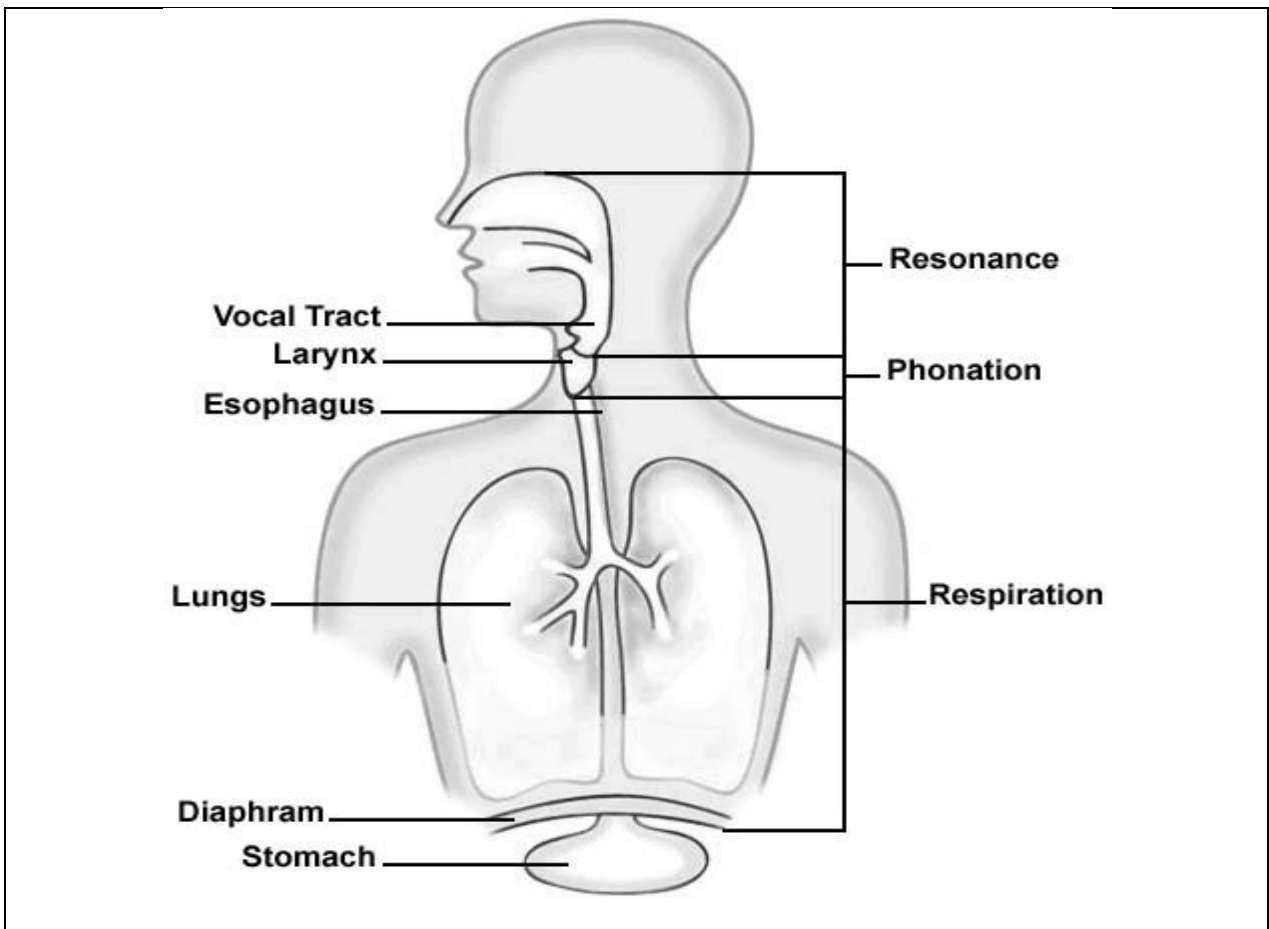


Figure 3-5: The Stages of Speech Production

Summary

To conclude, the macro picture of the speech sounds production is very imperative section in the whole process of dealing with the issue of speech sounds production. In addition, the distinction between the speech sound production and the organs of speech is a good idea even they are interwoven topics. The first idea represents a macro picture of the speech sounds production while the second idea is about a micro picture of the speech sounds.



Section B: Practice: Exercises

Study Questions: discuss the following questions briefly.

1. What are the stages involved in the speech sounds production?
2. To what stage does the larynx belong?
3. What are the three resonators above the larynx?
4. Describe in more details the available cavities involved in speech sound production?
5. Describe briefly the speech sound production from the very early stage to the most advanced one?
6. What is the system of rules and mental representations that underlies our ability to speak and understand a human language?

Exercise 3-1

Choose an appropriate term from the list, and insert it into one (or more) of the gaps in the paragraph that follows : (bronchi, glottis, larynx, lungs, trachea, and vocal folds).

The (1)supply the air for almost speech sounds. Air passes from them into the..... (2)one from each of the two..... (3)....., and these two air streams merge in the (4)....., a short tube situated in the lower part of the neck. On top of this is a valve known as the (5)Here the supply of air to the throat and mouth is controlled by opening or closing the (6) The gap between the two (7) In ordinary quite breathing the (8) is open; for swallowing it is closed in order to protect the (9) A noteworthy evolutionary adaptation in humans allows voice to be produced by positioning the (10)in such a way that passage of air between them causes them to vibrate.

Exercise 3-2

Indicate whether the following statements are TRUE or FALSE, if false; say how the correct statement should be.

1. The lungs are not part of the vocal tract
2. The lungs are called the voice box



3. The larynx is called as the air box
4. The uvula is the extreme tip of the soft palate
5. The vocal tract refers to the air passage above the larynx
6. Larynx is the alternative name for the teeth-ridge
7. The pharynx is a cartilaginous structure attached to the trachea
8. The vocal tract refers to the air passage taking place under the larynx
9. The mental stage is a peripheral idea to the properties of phonetics domain.....
10. Most sounds of English language are said to be pulmonic and egressive
11. Air is an alternative component for sound production
12. In order to produce sounds, it is enough to have the vocal tract and other speech organs under the larynx
13. When we speak, all the articulators are moving to each other
14. The vocal folds are very important organs for sound production
15. The nose is similar to the mouth in that they both change their size and shape
16. There is one cavity under the larynx, and three above
17. The oral quality is made by the actions of the vocal folds
18. The nasal quality is made by the actions of the velum
19. The vocal tract refers to the laryngeal and oral/nasal mechanism
20. The vocal tract is composed of three interrelated mechanisms
21. Oral sounds are made when the soft palate is raised
22. Nasal sounds are made when the velum is raised
23. The velum and the soft palate are two distinctive speech organs
24. The soft palate actions determine the oral and nasal quality of sounds
25. The voicing and devoicing quality is determined by the actions of the vocal cords
26. The vocal tract refers to the interaction of the following mechanisms; respiratory, laryngeal, oral, and nasal
27. The lungs are the source of sounds
28. Just and only in the larynx, the sound is generated



Exercise 3-3

Read the following statements and then name the speech production stage corresponding to the description.

1. The action of storing the air in the lungs:
2. A windpipe which represents an air passage between the lungs and the larynx:
3. The air escapes through the opening in the larynx:
4. The first steps of the sound production in the vocal tract:
5. The air used for producing speech sounds reaches the organs inside the vocal cords:
6. The air now is just directly behind the larynx:
7. The air reaches an essential speech organ at the top end of the trachea:
8. The air used for speech sounds is under the manipulation of what is described as an agile speech organ since it can be moved into many different places and different shapes. It can be raised, lowered, thrust forward or retracted, and even rolled back:
9. The air used for speech sounds is in within a piece of flesh behind the velum which can function at the same time as a point of articulation:
10. The creation of the message at the level of the mind.....
11. It is said that in all languages most of sounds are described as pulmonic.....
12. When the vocal folds are close together and vibrating against each other: in such a case the sound produced is said to be voiced.....
13. When the air moves either to the nasal or the oral cavity, the sound is said to be.....
14. It is the process through which we can differentiate most speech sounds since they are well identified, audible and concrete.....

Chapter 4

The Production of Speech Sounds: Speech Organs

Description	This lecture is a continuation to the previous chapter. It aims at introducing a micro picture of the process of speech sounds production. It explores key concepts of the actions of the speech organs one by one in relationship with speech sounds production. Through the developments of the lecture students will become familiar with the process of sounds production in relationship with the role, contribution and actions of each speech organ. Key content of the lecture includes two sections; the first one deals with the theoretical lecture about the organs of speech while the second one presents a number of practical materials and exercises. It is worth to mention that this lecture is supported also by illustrations and diagrams for some speech organs.
Objectives	<p>On successful completion of the lecture, students should be able, among other things, to;</p> <ol style="list-style-type: none"> 1. Introduce the three speech mechanisms with the speech organs they contain. 2. Enable learners to reflect more on the roles, actions and contribution of organs of speech when they act for speech production. 3. Raise learners' awareness of micro description of speech sounds production. 4. Raise learners' awareness about the contribution of the lecture of speech organs on the subsequent lecture "Speech sounds Classification and description". 5. Understand the importance of the speech productions in the evaluation. 6. Understand the importance of the speech sounds productions in the process of correct pronunciation of English words correctly.

Section A: Lecture

Introduction

The speech sound waves are created in the vocal tract by actions of three parts of the upper half of the body: the respiratory mechanism, the voice box (technically, the larynx), and the area of the tract above the larynx, namely the throat, the mouth and the nose. All of them constitute what are known collectively as the organs of speech. In the previous lecture we stated the **macro** picture of the speech production and in the current chapter it is high time to introduce the **micro** picture of speech sounds production.



4. 1. Speech Organs of the Respiratory Mechanism

The process of speech sound production at this level represents the sound production of the first stage which involves plenty of speech organs and actions. So it is imperative to describe the different speech organs involved in this stage and the ways they follow in order to contribute in a way or another to produce audible speech sounds.

4. 1. 1. The Abdominal Muscles

Abdominal muscles play an essential role in speech sounds articulation through relaxation and contraction. The latter two processes help to raise and lower the diaphragm, a membrane which separates the chest from the abdomen. When the diaphragm rises, it presses the lungs, assisting exhalation. When the diaphragm goes down, it causes the lungs to relax and making a room for inhalation. In fact, the speech production process relies essentially on the inhalation and exhalation processes. To conclude, there is no speech sound without exhalation and in return the latter cannot take place without inhalation.

4. 1. 2. The Diaphragm

Just above the abdomen, and between it and the chest, there is a membrane called the diaphragm. This speech organ helps the lungs to contract upon exhalation and to relax upon inhalation. If you notice speech production, you would find that most of them happen during exhalation. Depending on this feature, all sounds of English are said to be eggressive.

4. 1. 3. The Lungs

In order to produce the majority of sounds in the world's languages, the source of sound "air" is taken into the lungs and expelled it during speech. For most sounds of English, an air stream is stored, transmitted and generated in and by the lungs. A certain level of air pressure is needed to keep the speech mechanism functioning steadily. The pressure is maintained by the actions of various sets of muscles coming into play during the course of utterance. The different muscles around the lungs interacts simultaneously and sequentially to make human beings able to speak for a reasonable period of time between during breathing.

4. 1. 4. The Chest

The Chest muscles sometimes called intercostals muscles, control the size of the chest cavity through their contraction. With longer contraction, exhalation extends longer in time. This results in longer speech. Since there is no speech without exhalation, the longer exhalation is, the



longer speech continues. When exhalation ends too, an inhalation takes place again and followed by a re-exhalation in a continuous process repeated along one's entire life. So the actions of the chest are imperative elements in speech sounds production.

4. 2. Speech Organs of the Laryngeal Mechanism

The process of speech sound production at this level represents the sound production of the second stage which involves plenty of speech organs and actions. So it is imperative to describe the different speech organs involved in this mechanism and the ways they follow in order to contribute in a way or another to produce speech sounds.

4. 2. 1. The Trachea

The trachea or windpipe is an air passage between the lungs and the larynx. This important speech organ is responsible for transmitting air from the larynx to the mouth. So it brings together both the laryngeal and articulatory mechanisms.

4. 2. 2. The Larynx

The larynx is an essential speech organ at the top end of the trachea. The larynx is rather wide pipe which is made up of two main cartilages. The lower cartilage, which is called the cricoids, is firmly connected with the windpipe. The form of the cricoids resembles a signet ring, the signet of which is turned to the rear. The second cartilage, which is called thyroid cartilage, lies on the cricoids and resembles two shields connected at an angle. Inside the larynx, on the upper part of the signet there are two small movable cartilages which are called pyramidal. The bundles of elastic muscles called vocal cords are stretched horizontally across the larynx from the bases of pyramidal cartilages.

Owing to the mobility of the pyramidal cartilages, to which the vocal cords are attached, and to the elasticity of the vocal cords, the larynx can move into different positions upward, downward, forward, and backward. Consequently, these movements manipulate the size and resonance of the laryngeal cavity. The larynx is also called the voice box, a label that indicates its essential role in the speech organs since the sound is primarily generated at it level. To conclude, the larynx consists of four main parts:



- **The base:** It is a circular cartilage at the bottom of the larynx.
- **Adam's apple:** it is a cartilage clearer in the men than in the women, and it forms the front part of the larynx.
- **Vocal cords:** they are two cords in the middle of the larynx, and they are the most essential organ in the larynx. Their role in the speech production will be discussed in the sub-title below.
- **The glottis:** it is the opening between the two vocal cords. Its role in speech sound will also be discussed in the sub-title below.

4. 2. 2. 1. The Vocal Cords

The vocal cords are two adjacent cords in the larynx at the far top of the trachea. The man's cords are longer and thicker than the women's, and, thus, their vibrations in men are less. The average vibrations of the men's cords are 100 per second versus 200-300 for the women's cords. That is why the men's voice is louder than women's and women's are described as more talk-active than men.

The vocal cords play a crucial role in speech sounds production. More specifically, they play an important role in one of the most important phonetic processes, which is that of voicing versus devoicing qualities. The vocal cords can take a number of actions by which to produce a particular sound. Among the prominent actions of the vocal cords are as follows:

- The vocal cord can be brought together and the air stream is forced between them, consequently, they vibrate and produce voice. The sounds being produced under these actions are described as voiced sounds since they are accompanied by the voice.
- The vocal cords can be wide apart from each other and the air in such a case passes between them freely, meaning that the vocal cords do not vibrate and no voice is produced. Consequently, the sound being produced under these actions is described as voiceless sounds since they are not accompanied by voice.

Hence, the vocal cords are responsible for voicing and devoicing qualities of speech sounds. Their different actions and shapes can decide largely the quality of the speech sounds. By varying the status of the vocal cords (more tense or relaxed, longer or shorter, higher or lower rate of vibration, etc.), we can change the quality of the voice (from loud to quiet, clear, harsh, creaky, etc.). Roach (2009) identifies three basic differences in the pressure of the vocal cords over air as described below:



- Variation in **intensity** (loudness),
- Variation in **frequency** (high and low pitch),
- Variation in **quality** (harsh, breathy, and creaky sounds).

4. 2. 2. 2. The Glottis

The glottis is the opening between the vocal cords. Just above the glottis lie the three cavities called the supra-glottal cavities. The glottis takes several shapes, depending on the speech sound itself. If the sound is voiceless, the glottis opens. If the sound is voiced, the glottis opens and closes repeatedly. If the sound is whispered, the glottis narrows without closure. If the sound is typically glottal, the glottis closes completely. In brief, the glottis may have one of the following positions:

- Opening with voiceless sounds, as in the sound /p/
- Narrowing with whispered sounds.
- Repeated opening and closing, with voiced sounds, as in /b/.
- Closing with glottal sounds, as in /ʔ/, i. e., the Arabic language hamza.

4. 2. 3. The Pharynx

The pharynx or throat is a cavity between the larynx and the mouth. It is a tube which begins just above the larynx. It is about 7 cm in women and 8 cm in men, and at its top end it is divided into two, one part being the back of the mouth and other being the beginning of the way through the nasal cavity. It is one of the resonance cavities, i. e., resonators. Thanks to the pharynx, the air breath passes through it to the mouth or to the nose. The pharynx as a speech organ plays an essential role to produce plenty of sounds in many languages under the process called pharyngealization. But the latter process is not needed in English language.

4. 3. Speech Organs of the Oro-nasal Mechanism

The process of speech sounds production at this level represents the sound production of the third mechanism which involves plenty of speech organs and actions. The articulation term refers to movement of one structure or articulator against another one. In this case we are referring to “speech” structures or supra-laryngeal system which is made up of series of cavities, bones, muscles and teeth. So it is imperative to describe the different speech organs involved in the oral and nasal mechanism. A close inspection of this stage will reveal that the mouth and the tongue are the most important speech organ besides others.

4.3.1. The Mouth

The contents of the mouth are critical for speech sounds production. Starting with the upper part of the mouth, we can note the following articulators: upper lip, the upper teeth, the alveolar ridge, which forms part of the sockets into which the teeth are set, the hard palate and the soft palate. The soft palate also called the velum because it veils the nose and finishes in the uvula “little grape”. The soft palate unlike the hard palate can move, and when it is raised upwards it will make contact with the back wall of the pharynx and thereby directs the movement of air either into the nasal or oral cavities from the pharynx or vice versa.

The bottom part of the mouth contains the following articulators: the lower lip, the tongue, and the lower jaw (technically the Mandible), to which the tongue is partly attached. Although there is no obvious anatomical division of the tongue, in speech sound production it is essential to have a method of referring to different parts of it. Hence, it is traditionally divided into five parts: the tip “apex”, the blade, the front “middle”, the back and the root. An additional feature is the Rims, the edges of the tongue. The boundaries between the five divisions are established on the basis of where the tongue lies in relation to the roof of the mouth when it is at rest on the floor of the mouth. The tip lies underneath the upper central teeth, the blade under the alveolar ridge, the front underneath the hard palate, and the back underneath the soft palate. The roof is the part of the tongue that faces towards the back wall of the pharynx. In addition, speech organs in this mechanism are divided into two types: movable and fixed.

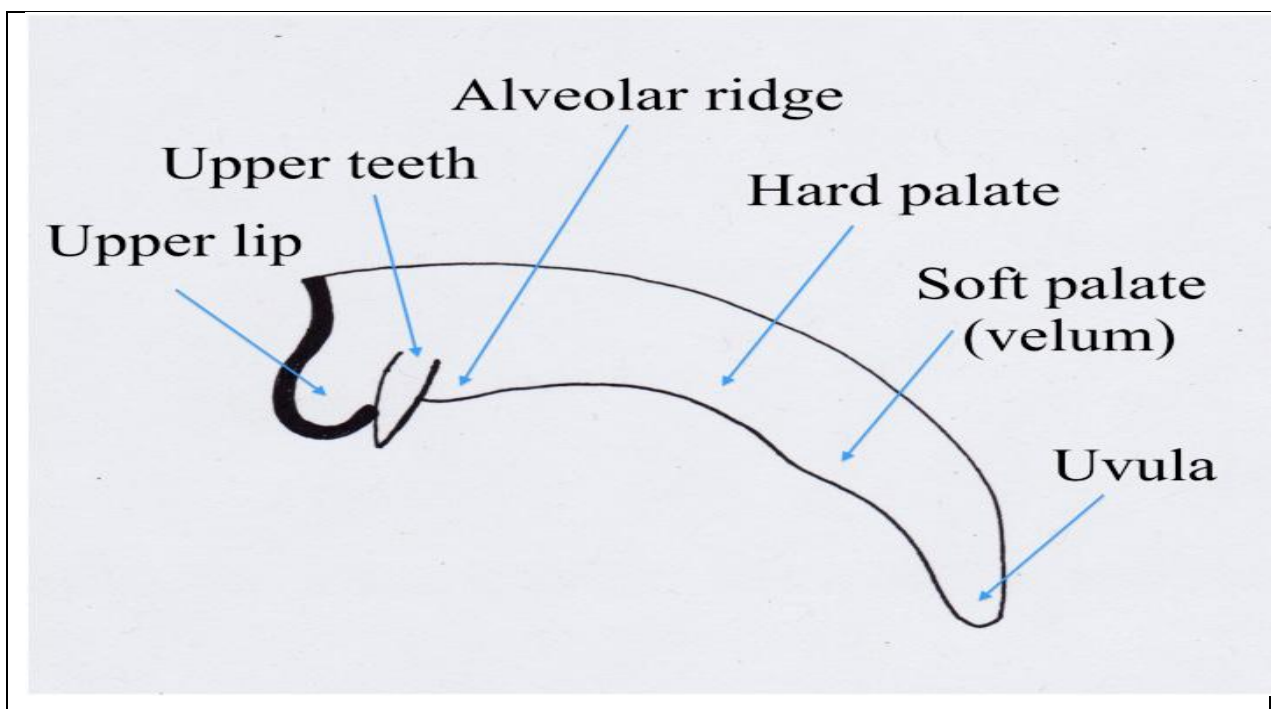


Figure 4-1: Speech Organs in the Upper Part of the Mouth “Roach; 2009)

4. 3. 2. The Tongue

It is the major speech organ, without which no one can produce any sound. Because of its essential role in speech one of the meanings of “tongue” is language. The tongue is the primary speech organ. It is an agile since it can be moved into many different places and different shapes. It can be raised, lowered, thrust forward or retracted, and even rolled back. The sides of the tongue can also be raised or lowered. For most sounds, the tongue is the most articulator. Phonetic description refers to the five areas of the tongue, as shown in the following description and figure below.

- **The Tip “Apex”**: it is the very front part of the tongue and is very active as articulator. It touches the alveolus as in /t/, comes between the upper and lower teeth.
- **The Front “Blade”**: it is the area of the tongue between the apex and the middle of the tongue. The front of the tongue touches or approaches the parallel part of the palate when producing sound like /y/.
- **The Center**: it is the area of the tongue between the front of the tongue and the back. It touches or approaches the palate upon articulating some sounds in some languages.
- **The Back “Dorsum”**: it is the back part of the tongue. It usually touches or approaches the back part of the palate as in /k/ and /g/.
- **The Root**: it is the farthest part of the tongue. It has a role in producing pharyngeal sounds like in Arabic language such as the number 9 but it has no role in English.

In addition, the tongue plays major roles in shaping the quality of the sounds being produced; some of them are as follow:

- It complete temporary closure of the breath stream passage and co-operating with the alveolus as in /t, k, g/.
- Narrowing the breath stream passage, as in /s/.
- Partial closure of the breath stream passage, as in /n/.
- Repeated closure of the breath stream passage, as in the Arabic language /r/.
- Palatization, when the front of the tongue approaches the hard palate.
- Velarization, when the back of the tongue approaches the velum, as in the dark /l/.

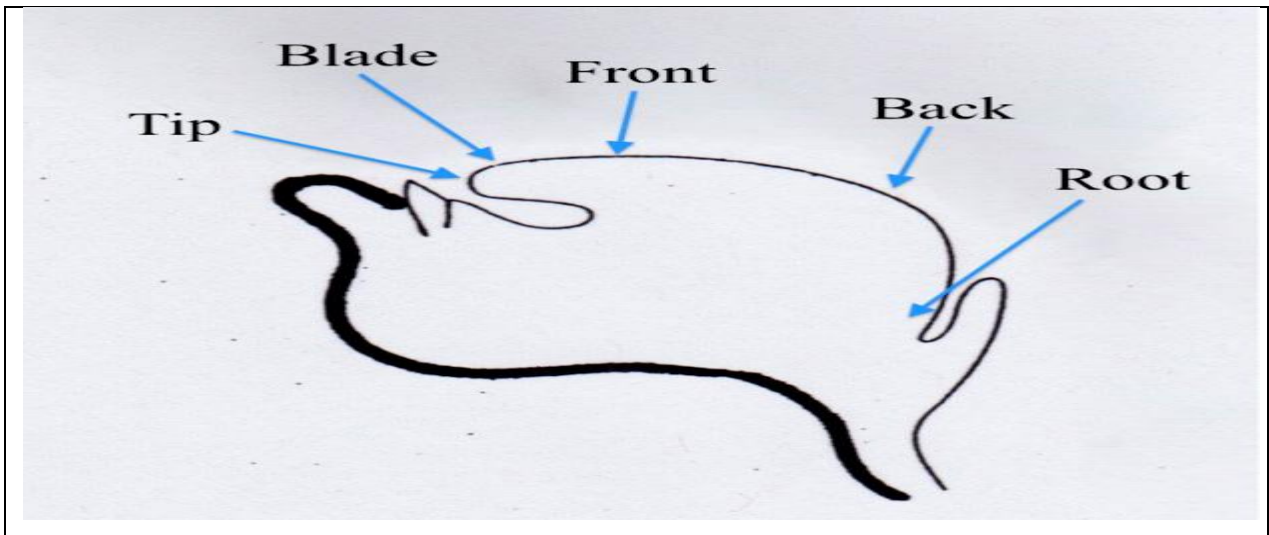


Figure 4-2: The Tongue and its Areas “Roach; 2009”

4. 3. 3. The Lips

They are composed of the upper lip and the lower lip. Concerning the upper lip, it differs mainly from the lower lip. The upper lip is a point of articulation, whereas the lower lip is an articulator. The upper lip receives the lower lip whereas the lower lip moves towards the upper lip to produce sounds called labials. To conclude, it is an articulator that moves upward to touch the upper lip as in /b, p/ or to touch the upper teeth as in /f, v/. It also takes part in the rounding process with the upper lip as in /w/ as well as some vowel sounds.

4. 3. 4. The Lower Jaw and Teeth

They are composed of the upper teeth and the lower teeth. When they function together they perform plenty of roles in terms of speech sound production. The lower teeth cooperate with the upper teeth to make a point of articulation for sounds called inter-dentals in relationship with the apex when it comes between the two sets of the teeth. In addition, they function as a point of articulation for sounds called dentals. In general, the upper teeth are used more than the lower teeth as a point of articulation.

4. 3. 5. The Alveolar Ridge

The alveolar ridge is between the top front teeth and the hard palate. You can feel its shape with your tongue. Its surface is really much tougher than it feels, and is covered with little ridges. You can only see these if you have a mirror small enough to go inside your mouth. It functions as a point of articulation when it is touched or approached by the tongue to produce alveolar sounds like /s, v/.

4. 3. 6. The Palate

The palate consists of three parts: the hard palate, the soft palate, and the uvula. The hard palate, sometimes called the roof of the mouth, is the front part of the palate lying between the alveolus and the soft palate. It functions as a point of articulation when it is touched or approached by the front of the tongue to produce at the end palatal sounds such as /y/, as in the initial sound of the word “Yes”. More details about the parts of the palate are presented in the sub-titles below.

4. 3. 6. 1. The Velum “Soft Palate”

The velum is the back part of the palate. It is also called the soft palate or the back palate. It lies between the hard palate and the uvula. It functions as a point of articulation when touched or approached by the back of the tongue, to produce velar sounds such as /k/ /g/. The velum has also a role in producing the additional features of velarization sounds. Furthermore, the velum has a role in controlling the breath stream passage. If the velum rises up, it closes the nasal passage and thus forces the air stream to flow through the oral passage to produce oral sounds like /s/. If the velum drops down, it opens the nasal passage and allow air to pass through the nose to produce nasal sounds like /m/ / n/.

4. 3. 6. 2. The Hard Palate

The hard palate is often called the “Roof of the Mouth”. You can feel its smooth curved surface with your tongue. It is the front part of the palate lying between the alveolus and the soft palate. It functions as a point of articulation when touched or approached by the front of the tongue to produce sounds called palatal such as /y/, as in the initial word “Yes”.

4. 3. 6. 3. The Uvula

The uvula is one of the palate organs. It is a piece of flesh behind the velum. The uvula can function as a point of articulation if touched by the back of the tongue (“dorsum) to produce sounds called uvular. This kind of sounds does not exist in English language.

4. 3. 7. The Cavities

The size, the shape, and the material composition of the vessel enclosing a vibrating air column all have important effects on the quality of the speech sound that comes from it. There are quite a few spaces in the speech tract that affect sounds by their resonating qualities; they reinforce (amplify) certain frequencies or suppress or weaken (dampen) others. There are four

cavities or chambers related to the speech sounds production: the lungs cavity, the pharyngeal cavity, the oral cavity and the nasal cavity. The common shapes and functions of the four cavities are as follows:

- The **Lungs Cavity**: is responsible for exhalation and inhalation process without which sound can not occur. The other three cavities lie above the larynx, and they all function as a breath steam passages. The nose and the mouth are the two resonance chambers.
- The **Pharynx Cavity**: the space formed by the root of the tongue and the walls of the throat, which affects the sound by its shape but is not actively used in English.
- The **Nose Cavity**: which adds its quite distinctive quality to the sounds if the air is allowed to pass through it whether or not the mouth is involved at the same time; and finally,
- The **Mouth Cavity**: the most important of all because it contains a number of highly mobile organs and can assume a tremendous number of different shapes. (Ali Alkhuli, 2005: 32 - 40).

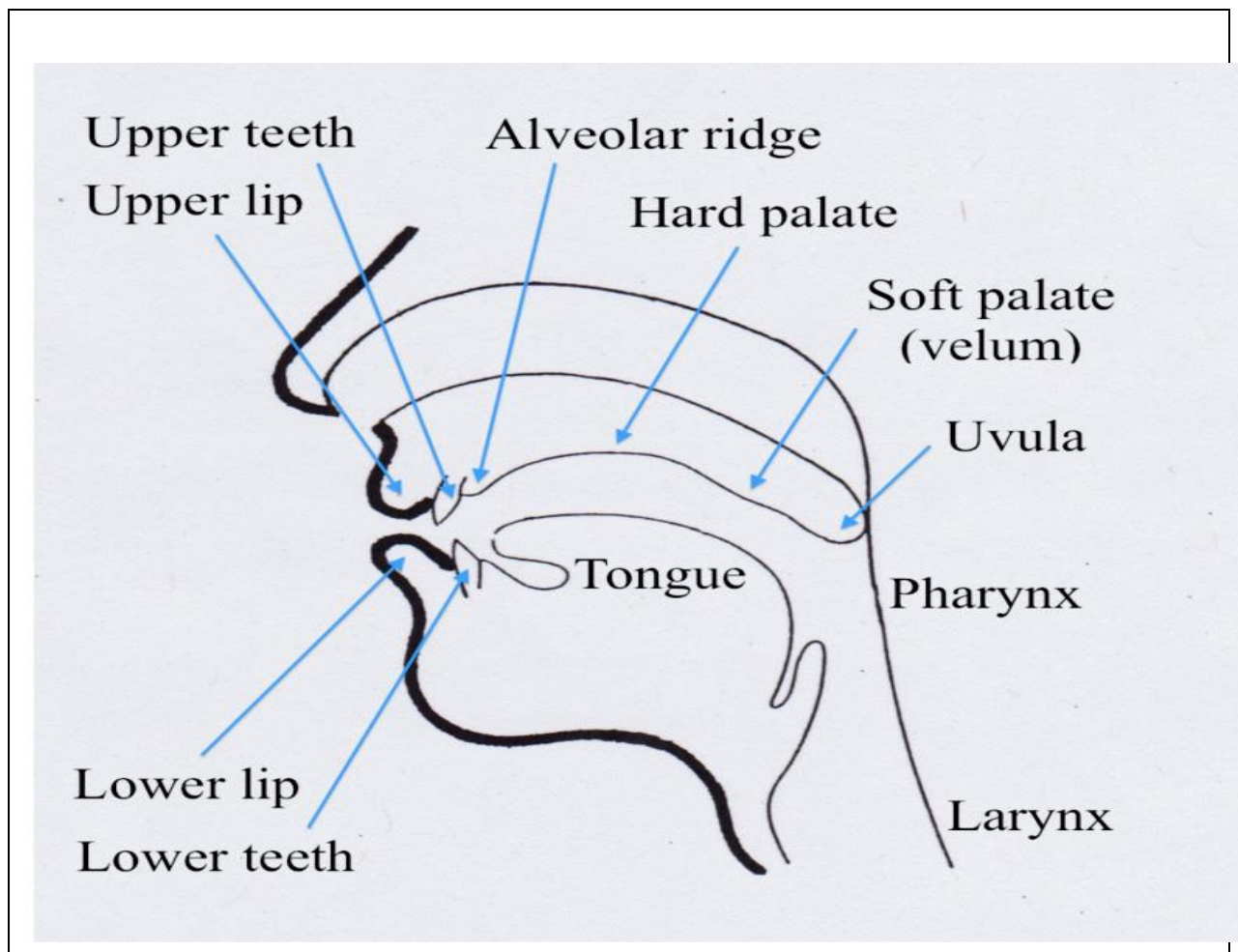


Figure 4-3: The Articulatory Mechanism (Roach 2009: 25)

4. 4. Active versus Passive Speech Organs

There are two types of speech articulators: fixed locations against the movable articulators. Here, you find a detailed description of each type

4. 4. 1. Active Articulators or Articulators

These are movable organs that can be brought close to, or into contact with each other, various locations in the speech tract (known as points of articulation) so as to stop or impede the free passage of the air stream.

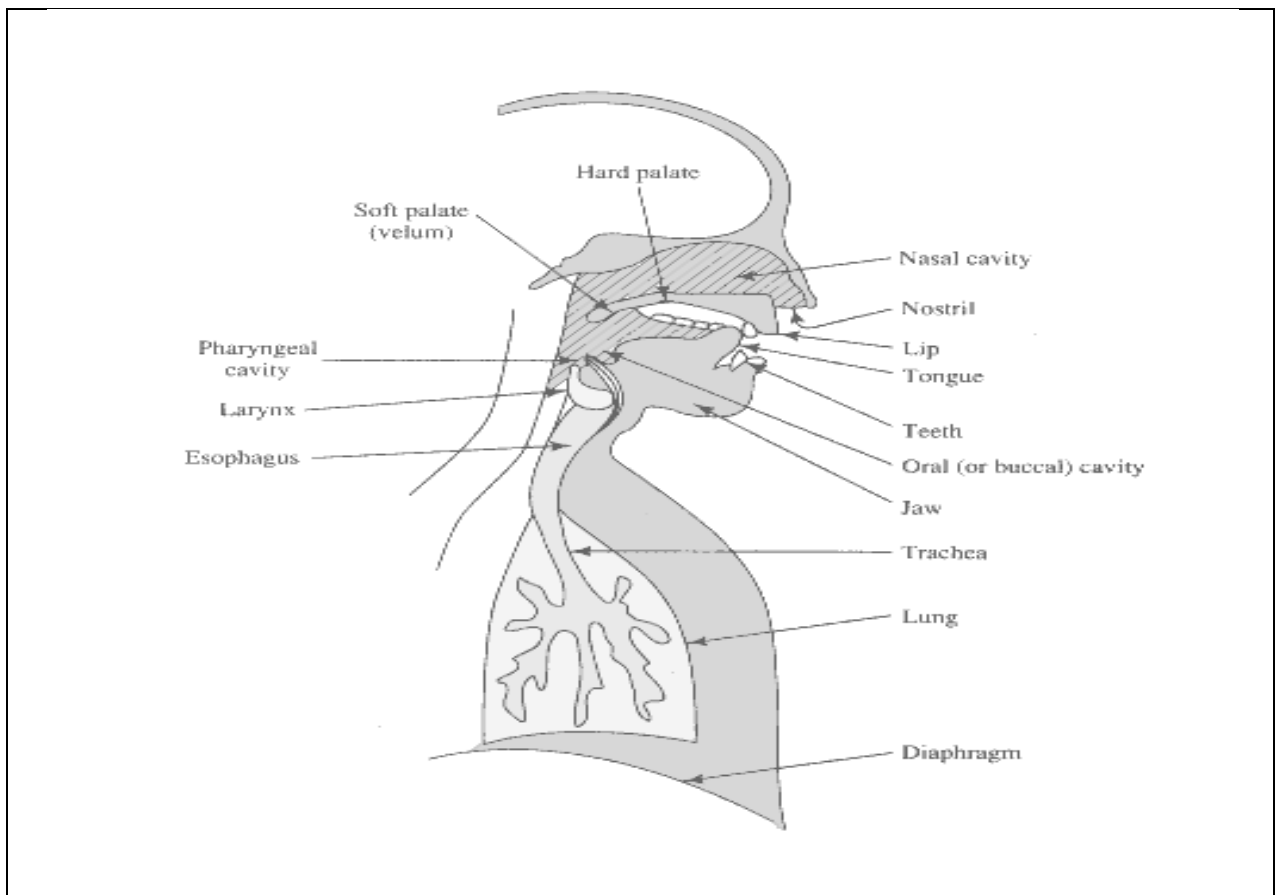


Figure 4-4: The Movable Articulators

4. 4. 2. Passive articulators or Points of Articulation

These are fixed locations against which the movable articulators operate in order to produce speech sounds. To conclude, as we mentioned before, speech organs are divided into two categories: fixed and movable articulators. For speech sound production, it is imperative to have both of the types in order to have at the end an audible and well identified sound. Otherwise speech sounds would not be possible at all. So the interaction of both is very necessary for such a task.

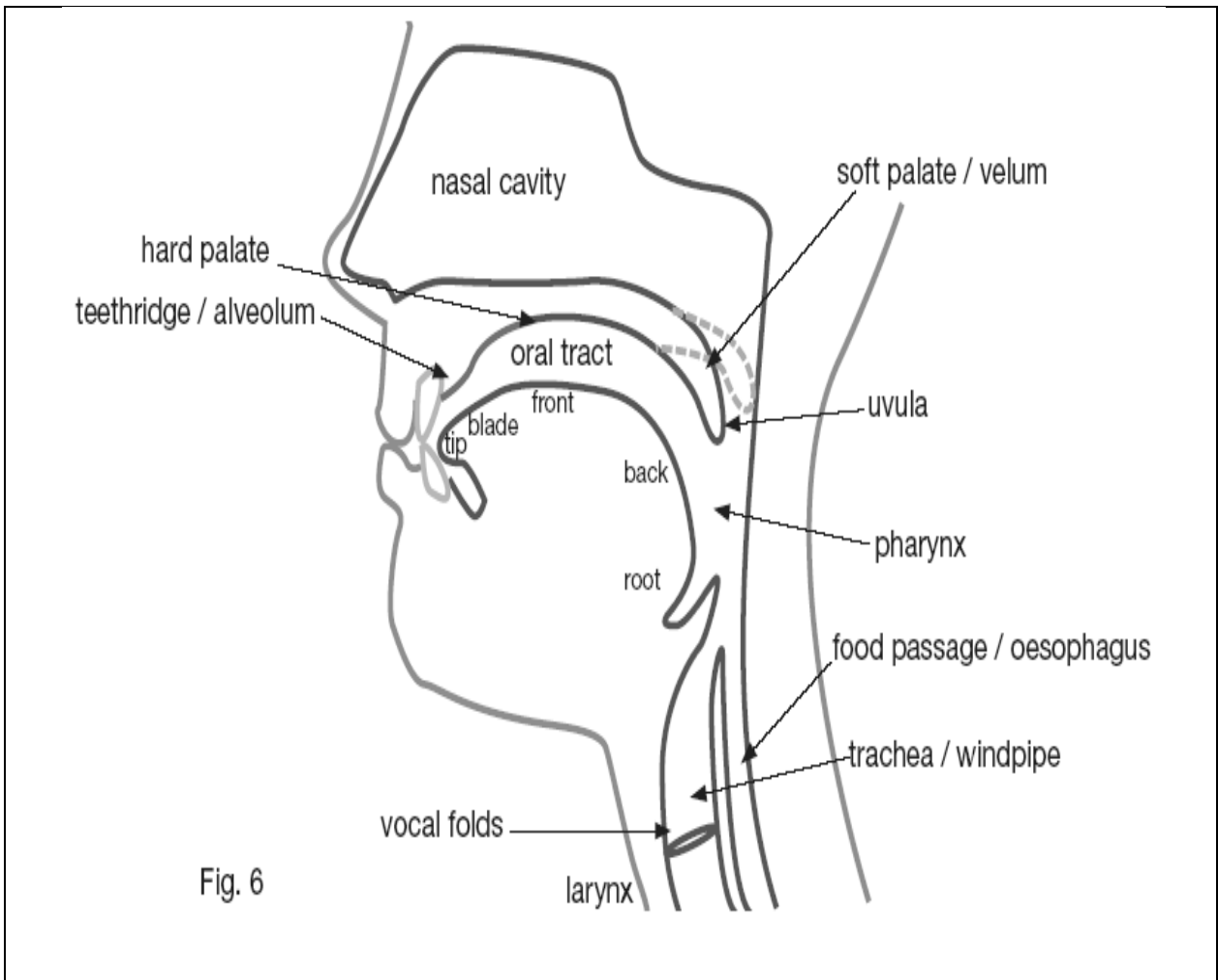


Figure 4-5: The fixed articulators “Points of Articulation”

The following table presents the movable and fixed articulators.

<p>Active Organs: they are also called “flexible” organs of speech because they can be moved into contact with the other articulators.</p>	
<ul style="list-style-type: none"> • The lungs • The vocal cords • The tongue • The soft palate (velum) 	<ul style="list-style-type: none"> • The uvula • The lips (upper and lower lips) • The jaw • The teeth
<p>Passive organs: they are also called “stable” organs of speech because they are immobile in speech sound production and their most important function is to act as the places of articulation.</p>	
<ul style="list-style-type: none"> • The upper teeth • The alveolar ridge • The hard palate 	<ul style="list-style-type: none"> • The pharynx • The larynx • The vocal tract

Table 4-1: Movable and Fixed Organs of Speech

4. 5. Common Terms of the Speech Organs

The following table presents the common names, scientific names and most importantly the adjective terms used to refer to each articulator.

Number	Common name	Scientific name	adjective
1	lips	labia	labial
2	teeth	.....	dental
3	Alveolar ridge	.....	alveolar
4	Hard palate	.....	palatal
5	Soft palate	velum	velar
6	uvula	.....	uvular
7	Upper throat	pharynx	pharyngeal
8	Voice box	larynx	laryngeal
9	Tongue tip	apex	apical
10	Tongue blade	lamina	laminal
11	Air box	lungs	.....
12	Tongue body	dorsum	dorsal

Table 4-2: Common Terms of the Speech Organs

Summary

As it was seen throughout the whole chapter, it can be said that the process of speech sounds production is rather a complicated operation since it embrace plenty of tasks and organs at the level of the upper part of the body. Speech sound production requires the availability of at least two exclusive matters which are speech organs and air. The process of speech sound production undergoes a number of stages and mechanisms in which in each stage there must be a particular development which compliment with the next stage. That is why, it is imperative to list the steps and stages according to their order of occurrence.



Section B: Practice: Exercises

Study Questions: discuss the following questions briefly.

1. Describe the actions of the vocal cords while speech sounds are produced?
2. What is the difference between active and passive articulators?
3. Why the articulators are called supra-laryngeal organs?
4. What is meant by the term ‘point of articulation’?
5. What is meant by the term ‘articulator’?
6. Do the speech organs under the larynx belong to the vocal tract?
7. What process takes place in the larynx, and what organs are involved?

Exercise 4-1

Indicate whether the following statements are TRUE or FALSE, if false; say how the correct statement should be.

1. The lower teeth are among the active articulators
2. The soft palate is an active articulator
3. During speaking, the vocal folds can make different movements into different positions simultaneously
4. The term labio-dental refers to an obstruction of air stream caused by movement of the lower lip towards the upper teeth
5. The /m/ sound has a raised velum while the /b/ sound has a lowered velum
6. The pharynx is a cartilaginous structure attached to the trachea
7. When the vocal folds are wide apart from each other, the sound being produced is said to be voiced
8. The vocal tract refers to the air passage taking place under the larynx
9. In case the vocal folds are in complete contact between each other, the sound is said to be voiceless
10. When we speak, all the articulators are moving to each other
11. The vocal folds are very important organs for sound production
12. The word “dental” is the adjective word for sounds produced by the actions of the tips
13. The word “Fortis” is a synonymous word to the word “voiced”
14. The word “lenis” is an opposite word to the word “fortis”
15. The word “voiceless” is a synonymous word to the word “fortis”



16. The word “lenis” is an opposite word to the word “voiced”
17. The hard palate is a point of articulation, not a place of articulation
18. The uvula is a part of the palate
19. The sound quality “voiced” is made by the actions of the vocal folds
20. The sound quality “voiceless” is made by the actions of the soft palate
21. The oral quality is made by the actions of the vocal folds
22. The nasal quality is made by the actions of the velum
23. During sound description, we use the adjective words for articulators
24. The vocal tract refers to the laryngeal and oral/nasal mechanism
25. The voicing and devoicing sound quality is determined by the actions of the vocal cords
26. The /ŋ/ sound is said to be oral sound
27. Just in the larynx, the sound is generated

Exercise 4-2

Read the following positions about the speech organs and then name the speech organ under such a position.

15. Just below the diaphragm:
16. Spongy materials which push the air:
17. Just above the abdomen, and between it and the chest:
18. A windpipe which represents an air passage between the lungs and the larynx:
19. The opening in the larynx:
20. The first steps of the sound production in the vocal tract:
21. They lie horizontally in the larynx, and their front ends are joined together at the back of the Adam’s apple but the rear ends remain separated:
22. The organs inside the vocal cords:
23. Directly behind the larynx lies a tube running down into the stomach:
24. An essential speech organ at the top end of the trachea:
25. They two adjacent cords in the larynx at the far top of the trachea:
26. Just above the glottis lie the three cavities called the:
27. It is an agile since it can be moved into many different places and different shapes. It can be raised, lowered, thrust forward or retracted, and even rolled back:
28. It is a piece of flesh behind the velum which can function at the same time as a point of articulation:
29. It is a tube which begins just above the larynx:



Exercise 4-3

Match the following speech organs with their adjective words.

- | | |
|-------------|---------------|
| 1. Mouth | a. glottal |
| 2. Teeth | b. lingual |
| 3. Nose | c. nasal |
| 4. Glottis | d. oral |
| 5. Pharynx | e. dental |
| 6. Tongue | f. pharyngeal |
| 7. Uvula | g. palatal |
| 8. Velum | h. bilabial |
| 9. Alveolus | j. labial |
| 10. Lips | k. apical |
| 11. Dorsum | l. dorsal |
| 12. Apex | m. alveolar |
| 13. Palate | n. uvular |

Exercise 4-4

Decide whether each speech organ in the following list is an articulator or a place or articulation.

- | | |
|----------------|-------------|
| 1. Lower lip | It is |
| 2. Upper teeth | It is |
| 3. Velum | It is |
| 4. Apex | It is |
| 5. Upper lip | It is |
| 6. Tongue | It is |
| 7. Alveolus | It is..... |
| 8. Dorsum | It is..... |



Exercise 4-5

Fill in the blanks with the right term. Note: only one term “word” is possible

1. The articulator of /f/ is
2. When the vocal cords vibrate, the sound becomes
3. The very tip of the tongue called
4. The opening between the vocal cord is called
5. The pharynx is one of the four
6. The place of articulation of /m/ is
7. The breath stream is the source of the
8. The area between the front of the tongue and the back of the tongue is called
9. If the soft palate is raised, the sound is said to be
10. The upper lip is a point of articulation, whereas the lower lip is
11. They are calledbecause their most important function is to act as the places of articulation.
12. The lower teeth cooperate with the upper teeth to make a point of articulation for sounds called
13. The uvula can function as a if touched by the back of the tongue.
14. A tube which begins just above the larynx and takes the form of a cavity between the larynx and the mouth is called
15. The most important speech organ in the laryngeal mechanism is called
16. If the velum rises up, it closes the nasal passage and thus forces the air stream to flow through the oral passage to producesounds.
17. The other three cavities lie above the larynx is all function as a steam passages.
18. For most sounds all over languages, air is stored in and transmitted from the
19. They are calledarticulators because they can be moved into contact with the other articulators.
20. The interactions of both the speech organs under the larynx, the vocal tract with the air together produce at the end what is called

Exercise 4-6

What is the alternative name of each speech organ?

1. Pharynx The alternative or second name is
2. Larynx The alternative or second name is
3. Cavity The alternative or second name is
4. Soft palate The alternative or second name is
5. Alveolus The alternative or second name is

Exercise 4-7

Match each place of articulation with appropriate sound in the following table.

Number	Place of articulation	Phonetic symbol for sounds
1	Glottal	/ð/ /θ/
2	Velar	/j/
3	Palatal alveolar	/f/ /v/
4	Retroflex	/h/
5	Palatal	/p/ /b/ /m/
6	Alveolar	/k/ /g/ /ŋ/
7	Dental	/ʃ/ /z/
8	Post alveolar	/r/
9	Bilabial	/t/ /d/ /s/
10	Labio-dental	/l/

Exercise 4-8

Complete the following table by what is necessary.

Number	Articulators' Name	Articulators' Adjective
1	Alveolar ridge	.....
2	Tongue tip	.....
3	.....	Pharyngeal
4	Laminal	.....
5	Uvular	.....
6	.....	Labial
7	.....	Laryngeal

Chapter 5

Criteria of Classification of Speech Sounds: Primary Features

Description	<p>This lecture aims at introducing a macro picture of the process of speech sounds classification and description. It explores key concepts related to the primary criteria of speech sounds classification. Through the developments of the lecture students will become familiar with the idea of how sounds are classified. The emphasis is put on the distinction between the criteria used to classify both consonants and vowels. Key content of the lecture includes two sections; the first one deals with the theoretical lecture while the second one presents a number of practical materials and exercises. It is worth to mention that the lecture is also supported by illustrations and diagrams for each criterion of classification and description.</p>
Objectives	<p>On successful completion of the lecture, students should be able, among other things, to;</p> <ol style="list-style-type: none"> 1. Introduce a general overview of the process of speech sounds description and classification. 2. Enable learners to reflect more on the multiple primary criteria for speech sounds description and classification. 3. Enable learners to distinguish between the criteria used for consonants and those used for vowels. 4. Raise learners' awareness of macro description of all speech sounds. 5. Raise learners' awareness about the contribution of the criteria of speech sounds classifications on the subsequent lectures "Consonants and Vowels". 6. Understand the importance of the criteria of sounds classification in the evaluation process. 7. Understand the importance of the criteria of sounds classification in the process of correct pronunciation of English words correctly.

Section A: Lecture

Introduction

In order to describe a sound, either consonant or vowel, we need to ask and answer a number of questions. Of course, there are some questions which seem to be more basic while others are somehow secondary and each one question represents one criterion. That is why; this



chapter is devoted to the primary features of sounds. If we are able to answer these pertinent questions to every sound, it means that we give the sound its distinctive identity, which makes it at the end obviously distinguished from many other sounds in the language. So in this chapter we will discuss the main qualities of the speech sounds.

5. 1. Common Questions for Primary Features

This section tries to answer the following basic questions about the way that should be followed to describe speech sounds. The possible questions that can be raised in such a context are as follows:

- What is the origin of the air stream?
- What is the direction of the air stream?
- What is the state of the glottis “vocal cords”?
- What is the position of the velum?
- What is the place of articulation?
- What is the manner of articulation?
- What is the advancement of the tongue?
- What is the height of the tongue?
- What is the shape of the lips?
- What is the duration of the sound?

5. 2. Primary Criteria

5. 2. 1. The Nature of Air Stream

This criterion is also referred to as the breathing quality or nature. Speech sounds are made by manipulating the way air stream from different levels in the upper part of the human beings’ body. Most sounds of all languages are made with air stream expelled out form the lungs. This kind of an air flow is called pulmonic. But it is not necessarily so. There are so many other sounds in which the lungs are not involved at all. This kind of an air flow is called non-pulmonic. For instance, when we make the clicking noise often the lungs are not parts. So this description can be applied as the first criterion for sounds classification.

5. 2. 2. The Direction of Air Stream

This criterion is also referred to as the breathing quality or nature. Speech sounds are made by manipulating the way air moves out of (sometimes into) the vocal tract. Universally across



languages sounds of speech sounds are produced on an out breath of air. This kind of an air flow is called either **egressive** or **ingressive**.

5. 2. 3. The Actions of the Vocal Cords “Glottis”

For phonetic purpose, the vocal folds are very important speech organs because their different positions produce different sound qualities. The main qualities of sounds produced under the effects of the position of the vocal cords are as follow:

5. 2. 3. 1. Voiceless Quality

When we breath, the vocal folds are kept wide apart from each other, this position allows air to pass freely across the **glottis** (the space between the folds); but during speaking, the vocal folds play an important role in terms of when they are pulled apart from each other the air passes directly (or freely) through the glottis without much interference. Any sound made with the vocal folds in this position is said to be **voiceless** (you can confirm this by touching your fingers to the larynx when you produce it). The initial sounds of (fish, sing, and few are all **voiceless**. The following table presents all the voiceless sounds of English language with example words for each sound;

Number	Example Word	Phonetic Symbol of Voiceless (Fortis)
1	Pie	/p/
2	Fight	/f/
3	Thought	/ θ/
4	Tie	/t/
5	Sip	/s/
6	Bash	/ ʃ/
7	Chive	/t ʃ/
8	Kite	/k/
9	hive	/h/

Table: 5-1. The List of Voiceless Sounds of English

5. 2. 3. 2. Voicing Quality

When the vocal folds are brought close together, but not tightly closed, air passes between them and causes them to vibrate, producing sounds that are said to be **voiced**. The initial sounds of the words; zip, you, view or any vowel sound are all voiced. It can be helpful to contrast voiced versus voiceless sounds while resting your hand on your throat. Produce the



following pairs of sounds and decide which are voiced and which are voiceless/**ffffffvvvvvvvvvvv**/ and /**sssssssssszzzzzzzzzzzz**/. In English, voiced sounds include the all the sounds which are listed in the table below and **all vowel sounds are said also to be voiced**. So the vocal folds are as two doors which, when open, allow air to pass and when closed stop the flow of the air. The following table presents all voiced sounds of English with example words for each **voiced** sound;

N	Example Word	Phonetic Symbols of Voiced (lenis) Sounds
1	By	/b/
2	My	/m/
3	Wet	/w/
4	Valid	/v/
5	This	/ð/
6	Die	/d/
7	Night	/n/
8	Zip	/z/
9	Lie	/l/
10	Road	/r/
11	Beige	/ʒ/
12	Judge	/dʒ/
13	Yet	/y/
14	Guide	/g/
15	Gong	/ŋ/
16	All vowel sounds without exception	All vowel sounds without exception

Table: 5-2: The List of Voiced Sounds of English

5. 2. 4. The Position of the Velum “Soft Palate”

We will refer to the position of the velum which determines the air stream either from the mouth passage or from the nose or from both of them. As seen before, the velum may take two different directions while producing speech sounds. If the soft palate is raised, it closes the entrance to the nasal cavity and directs the air through the oral cavity (mouth) to produce oral sounds. If the soft palate is lowered, the air flow is directed through both cavities, escaping through the nostrils and mouth at the same time. During this pattern of airflow, the sounds produced are defined as nasal sounds. It is very easy to put this idea into experiment; you can

make the sound represented by “m” in the word “Pam” and continue it for some time. As you continue it, pinch your nose and observe what happens to the sound. It should stop immediately. This shows that air was flowing through your nose. So sounds in which air flows through the nose are called nasal sounds and the same description can be said for oral sounds. In English language, there are three main nasal sounds which are /n/ / m/ /ŋ/ while all other sounds are said to be oral. The following table presents the (03) nasal sounds with example words for each;

Number	Example words	Phonetic symbol for each Nasal sound
1	Make, smile, worm, mother,	/m/
2	Name, inner, noon, no, now,	/n/
3	Sing, thing, king, ring,	/ŋ/

Table 5-3: The List of Nasal Sounds of English

5. 2. 5. The Place of Articulation

We will refer to the points at which the flow of air can be modified as places of articulation. We have just identified the role of vocal folds as a very important stage in speech sound production according to the position of the glottis; since the latter contribute to the quality of sounds as voiced and voiceless. The next quality of sounds is determined largely by the point or place of articulation. The latter means the point or place touched by the articulator. In fact, there are many places of articulation for English language sounds. In this respect we try to identify all the available places of articulation in the table below:

POA	Articulators' Movement	Example words	Ph symbols
Bilabial	They are about sounds involving both of the lips (upper and lower lips) such as /p, b, m/ where the lips are in a complete closure to each other. Where the lips are in a near-closure to each other such as /w/. This sound is also called labiovelar, since the tongue is raised near the velum and the lips are rounded at the same time.	Peer, pupil, path, been, buy, blind, mouth, my, main, ... way, wonder,	/p/ /b/ /m/ /w/
labiodentals	It is about sounds involving the lower lip and upper teeth which are in contact to each other such as /f, v/	foal, feel, foam, fight, vie, view, valid,	/f/ /v/

Dental	Dental sounds are produced with the tongue placed against or near the teeth such as / θ, ð /.	thing, thought, through, thorough, this, they, those, ...	/ θ / / ð /
alveolar	Within the oral cavity, a small ridge just behind the upper teeth. This is called the alveolar ridge. Alveolar sounds are made when the tongue may touch or be brought near this ridge such as / t, d, s, z, n, l /	top, dear, soap, zip, lip, and neck	/ t / / d / / s / / z / / n / / l /
Palate-alveolar	Just behind the alveolar ridge, the roof of the mouth rises sharply. This area is known as the alveolar-palatal area. It is used for sounds such as / ʃ, tʃ, dʒ /. Where the tip or blade of the tongue touches the alveolar ridge which is directly behind the upper teeth such as the / r / sound. All the alveolar sounds are made by approximating the tongue to the alveolar ridge.	Show, church, measure, judge, chip, write, rear, ...	/ ʃ / / tʃ / / dʒ / / r /
palatal	The highest part of the roof of the mouth is called the palate, and sounds produced with the tongue on or near this area are called palatals such as / j /.	yes, year, yeast, ...	/ j /
velar	The soft area towards the rear of the roof of the mouth is called the velum “soft palate”. Sounds made with the tongue touching or near this position are called velars. Velars are heard in English as follows; / k, g, ŋ /	Call, guy, hang,	/ k / / g / / ŋ /
glottal	Sound produced using the vocal folds as the primary articulators. The / h / sound in the words “heave”, “hog” is made at the level of the glottis with this position.		/ h /

Table 5-4: The List of Places of Articulation

5. 2. 6. The Manner of Articulation

For any given speech sound we must say something about the nature of air stream, the position of the vocal cords, the movements of the velum, and the place of articulation. But in order to distinguish between the full ranges of speech sounds, we will require another descriptive parameter which is: manner of articulation. The latter term refers to the kind of closure or constriction in the vocal tract. Sounds of English language are produced by a number of manners of articulation. The following table presents all the details about the manners of articulation. To identify the manner in which a sound is articulated, we need to identify three degrees of construction of air stream (complete closure, close approximation, and open approximation), and thus a number of categories of sounds are identified in this respect such as: stops, fricatives and approximants.

M O A	Description	Example Words	Ph Symbols
Complete Closure			
Plosive (Stop)	In these sounds the vocal folds are entirely closed before the sounds is made. Air pushes against the closed vocal folds until the pressure becomes too great and forces them to open. The vocal folds burst open releasing a large amount of air and then closed again slowly.	Park-stop Best- lob Time- might Done- paid Cart- lake Guide- flag	/p/ /b/ /t/ /d/ /k/ /g/
Affricate	These sounds are a mix of two sounds; one stop and one fricative, and share elements of both. Affricates begin with the vocal folds closed. As the air begins to put pressure on them, they open up slightly and the air is allowed to escape. There is no explosion of air, as in stop sounds.	Chart-itch Giant-page	/tʃ/ /dʒ/
Nasal	There are sounds in which the uvula is lowered causing the air to move through the nasal cavity instead of the mouth.	Main-lime No-rain Sing	/m/ /n/ /ŋ/
Close Approximation			
Fricative	In these sounds the vocal folds are open, but only slightly. Air flow is halted but never completely stopped. The small opening in the vocal folds causes	Fine-knife Van-leave Think-path	/f/ /v/ /θ/

	a large amount of friction in the voice box and that is why these sounds are called fricatives.	Those-bathe Sort-pass Zone-cheese Ship- marsh Measure heave	/ð/ /s/ /z/ /ʃ/ /ʒ/ /h/
Open Approximation			
Glide	The flow of air is almost completely free. For this reason these sounds are sometimes called “semi-vowels”. They differentiate themselves by having some sorts of movement going on inside the mouth.	Wall Right Yes	/w/ /r/ /j/
Lateral	These sounds also fall under the semi-vowel classification but are different because the air moves along the sides (right and left) of the mouth.	Like	/l/

Table 5-5: The List of Manner of Articulation

5. 2. 7. The Height of the Tongue

This criterion works well with the vowel sounds. In order to best describe the vowel sounds, one should know that the major challenge is to define the different positions of the tongue. The latter organ as it moves it does not form any significant obstruction of the air in the vocal tract. As a result, vowel sounds are produced without any specific point of blockage. In this section we try to describe the multiple factors which contribute to better identify the vowel sounds properly. In this respect, the height of the tongue refers to the vertical movements of the tongue depicts the height of the body of the tongue and refers to how high or low the tongue is positioned in the mouth. Consequently, the following features are the main characteristics of the vowels according to the height of the tongue.

- **High or close quality:** these vowels are articulated with the tongue located as high as possible in the oral cavity, thus narrowing the passage for the air flow. The sounds produced under this position are as follows: /i, i:, u, u:/.
- **Mid or mid open quality:** these vowels are articulated with the tongue lowered in the oral cavity. (See the list of low vowels in the lectures 7).

- **Low or open quality:** these vowels are articulated with the tongue positioned as low as possible in order to leave a lot of space for the air flow. (See the list of low vowels in the lectures 7).
 - The Figure (7 - 2) below presents the different positions and shapes that the tongue takes for pronouncing the high, low and mid vowels.

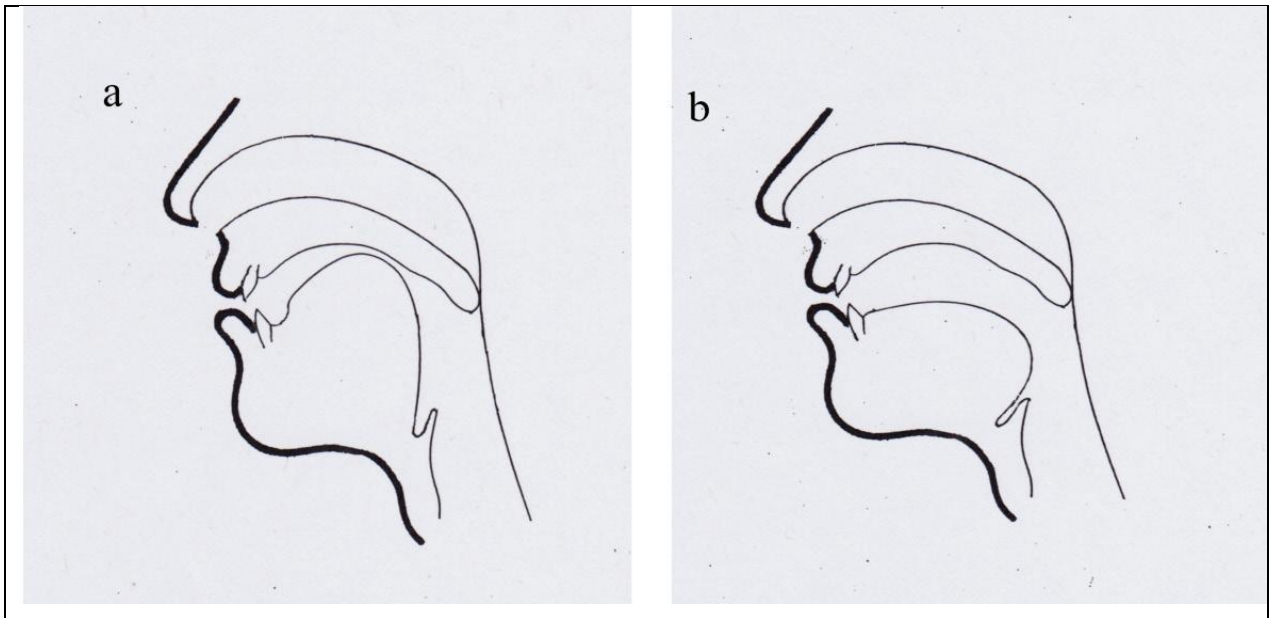


Figure 5-1: Vertical Movements of the Tongue

5. 2. 8. The Advancement of the Tongue

The advancement of the tongue refers to the horizontal movements of the tongue, or tongue advancement to the front area or back area as essential in forming and grouping sounds into sub-groups as follows:

- **Frontal vowels:** these vowels are articulated with the tongue located far forward in the oral cavity toward the hard palate. The sounds produced under this position are as follows: / i / / e / / æ / / iː / / eɪ /
- **Central or mix vowels:** these vowels are articulated with the tongue retracted to the middle area in the oral cavity. The sounds produced under this position are as follows: / ə / / ɜː / / ʌ /
- **Back vowels:** these vowels are articulated with the tongue retracted as far as possible to shape the space in the front part of the oral cavity. The sounds produced under this position are as follows: / ɒ / / ʊ / / aː / / ɔː / / əʊ / / uː /

The Figure (7 -1) below presents the different positions and shapes that the tongue takes for pronouncing the front, back and central vowels.

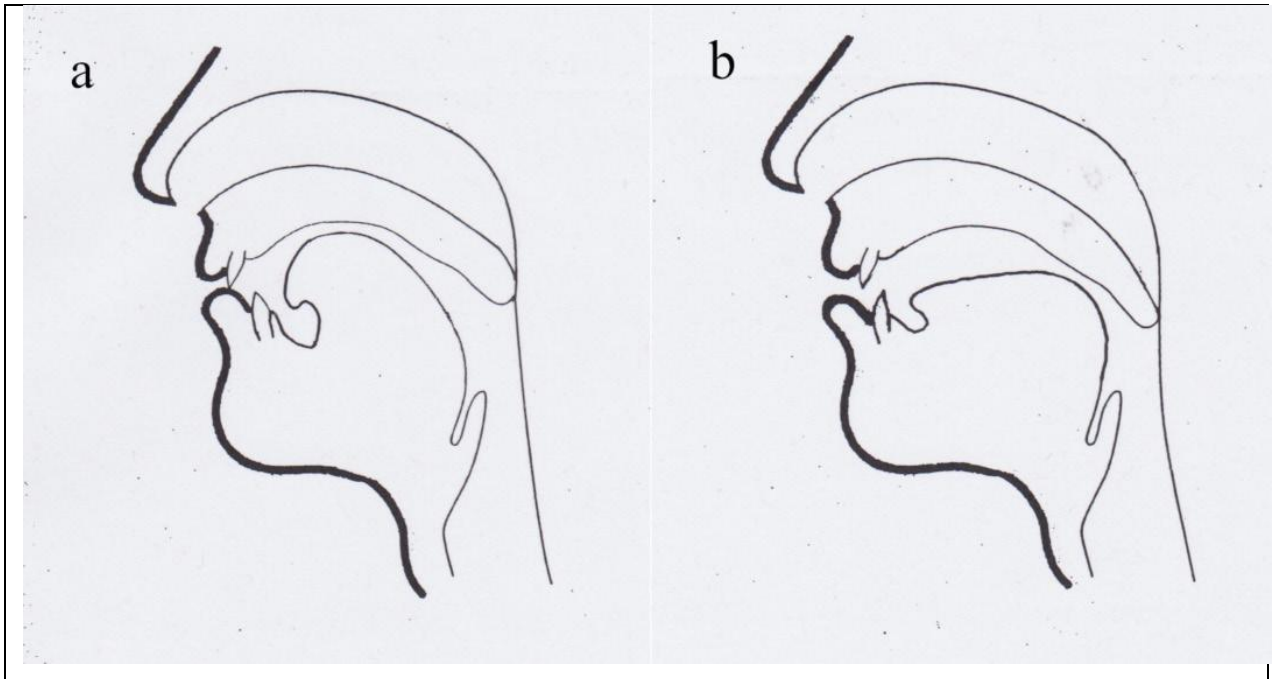


Figure 5-2: Horizontal Movements of the Tongue

5. 2. 9. The Shape of the Lips

The shapes of the lips have a central role in producing and shaping vowel sounds. So vowels may also be different from each other with respect to the rounding and shaping of the lips. The latter shapes are said to be very necessary to enlarge or diminish the space within the mouth. The following sets of vowels are identified thanks to the shapes of the lips:

- **Rounded Quality:** these vowels are articulated with the lips shape into a circle or tube.

The sounds produced under this position are as follows: /ɔɪ /

- **Spread Quality:** these vowels are articulated with the corners of the lips which are moved away from each other. The sounds produced under this position are as follows:

/uɪ /

- **Neutral Quality:** these vowels are articulated when the lips are not noticeably rounded or spread. The sounds produced under this position are as follows: /ə /

- The Figure (7 – 2) below presents the different positions and shapes that the tongue takes for pronouncing the vowels according to the shapes of the lips.

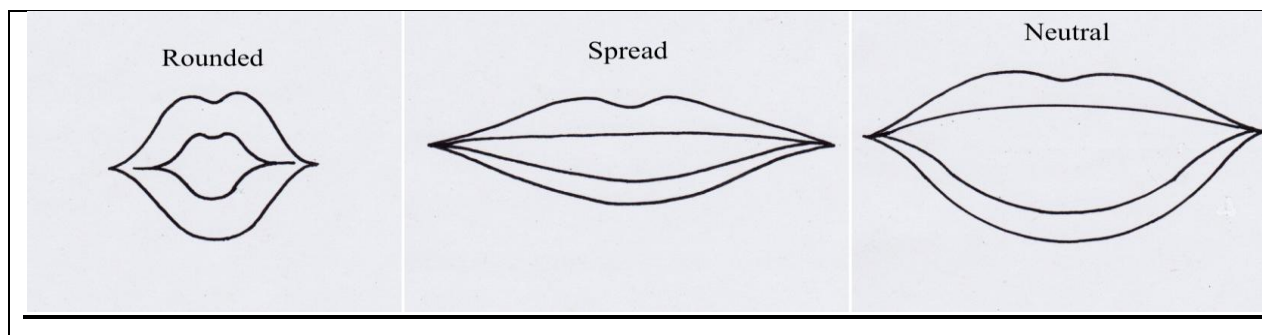


Figure 5-3: The Positions of the Lips for Vowel Sounds

5. 2. 10. The Duration of the Sound

According to the tenseness quality, vowels are classified into one of two groups: tense and lax vowels. The first category of vowels is relatively higher and longer, while the second one is shorter, lower and slightly more centralized. Carr (2008: 175) claims that tense vowels are articulated closer to the periphery of the vowel sound space and are typically longer than their lax counterparts. So vowels may also be different from each other with respect to the length of time they occupy while they are produced. Thanks to this quality the following sets of vowels are identified:

- **Short Vowels:** these vowels are articulated with very short period of time. Some of the sounds produced under this duration of time are as follows: / i / / e / / æ / / ʊ / / ɒ / / ʌ / / ə /
- **Long Vowels:** these vowels are articulated with somehow long period of time relatively longer than short. Some of the sounds produced under this duration of time are as follows: / iː / / ɜː / / ɔː / / uː /
- **Diphthongs Vowels:** these vowels are articulated with somehow long period of time relatively longer than short and long vowels. In more proper words they are produced with double sounds. Some of the sounds produced under this duration of time are as follows: / eɪ / / aɪ / / ɔɪ / / ɪə / / ʊə / / ɛə / / aʊ / / əʊ /
- **Triphthongs Vowels:** these vowels are articulated with somehow long period of time relatively longer than diphthongs. In more proper words they are produced with double sounds + / ə /. Some of the sounds produced under this duration of time are as follows: / eɪə / / aɪə / / aʊə / / əʊə / / ɔɪə /



Summary

If we want to describe a sound, we have to ask and answer a number of questions. Some of the questions are primary and basic. Some of the questions are attributed to the description of consonants while others are for vowels. To conclude:

- Consonants are described in relation to the nature of air stream “origin and direction”, position of the vocal folds, position of the velum, place of articulation and manner of articulation.
- Vowel sounds are described in relation with the position of the tongue in terms of height and advancement, the shape of the lips and the duration.



Section B: Practice: Exercises

Study Questions: discuss the following questions briefly.

1. What is the origin of the air streams?
2. What is the direction of the air stream?
3. What is the state of the glottis?
4. What is the position of the velum?
5. What is the place of articulation?
6. What is the manner of articulation?
7. What is the advancement of the tongue?
8. What is the height of the tongue?
9. What is the shape of the lips?
10. What is the duration of time of the sound?

Exercise 5-1

Indicate whether the following statements are TRUE or FALSE, if false; say how the correct statement should be.

1. The pulmonic sounds are produced when the air escapes out the vocal tract
2. Eggressive sounds are related to the position of the velum
3. The nature of air stream identifies two qualities of speech sounds
4. The glottis and the vocal folds give two distinctive features of sounds.....
5. Voicing and voiceless qualities depends largely on the state of the glottis.....
6. Consonants are best described by either six or three criteria
7. Fortis and lenis qualities depend largely on the state of the vocal cords
8. It is said that all vowel sounds are voiced
9. Oral and nasal sounds depend largely of the position of the soft palate
10. The height of the tongue refers to the horizontal movements
11. Places of articulation refer to the way the air escapes out from the vocal tract
12. Places of articulation and manner of articulation have the same connotations
13. Open and high vowels indicate the same points in the tongue
14. In order to describe sounds there are similar questions to be asked and answered for both vowels and consonants
15. Vowels are best described by four criteria



16. Manner of articulation refers to the three types of closure or approximation of the air stream
17. The advancement of the tongue refers to the horizontal movements
18. Vertical and horizontal movements of the tongue identify the consonant sounds
19. Frontal vowels are articulated with the tongue located forward to the soft palate
20. Central vowels are articulated with the tongue located forward to the soft palate
21. Back vowels are articulated with the tongue located forward to the soft palate
22. High and close vowels refer to two distinctive positions in the tongue
23. Nasality quality refers to the breath stream passes the nose only
24. The shapes of lips have a central role in the production of consonant sounds
25. The articulators refers to the passive speech organs
26. Apical sounds are produced when the tongue approaches the alveolus
27. Secondary features of sounds have equal importance as the basic ones since they contribute to identify speech sound
28. Nasalization and nasality qualities are two distinctive terms
29. In RP and many varieties of English the final “r” of all triphthongs are not pronounced.....
30. The idea of how long the sound can take simultaneously with the breathing period is known as aspiration
31. Lax and tense qualities refer to the duration of time that the sound may take to initiate and articulate

Exercise 5-2

Say what is the Place of Articulation (POA) of the following sounds? And then justify your choice.

1. /k/ is a because
2. /g/ is a because
3. /r/ is a because
4. /l/ is a because
5. /n/ is a because
6. /θ/ is a because
7. /m/ is a because
8. /e/ is a because
9. /w/ is a because



10. /z/ is a because
11. /t/ is a because
12. /r/ is a because

Exercise 5-3

Sat what is the Manner of Articulation (MOA) of the following sounds and then justify your choice.

1. /l/ is a because
2. /y/ is a because
3. /r/ is a because
4. /m/ is a because
5. /f/ is a because
6. /θ/ is a because
7. /m/ is a because
8. /e/ is a because
9. /w/ is a because
10. /z/ is a because
11. /t/ is a because
12. /r/ is a because

Exercise 5-4

Decide by yourself whether the following sounds are voiced or voiceless and then justify your choice.

13. /m/ is a because
14. /g/ is a because
15. /t/ is a because
16. /l/ is a because
17. /n/ is a because
18. /θ/ is a because
19. /k/ is a because
20. /e/ is a because
21. /w/ is a because
22. /z/ is a because



23. /f/ is a because

24. /r/ is a because

Exercise 5-5

According to the given articulator, how do you describe each sound? Example: dorsum, dorsal

1. Dorsum:
2. Lower lip:
3. Apex:
4. Front of the tongue:
5. Center of the tongue:
6. Root of the tongue:

Exercise 5-6

What are the places of articulation of the following statements?

1. The back of the tongue approximates to the soft palate
2. The lips come together
3. The tip or the blade of the tongue touches the alveolar ridge which is directly behind the upper teeth
4. The front of the tongue approximates to the hard palate
5. The tip of the tongue is close to the alveolar ridge while the front of the tongue is concave to the roof of the mouth
6. The lips or the blade of the tongue comes in contact with the upper teeth
7. The lower and the upper teeth come together
8. The tip of the tongue is curled back to articulate with the part of the hard palate immediately behind the alveolar ridge

Exercise 5-7

Fill in the blanks in the following table to describe each given sound.

No	Sound	Voice	POA	MOA	Articulator	Air passage	Duration
1	/p/						
2	/m/						
3	/l/						
4	/r/						
5	/e/						
6	/s/						
7	/f/						
8	/t/						
9	/u/						
10	/y/						
11	/g/						
12	/w/						
13	/z/						
14	/b/						
15	/n/						
16	/h/						
17	/i/						
18	/ð/						

Chapter 6

Criteria of Classification of Speech Sounds: Secondary Features

Description	This lecture aims at introducing a macro picture of the process of speech sounds classification and description. It explores key concepts related to the secondary criteria of speech sounds classification. Through the developments of the lecture students will become familiar with the idea of how sounds are classified. The emphasis is put on the distinction between the criteria used to classify both consonants and vowels. Key content of the lecture includes two sections; the first one deals with the theoretical lecture while the second one presents a number of practical exercises.
Objectives	<p>On successful completion of the lecture, students should be able, among other things, to;</p> <ol style="list-style-type: none"> 1. Introduce a general overview of the process of speech sounds description and classification. 2. Enable learners to reflect more on the multiple secondary criteria for speech sounds description and classification. 3. Enable learners to distinguish between the criteria used for consonants and those used for vowels. 4. Raise learners' awareness of macro description of all speech sounds. 5. Raise learners' awareness about the contribution of the criteria of speech sounds classifications on the subsequent lectures "Consonants and Vowels". 6. Understand the importance of the criteria of sounds classification in the evaluation process. 7. Understand the importance of the criteria of sounds classification in the process of correct pronunciation of English words correctly.

Section A: Lecture

Introduction

In order to describe a sound, either consonant or vowel, we need to ask and answer also a number of questions for secondary features. If we are able to answer them for every sound, it means that we can provide the sound with its distinctive identity, which makes it at the end obviously distinguished from many other sounds in the language. So in this chapter we will also discuss the secondary qualities of the speech sounds.



6. 1. Common Questions for Secondary Features

This section tries to answer the following secondary questions about the additional criteria that should be followed to describe sounds. The possible questions that can be raised in such a context are as follows:

- What is the difference between the active and passive articulators?
- What is the role of the four cavities?
- What is the meaning of the aspiration quality?
- What is the meaning of continuation quality?
- What is the meaning of nasalization quality?
- What are the different distributions of the /ŋ/ sound?
- What are the different distributions of the /l/ sound?
- What are the different distributions of the /r/ sound?
- What are the different treatments of /s/ /z/ /iz/ sounds?
- What are the different treatments of /t/ /d/ /id/ sounds?

6. 2. Secondary Features

6. 2. 1. Articulators (or Points of Articulation)

The articulators, the moving speech organs, are one of the essential makers of any human beings sound. This criterion refers to the speech organ which initiates movements to be in contact with a second articulator in order to make a sound. According to the articulators, the sound may belong to one of the following articulators:

- **Labial:** if the lower lip moves to touch the upper lip or upper teeth, the sound is labial. Sounds produced in this way like /b/, /m/, /f/, and /v/.
- **Apical:** if the apex of the tongue as the articulator, usually touching the alveolus, the sound is apical. Sounds produced in this way like /s/, /z/, /t/...
- **Frontal:** if the front of the tongue as the articulator, usually the sound is called frontal. Sounds produced in this way like front vowels.
- **Central:** if the articulator is the center of the tongue, usually touching the hard palate, the sound is said to be central. English language does not have central sounds.
- **Dorsal:** if the articulator is the dorsum. That is to say, the back of the tongue usually touching or approaching the velum, the sound is said to be dorsal. Sounds produced in this way like /k/ and /g/.



- **Radical:** if the articulator is the root of the tongue, the sound is said to be radical. English language does not have radical sounds.

6. 2. 2. Resonance

Sounds are divided into either resonant quality or non-resonant quality. This quality is produced when they are accompanied by vibration of one of the resonance cavities such as the nose, mouth, or the pharynx. English resonant sounds may be nasal resonant or oral resonant, depending on which resonator vibrates. Oral resonant sounds are laterals, glides and vowels. The sounds produced under these actions are nasal resonant such as /m/, /n/, and /ŋ / and oral resonant such as stops, affricates and fricatives.

6. 2. 3. Aspiration

Sounds can also be divided into two categories depending on the aspiration quality. Aspiration is a puff of breath accompanying a sound, usually a voiceless stop coming initially in a stressed syllable. Sounds are produced in such context as the initial sound in word “Pen”. /p/ here /P/ is aspirated, and /n/ is un-aspirated. Cruttenden (2014) defines them as a voiceless interval consisting of strongly expelled breath between the release of the plosive and the onset of the subsequent vowel. So this special feature of articulation is termed aspiration, and the plosive are said to be aspirated. On the other hand, this feature is lost when a fricative sound (usually /s/) follows the voiceless plosive.

6. 2. 4. Continuation

It means how long the sound can take simultaneously with the breathing period. Some sounds can be continued in articulation as long as the breath allows continuing along with sound articulation. Sounds produced in such a way are /s/, /z/, and /n/. Such sounds are called continuants; the term also is applicable to affricatives, nasals, laterals, glides, and vowels. The other type of sounds is called non-continuants, which can be applied only to stops and affricates on the basis that they can not take as long as with the breathing duration simultaneously.

6. 2. 5. Nasalization

If the stream passage passes through the mouth and the nose at the same time, the sound is nasalized. Any oral sound can be nasalized if the velum drops down a little merely to allow the breath stream to pass through the nose like the vowel sound in the word “ban”. You should remember that nasalization is different from nasality. In nasality, the breath stream passes



through the nose only like in the initial sound of the word “mother”. But in nasalization, the breath stream passes through both the nose and the mouth simultaneously. Nasalization makes nasalized sounds, whereas nasality makes nasal sounds.

6. 2. 6. The Distributions of Palatalized /l/ Sound

The term palatalisation refers to the process by which a sound, usually a consonant, is articulated with the tongue shifted near the hard palate. The sound /l/ can be realized as a palatalized allophone with the tongue slightly moved toward the palate. This allophone is called **clear /l/**, and it occurs before vowels such as in words (light, love’ ...). The non-palatalized allophone, the **dark /l/**, is realized in other contexts: before consonants and in the final positions of words such as in words (milk, ball,).

6. 2. 7. The Distributions of /ŋ/ Sound

This special nasal / ŋ / sound requires a special discussion because it causes plenty of problems for foreign English language learners. In this respect, Roach (2009: 47) provided a detailed description of the different distributions of it. The common distributions are as follows:

- The / ŋ / sound is never found in the initial position of a syllable or a word.
- In the medial position, the / ŋ / is always followed by the plosive /k/ if the word has **-nk-** in its spelling form in words such as (think, banknote).
- The difficulty with this sound is when the / ŋ / sound is expected to be followed by the sound /g/ in the words with **-ng-** spelling form.
- When / ŋ / occurs at the end of the morpheme (at the end of a minimal unit of meaning), /g/ is not presented and pronounced in words like as (singer,).
- When / ŋ / occurs in the middle of a morpheme, it is followed by the plosive, /g/ sound in such a case is presented and pronounced.

6. 2. 8. The Distributions of /r/ Sound

The approximant /r/ sound is another case to be discussed, as its articulation and distribution are not the same in different accents of English. Most British accents like RP are non-rhotic, which means that speakers exclude the sound /r/ before a consonant or in final positions of words before a prosodic break. Meanwhile, rhotic accents generally realize /r/ in all contexts. Accordingly, in the following examples of words in RP, the sound /r/ is not pronounced:



- Car /...../
- Ever /...../

6. 2. 9. Treatment of final / s/ /z/ /iz/ Sounds

Many students often confuse between /s/ and /z/ sounds at the end of words when, in spelling, they write –s-. This is essentially relevant to the plural forms of nouns, and the third person singular form of verbs. Actually there are three types of endings, and they are determined by the voice quality of the preceding sound. The table below presents the special treatments or rules of them.

Number	Sounds	Treatments	Example Words
1	/s/	After voiceless consonant	Books, roofs, stops, writes
2	/z/	After voiced consonants and vowels	Songs, sons, walls, goes
3	/iz/	After /s/ /z/ / ʃ / ʒ/ /tʃ/ / dʒ/	Churches, languages, teachers,

Table 6-1: Special Treatments of /s/ /z/ and /iz/

6. 2. 10. Treatment of final / t/ /d/ /id/ Sounds

The past form of regular verbs in spelling –ed- may be pronounced as /t/ /d/ or /id/, which is again determined by the voice quality of the preceding sound. The table below presents the special treatments or rules of them.

Number	Sounds	Treatments	Example Words
1	/t/	After voiceless consonant	Looked, missed, past, crossed,
2	/d/	After voiced consonants and vowels	Played, served, appeared,
3	/id/	After /t/ /d/	Hated, stated, wanted, voted,

Table 6-2: Special Treatments of /t/ /d/ and /id/

Summary

If we want to describe a sound, we have to ask and answer a number of questions. Some of the questions are primary while others are secondary ones. Some of the questions are attributed to the description of consonants while others are for vowels. To conclude: both primary and secondary features are important for an accurate description of sounds.



Section B: Practice: Exercises

Study Questions: discuss the following questions briefly.

1. What is the difference between the active and passive articulators?
2. What is the role of the four cavities?
3. What is the meaning of the aspiration quality?
4. What is the meaning of continuation quality?
5. What is the meaning of nasalization quality?
6. What is the meaning of the lengthy sounds?

Exercise 6-1

Decide whether the following sounds are continuants or non-continuants and then justify your choice.

1. /p/ is a because
2. /g/ is a because
3. /t/ is a because
4. /m/ is a because
5. /n/ is a because
6. /s/ is a because
7. /v/ is a because
8. /e/ is a because
9. /d/ is a because
10. /z/ is a because
11. /f/ is a because
12. /r/ is a because

Exercise 6-2

Decide whether the following sounds are resonant or no-resonant continuants and then justify your choice.

1. /m/ is a because
2. /g/ is a because
3. /e/ is a because
4. /f/ is a because



5. /l/ is a because
6. /l/ is a because
7. /n/ is a because
8. /z/ is a because
9. /d/ is a because
10. /k/ is a because
11. /t/ is a because
12. /w/ is a because

Exercise 6-3

Decide whether the following sounds are aspirated or non-aspirated and then justify your choice.

1. /l/ is a because
2. /g/ is a because
3. /t/ is a because
4. /m/ is a because
5. /n/ is a because
6. /s/ is a because
7. /v/ is a because
8. /e/ is a because
9. /d/ is a because
10. /z/ is a because
11. /f/ is a because
12. /r/ is a because

Exercise 6-4

Which of the following words are pronounced with clear /l/ and which are pronounced with dark /l/?

Number	Word	Transcription	Clear /l/ or dark /l/
1	Alphabet	/...../	
2	Meal	/...../	
3	Bell	/...../	
4	Glow	/...../	

5	Especially	/...../	
6	Milk	/...../	
7	Social	/...../	
8	Glare	/...../	
9	Stumble	/...../	
10	Familiar	/...../	

Exercise 6-5

Which of the following words are pronounced with /ŋ/ and which are pronounced with /ng/: England, strongest, ringer, anger, anguish, banging, hanger, jingle, mongoose, younger, angriest, angry, finger, danger, language,

/ŋ/	/ng/

Exercise 6-6

Complete the table below by writing the sound that correctly ends each of these words.

Number	Word	/s/ /z/ /iz/	Word	/t/ /d/ /id/
1	Inventions		Placed	
2	Professors		Allotted	
3	Matches		Suggested	
4	Cultures		Remembered	
5	Examples		Looked	
6	Entertains		Bleached	
7	Manages		Masked	
8	Devotes		Accomplished	
9	Saves		Computed	
10	Attaches		Argued	
11	Arrives		Asked	
12	Trees		Devoted	

Chapter 7

Consonant Sounds: Production, Classification and Description

Description	<p>This lecture aims at introducing a micro picture of the process of consonants production, description and classification. It explores key concepts related to the meanings of consonant sounds, letters versus sound symbols, criteria of classification, detailed description of production and classification. Through the developments of the lecture students will become familiar with the idea of how consonants are produced and classified. Key content of the lecture includes two sections; the first one deals with the theoretical matters while the second one presents a number of practical materials and exercises. It is worth to mention that this lecture is also supported by illustrations and diagrams for each place of articulation.</p>
Objectives	<p>On successful completion of the lecture, students should be able, among other things, to;</p> <ol style="list-style-type: none"> 1. Introduce a general overview of the process of consonant sounds production, description and classification. 2. List the differences in production and function of vowels versus consonants. 3. Enable learners to reflect more on the specific criteria for consonants production, description and classification. 4. Enable learners to distinguish between the criteria used for consonants and vowel sounds description and classification. 5. Identify the five descriptive parameters that are used for consonants articulation. 6. Differentiate between the available sub-groups of consonants. 7. Raise learners' awareness of micro production and classification of each consonant as well as category. 8. Raise learners' awareness about the contribution of v consonants lectures in relationship with the subsequent lectures "English Transcription". 9. Understand the importance of the consonants in the evaluation process. 10. Understand the importance of the consonants in the process of correct pronunciation of English words correctly.



Section A: Lecture

Introduction

All consonant sounds of English have certain properties in common that identify and distinguish them from vowel sounds. Furthermore, there are number of properties which distinguish consonant sounds among each other, and henceforth, they are themselves divided into sub-groups. There are 24 consonant sounds in English, although seven of them are referred to as sonorant because they share several features (sonority and continuation) with vowels. The pure 17 consonants are narrowed to the term obstruent because the air flow is always obstructed to at some points in the vocal tract when the sounds are articulated.

7. 1. Definition of Consonant Sounds

From a phonetic point of view, a consonant sound is a speech sound made by blocking air flow as it leaves the vocal tract.

- **Consonant sounds** occur with some sort of stopping or at least some slowing down of the air flow. This means that the vocal folds do not remain completely open as we make a consonant sound. In consonants, the vocal folds somehow impede the flow of air. Vowels, on the other hand, are produced with no halting or impeding of the flow of air. The vocal folds are completely opened and air moves with no restrictions.
- **All consonant sounds** are produced by entirely or almost entirely stopping the air stream coming from the lungs or where the opening is so narrow that the air escapes with audible friction.
- **Consonant** sounds may be broadly described as movements of the vocal tract that obstruct or restrict the flow of air.

7. 2. Consonant Sounds: Letters versus Sounds

In English, there are 24 consonant sounds. The following table presents all the phonetic symbols of the 24 consonant sounds + example words + letters that represent each sound.

Number	Letters	Phonetic Symbols for Consonants	Example Words
1	B	/n/	Snail
2	C	/ʒ/	Measure
3	D	/l/	Like
4	F	/θ/	Thing
5	J	/ð/	This
6	H	/s/	Seek
7	G	/t/	Take
8	K	/j/	Yet
9	L	/d/	Day
10	M	/h/	Heel
11	N	/tʃ/	Church
12	P	/z/	Zoo
13	Q	/m/	Mail
14	R	/f/	Shy
15	S	/v/	Vain
16	T	/g/	Guide
17	V	/k/	Like
18	W	/p/	Pipe
19	X	/ŋ/	Sing
20	Y	/w/	Wine
21	Z	/dʒ/	Judge
22	-	/f/	
23	-	/r/	Foal
24	-	/b/	Ride back

Table 7-1: Letters versus sounds of English consonants

7. 3. Criteria for Consonants Description

In order to know more about consonant sounds of English, it is important to know how and where they are made in the vocal tract. It is important also to be able to group certain sounds together which make them easier for students to be able to understand and feel how these sounds are interrelated and articulated in the same way. If you can group one sound in a group of sounds well, then you can understand the system of similarities and differences that exist between them.



In general, all the consonant sounds of English language without exception are described in terms of the following basic (6) criteria:

1. The nature of the air stream; (egressive versus ingressive);
2. The origin of air stream (pulmonic versus non-pulmonic);
3. The action of the vocal folds (closed, open, or vibrating);
4. The position of the soft palate (moves up or down);
5. The position of various movable organs of the mouth (place of articulation);
6. The acts of the vocal tract when pushing air out (manner of articulation).

In particular, to describe consonant sounds of English we must ask and answer the following (6) questions:

1. What is the nature of the air stream? (pulmonic or non-pulmonic)
2. Is the air stream egressive or ingressive? (the air goes out of the vocal tract or it goes inside it)
3. What is the state of the glottis (the vocal folds)? (whether the vocal folds vibrate, closed, or wide apart from each other)
4. What is the position of the velum? (nasal sounds when the soft palate lowered, oral sounds when the soft palate raised)
5. What is the place of articulation?(what organs get together to stop the air stream or narrow it down, which are active, which are passive)
6. What is the manner of articulation? (How much air is blocked or narrowed? How much closure is there? How much force is used to push the air out from the vocal tract?)

7. 4. Classification of English Consonant Sounds

We can classify consonant sounds according to the following characteristics.

7. 4. 1. Pulmonic versus Non-pulmonic Sounds

Speech sounds are made by manipulating the way air moves out of (or sometimes into) the vocal tract. Universally across languages sounds of speech are produced on an out –breath. This kind of airflow is called pulmonic (because the movement of air is initiated by the lungs; the Latin word for lung is ‘pulmo’). Most consonant sounds of English are said to be pulmonic except /h/, /k/, /g/ which are said to be non-pulmonic.

7. 4. 2. Egressive versus Ingressive Sounds

Most speech sounds are made in an egressive way (because the air comes out of the vocal tract; ‘e’, ‘out’, ‘-gress’, means ‘move forward’): all spoken languages have pulmonic egressive sounds.

7. 4. 3. Voicing versus Voiceless Sounds

During speaking, the vocal folds play an important role. They can be wide apart and opened. If they are opened the sound is said to be voiceless. In addition, they can be close to each other. If they take this position the sound is said to be voiced. See the table of voiced and voiceless sounds).

Number	Obstruent		Sonorant
	Voiced	Voiceless	Voiced
1	/b/	/p/	/m/
2	/d/	/t/	/n/
3	/g/	/k/	/ŋ/
4	/v/	/f/	/l/
5	/z/	/s/	/r/
6	/ʒ/	/ʃ/	/w/
7	/ð/	/θ/	/j/
8	/dʒ/	/tʃ/	-
9	-	/h/	-

Table 7-2: “Obstruent versus Sonorant” and “Voiced versus Voiceless Consonants”

7. 4. 4. Nasal versus Oral Sounds

Air passes out of the vocal tract either through the mouth or the nose. The way that it comes out affect the sound generated;

- **Oral and nasal airflow:** air can exit the vocal tract through the mouth or the nose. This is controlled by the actions of the soft palate. If the velum is raised, then the nasal cavities are blocked off. Consequently, air can not pass through them, and it must exit the vocal tract through the mouth. Sounds with airflow exit through the mouth only are said to have

oral airflow (most consonant sounds of English are said to be oral except /m/, /n/, /ŋ/. If the velum is lowered, air flows through the nasal cavities. If the air flows through the nose, the airflow is nasal.

- **Lateral airflow:** when the air flows both from sides of the mouth and when sides of the tongue are lowered. The sound is said to be lateral /l/.

7. 4. 5. Place of Articulation

Place of articulation means the area in the mouth at which the consonantal closure or constriction occurs. So each point at which the air stream can be modified to produce a different sound is called a place of articulation. Places of articulation are found at the lips level, within the oral cavity, in the pharynx and at the glottis. Consequently, English uses the following places of articulation which we describe and illustrate below.

7. 4. 5. 1. Bilabial

This place of articulation refers to sounds which are made by bringing both lips together to stop the air stream. Any sound made with closure or near-closure of the lips is said to be labial. Sound involving both of the lips are termed as bilabial. See the following example words and figure for more illustrations about sounds produced under these articulators.

- /p/ cupping cup
- /b/ clubbing cub
- /m/ coming com

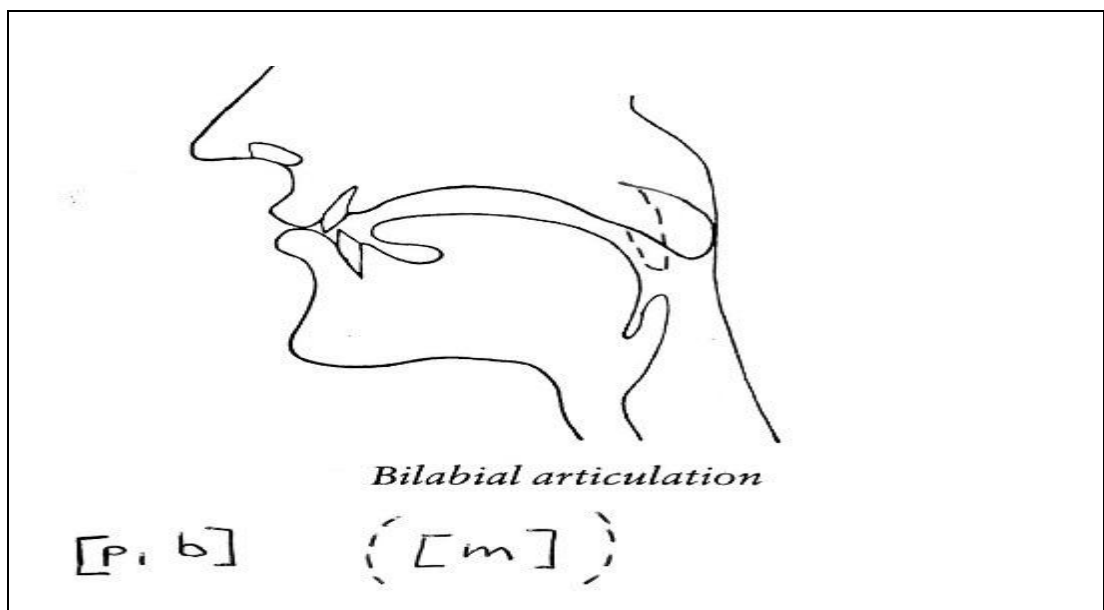


Figure 7-1: Place of Articulation for Bilabial Sounds

7. 4. 5. 2. Labiodentals

This place of articulation refers to sounds which are made by bringing the top teeth into contact with the bottom lip and forcing air between the two to create the fricatives. See the following example words and figure for more illustrations.

- /f/ feel raffle tough
- /v/ veal ravel dove

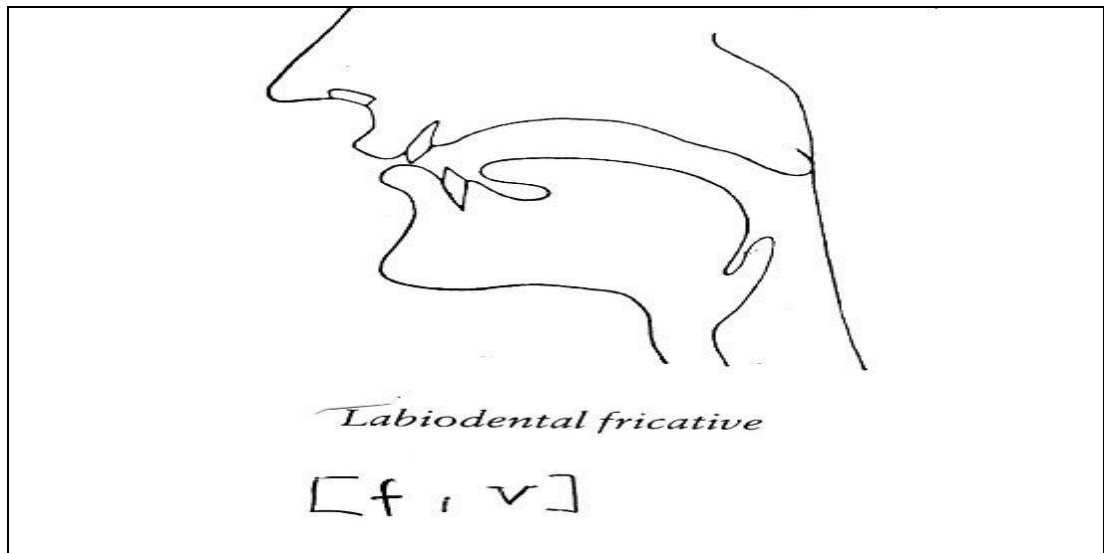


Figure 7-2: Place of Articulation for Labio-dental Sounds

7. 4. 5. 3. Inter-dental

This place of articulation refers to sounds which are made by placing the tip of the tongue between the top and bottom teeth and forcing air through. Again, these are both fricatives. See the following example words and figure for more illustrations.

- /θ/ thigh ether mouth
- /ð/ thy either bathe

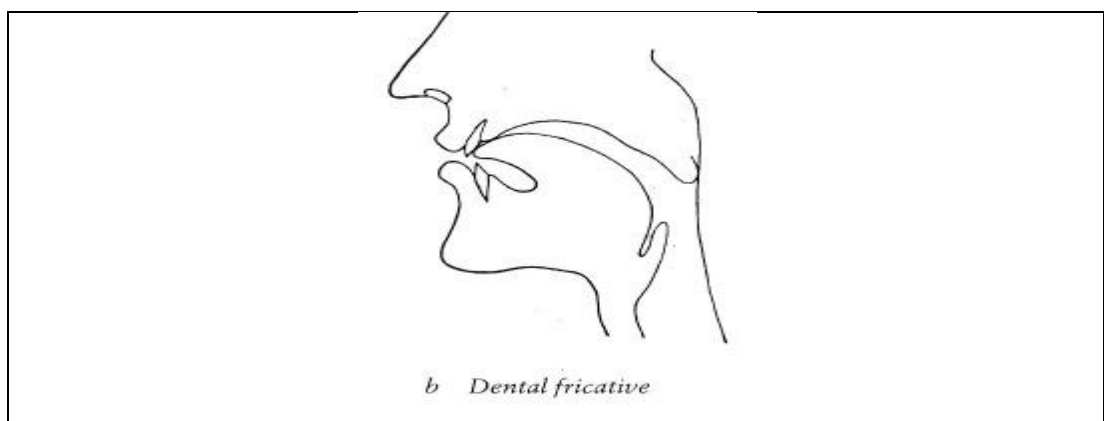


Figure 7-3: Place of Articulation Inter-dental for Sounds

7. 4. 5. 4. Alveolar

This place of articulation refers to sounds which are made by bringing the tongue and the alveolar ridge (the bony ridge just behind the top teeth) together to create either a stop or fricative. See the following example words and figure for more illustrations.

- /t/ tube boating boat
- /d/ dub boding bode
- /n/ night boning bone
- /s/ sip fussy grace
- /z/ zip fuzzy graze

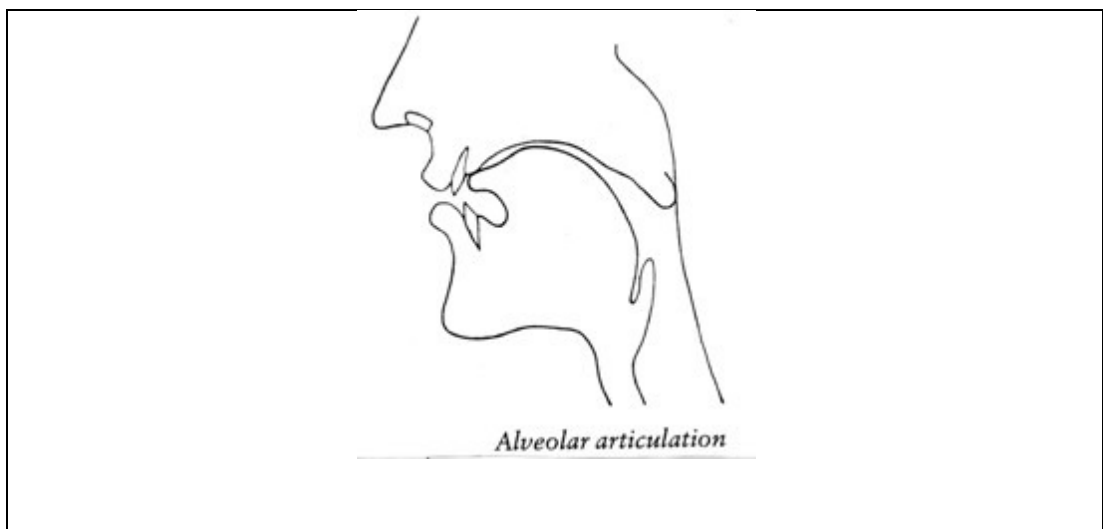


Figure 7-4: Place of Articulation for Alveolar Sounds

7. 4. 5. 5. Alveo- Palatal

This place of articulation refers to the sounds which are made by bringing the blade of the tongue to, or close to, the alveo- palatal area of the roof of the mouth to create fricatives and affricates. See the following example words and figure for more illustrations.

- /ʃ/ sure vicious rush
- /ʒ / genre vision rouge
- /tʃ/ chin catcher etch
- /dʒ / gin edger edge

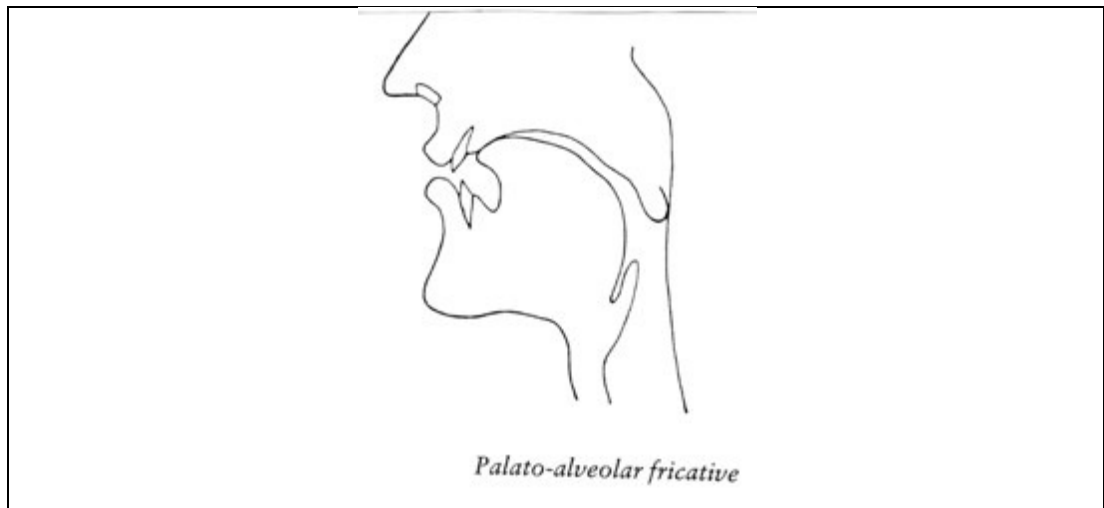


Figure 7-5: Place of Articulation for Alveo-palatal Sounds

7. 4. 5. 6. Velar

This place of articulation refers to the sounds which are created by stopping the air stream by bringing the back of the tongue into contact with the velum. See the following example words and figure for more illustrations.

- /k/ could backer tuck
- /g/ good bagger tug
- /ŋ/ banger tongue

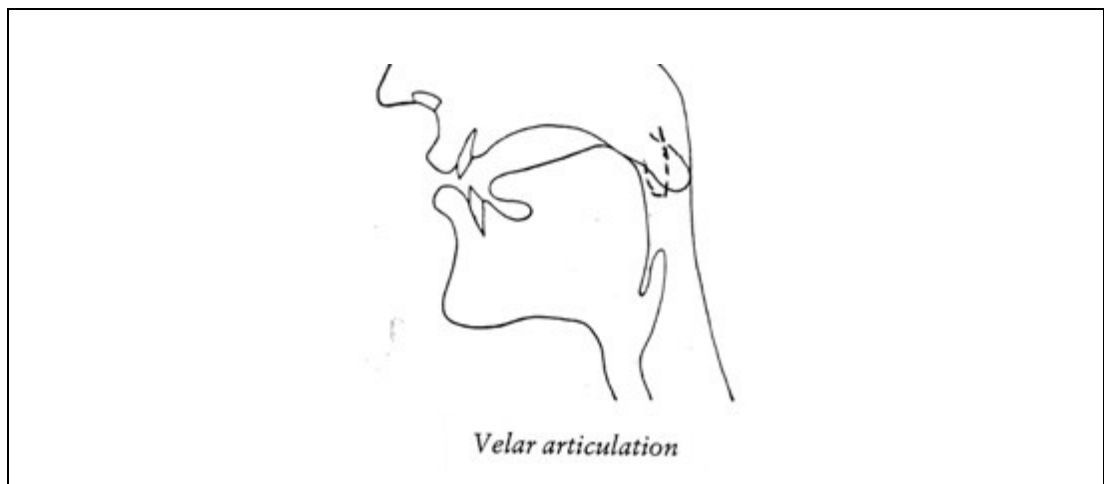


Figure 7-6: Place of Articulation for Velar Sounds

7. 4. 5. 7. Glottal

This place of articulation refers to sounds which are created by either narrowing the vocal folds sufficiently to create a fricative. See the following example words and figure for more illustrations.

- /h/ hat cahoots

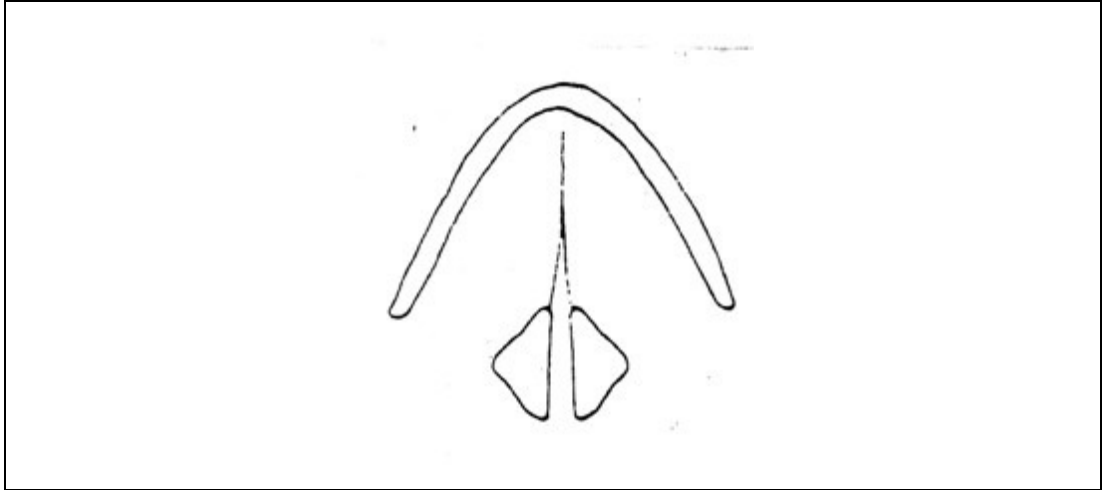


Figure 7-7: Place of Articulation Glottal for Sounds

7. 4. 5. 8. Approximants

There are lateral approximants, central approximants, and glides approximants. See the following example words and figure for more illustrations.

- **Lateral Approximants:** they are made by touching the tongue to the alveolar ridge while allowing the air to pass along one or both sides:
 - /l/ lack callow call
- **Central Approximants:** they are made by raising the sides of the tongue so that the air flows along the center of the tongue:
 - /r/ rip terror tear
- **Glides Approximants:** these sounds show the properties of consonants and vowels. They are produced with an articulation like that of a vowel. However, they move quickly to another articulation. so they are made by raising the tongue toward the hard palate:
 - /w/ wet
 - /j/ yet

7. 4. 6. Manner of Articulation

This title is concerned with the last criterion by which consonant sounds can be classified and described. This criterion can be discussed through the following question: what is the degree of pressure on the articulators? In this respect, manners of articulation refer to the kind of closure, obstruction or constriction used in the vocal tract while making the sound. In other words, it refers to the ways in which the air stream is modified in the vocal tract. So English



consonant sounds are classified according to the following three degrees of constriction and thus different categories or manners:

- Closure or complete approximation
- Narrowing or close approximation
- Approximation or open approximation

On the basis of these parameters manners of articulation of English consonants can be summarized as follows:

7. 4. 6. 1. Closure or Complete Approximation

For complete closure the articulators in question may form a stricture of complete closure; this is what happens when stops or plosives are articulated.

7. 4. 6. 1. 1. Oral Stops or Plosives

For oral stops or plosives consonants, there occurs a complete closure at some point in the vocal tract, behind which the air pressure builds up and is released explosively. The oral stops are produced when the velum is raised, articulators are close enough in the oral cavity, and air stream is released with a burst of sound". There are 6 consonants produced under these actions which are as follows: /b/ /p/ /t/ /d/ /g/ /k/

7. 4. 6. 1. 2. Affricate

This category of sounds combines between both qualities of stops and fricatives. For these sounds, a complete closure appears at some point in the mouth, behind which the air pressure builds up; the separation of the articulators is slow with that of the stops, so the explosion is the primary quality of these sounds while the friction is the secondary quality of them. In other words, affricates sounds are stops with an extended and controlled fricative phase following the complete obstruction. So they are a combination of a "stop + fricative". There are only 2 consonants produced under these actions which are as follows: /tʃ/ /dʒ/

7. 4. 6. 1. 3. Nasal Stops

The sounds of the category of nasal stops which are produced with a complete closure of air stream at some point in the mouth but the soft palate is lowered and henceforth the oral cavity is blocked and air escapes through the nasal cavity. These sounds are continuants. In the voice



form, they have no noise component. There are only 3 nasal stops produced under these actions which are as follows: /m/ /n/ /ŋ/

7. 4. 6. 2. Narrowing or Close Approximation

Let us now distinguish between complete closure and another, less extreme, degree of constriction: close approximation. Sounds which are produced with this kind of constriction entail a bringing together of the two articulators in question to the point where the air flow is not quite fully blocked: enough of a gap remains for air to escape, but the articulators are close together that friction is created as the air escapes. Sounds of this sort are referred to as **fricatives** and **glottal**.

7. 4. 6. 2. 1. Fricatives

Two articulators in question approximates to each other to some extent that the air stream passes through them with friction. Fricatives share many qualities of consonants. They can be voiced and voiceless. They also differ in the shape of the narrow opening in which they are produced. In short, any discussion about fricatives entails to think about, friction, air stream partially obstructed, and presence of hissing sounds. There are only 2 consonants produced under these actions which are as follows: /f/ /v/ /θ/ /ð/ /s/ /z/ /ʃ/ /ʒ/

7. 4. 6. 2. 2. Glottal

Sounds produced using the vocal cords as their primary articulators are called glottal. The sound at the beginning of the word “heave” and “hog” is made at the level of the glottis. There is only 1 consonant sound produced under this action which is /h/.

7. 4. 6. 3. Approximation or Open Approximation

This category of sounds is produced with the least radical degree of obstruction which occurs when the articulators in question come fairly close together, but not sufficiently close together to create friction. This kind of stricture is called open approximation. Consonants produced in this way are called **approximants**. In short, any discussion about approximants must entail to think about voicing quality and articulators approach each other but do not touch each other. The sounds produced under this situation are as follows: /w/ /r/ /l/ /j/. This category of sounds is made up by the following consonants:

7. 4. 6. 3. 1. Lateral Consonant

For lateral, a partial close is made at some point in the mouth, the air stream being allowed to escape from one or both sides of the contact. In short, the air stream is obstructed at a point along the center of the vocal tract and air flows over the sides of the tongue. There is only one consonant sound produced under this situation which is /l/.

7. 4. 6. 3. 2. Retroflex Consonant

In the production of this sound, the tip of the tongue is raised towards the alveolar ridge without touching it. The sides of the tongue are pressed against the upper back teeth. As the sound is produced, air flows out over the tip of the tongue and the vocal cords vibrate. There is only one consonant produced under this situation which is /r/. The following table summarizes all the categories of the manners of articulation of English consonants.

Number	Manner of Articulation	sound	Word-initial	Word-final
1	Oral Plosive (Stops): They are made by completely blocking the air in the mouth followed by an explosion of air	/b/	Best	Lob
		/p/	park	stop
		/t/	Time	Might
		/d/	Done	Paid
		/g/	Guide	Flag
		/k/	cart	lake
2	Fricative: They are made by pushing the air through a gap in the mouth, creating a friction sound	/f/	Fine	Knife
		/v/	Van	Leave
		/θ/	Think	Path
		/ð/	Those	Bathe
		/s/	Sort	Pass
		/z/	Zone	Cheese
		/ʃ/	Ship	Marsh
		/ʒ/	-	measure
3	Affricate: Plosive followed by affricate	/tʃ/	Chart	Itch
		/dʒ/	giant	page
4	Oral Stops “Nasal”: They are made partly through the nose.	/m/	Main	Lime
		/n/	No	Rain
		/ŋ/	-	sing

5	Approximants: They are in-between a vowel sound and a consonant sound, as the airflow is not fully blocked.	/w/	Wall	-
		/r/	Right	-
		/j/	Yes	-
		/l/	like	fall
5	Glottal: It is produced in the glottis	/h/	hate	-

Table 7-3: Manner of Articulation

Summary

To summarize, the consonant sounds we have been discussing so far may be described in terms of the sixth criteria mentioned in the lecture.

- Thus, the consonants at the beginning and end of the word ‘sing’ which are /s/ and /ŋ/ can be described as follows:
 - /s/ is a (1) egressive, (2) pulmonic, (3) voiceless, (4) alveolar, (5) oral, (6) fricative.
 - /ŋ/ is (1) egressive, (2) non-pulmonic, (3) voiced, (4) velar, (5) nasal, and (6) central.
- Points such as the “egressive”, “pulmonic”, and “oral / nasal” may often left out because consonant sounds are usually presumed to be egressive, not ingressive, pulmonic, not non-pulmonic, and most of them are oral “not nasal”. Consequently, the consonants at the beginning and end of the word “sing” can be described as follows:
 - /s/ is a voiceless, alveolar and fricative sound.
 - /ŋ/ is called a voiced, velar and nasal sound.
- The following table summarizes altogether the places of articulation and manners of articulation of English consonants:

N		Bilabial	Labio-dental	Interdental	Alveolar	Alveo-palatal	Velar	Glottal
1	Plosive	P b			t d		k g	
2	Fricative		f v	θ ð	s z	ʃ		h
3	Affricate					tʃ dʒ		
4	Nasal	m			n		ŋ	
5	Approximant	w			L r	j		

Table 7-4: Combination between Places and Manners of Articulation



Section B: Practice: Exercises

Study Questions: discuss the following questions briefly.

1. What is meant by the word “consonant sound”?
2. What is the nature of air stream for consonants?
3. How are consonant sounds different from vowel sounds?
4. What are the main criteria used to describe consonants?
5. State the assigned role for the articulators in relationship with the each consonant sounds.
6. Do the speech organs change their positions for consonant sound production? Why?
7. What is the main difference between the place of articulation and manner of articulation?

Exercise 7-1

Indicate whether the following statements are TRUE or FALSE, if false; say how the correct statement should be.

1. Plosive refers to the place of articulation
2. The position of the velum determines the voiced consonants
3. Consonant sounds are produced by a constriction of air stream
4. Fricatives are produced with less force with plosives
5. Manner of articulation is the way air is blocked
6. /m/ consonant is bilabial, voiced and oral
7. The vocal folds do not involved in consonant sounds
8. Plosives are not produced in the same way like stops
9. Velar is about the place of articulation
10. Oral and nasal sounds leaves the vocal tract in the same passage
11. Consonant description must involve 6 criteria
12. It is enough to refer to the vocal folds actions, place of articulation, and manner of articulation while we describe consonant sounds
13. All consonant sounds must be explained in terms of touchness
14. Consonant sounds are produced in a similar way with vowel sounds
15. All consonant sounds of English are said to be egressive and pulmonic
16. The separation of articulators in an affricate closure is slower than in a stop
17. Manners of articulation are about the degree of force that the vocal tract exercise over the air to push it outside
18. Approximants have both vowel and consonant sounds qualities

Exercise 7-2

Give the technical term (phonetic symbol) for the sounds made in the following ways.

1. When the air escapes through the nose / /
2. When the vocal folds are wide apart from each other / /
3. The back of the tongue articulates with the soft palate / /
4. The tip of the tongue articulates with the upper teeth / /
5. When the air escapes through the mouth / /
6. When the lips are the primary articulators; the upper lip is the passive articulator, the lower lip is the active articulator / /
7. When the vocal folds are totally close to each other / /
8. When an obstruction or a narrowing causing friction but not vibration between the vocal folds / /
9. The blade or tip and blade of the tongue (active) articulates with alveolar ridge (passive) and there is at the same time a raising of the front of the tongue towards the hard palate (passive) / /
10. The tip of the tongue is curled back to articulate with the part of the hard palate immediately behind the alveolar ridge / /
11. The blade, or the tip and blade of the tongue (active) articulates with the alveolar ridge (passive) / /
12. The tip of the tongue (or the blade) articulates with the upper teeth / /
13. The tip of the tongue articulates with the rear of part alveolar ridge (teeth ridge). The tip is active ; the ridge is passive / /
14. The lower lip (active) articulates with the upper teeth (passive) / /
15. When air moves along the sides of the mouth / /
16. When the vocal folds are entirely closed before the sounds is made / /

Exercise 7-3

Give the movement of air, origin of air stream, position of the vocal folds, position of the velum, place of articulation, and manner of articulation of the following list of consonant sounds. (An example is given to you). You should list them in order. Write the three important criteria in bold type.



1. /s/ is an egressive, pulmonic, voiceless, alveolar, oral, and fricative.
2. /g/ is
3. /k/ is
4. /f/ is
5. /n/ is
6. /r/ is
7. /l/ is
8. /t/ is
9. /z/ is
10. /d/ is
11. /w/ is
12. /ŋ/ is
13. /ð/ is
14. /ʃ/ is
15. /θ/ is
16. /p/ is
17. /j/ is

Exercise 7-4

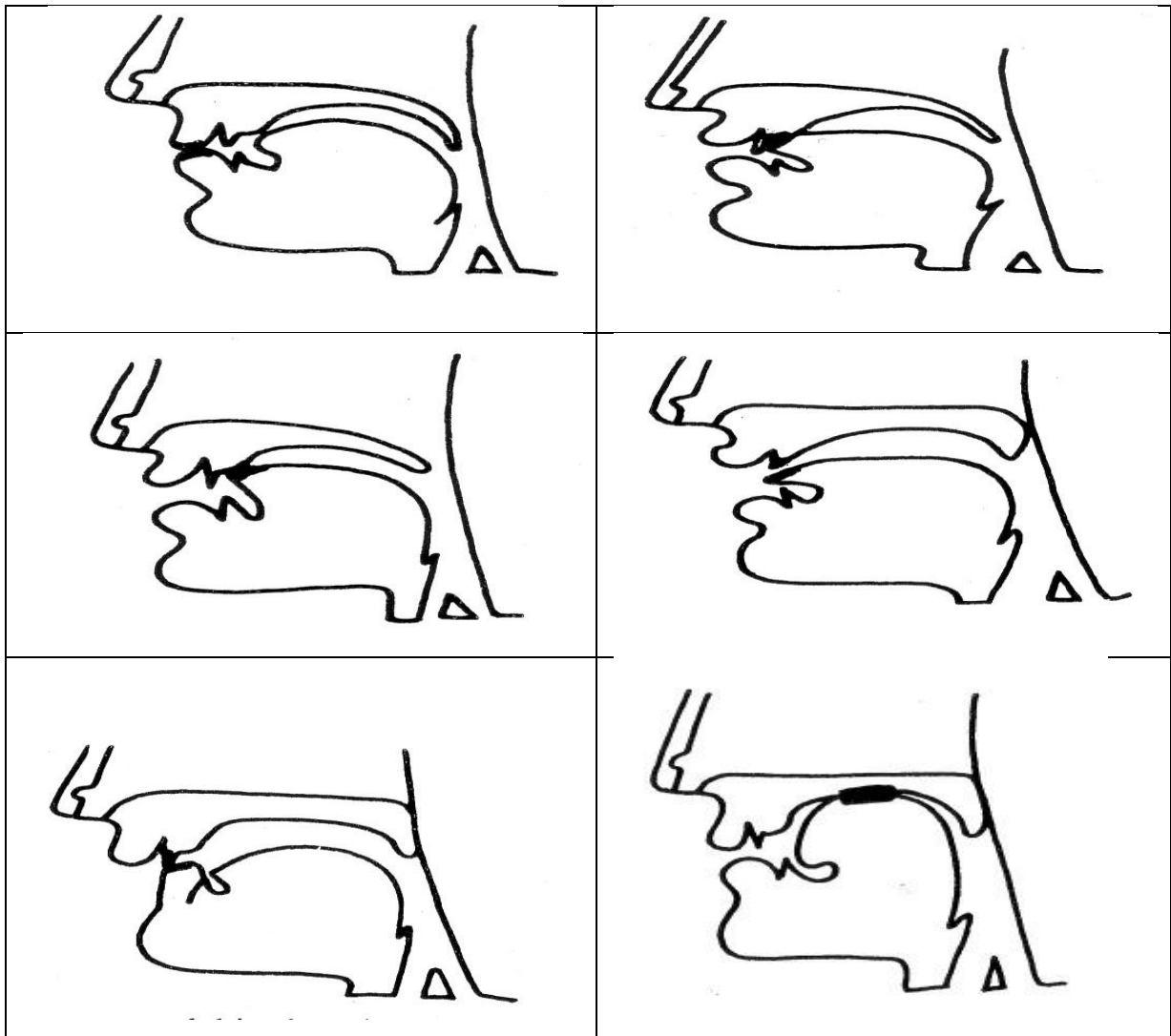
Give the symbol sound that best represents the following descriptions:

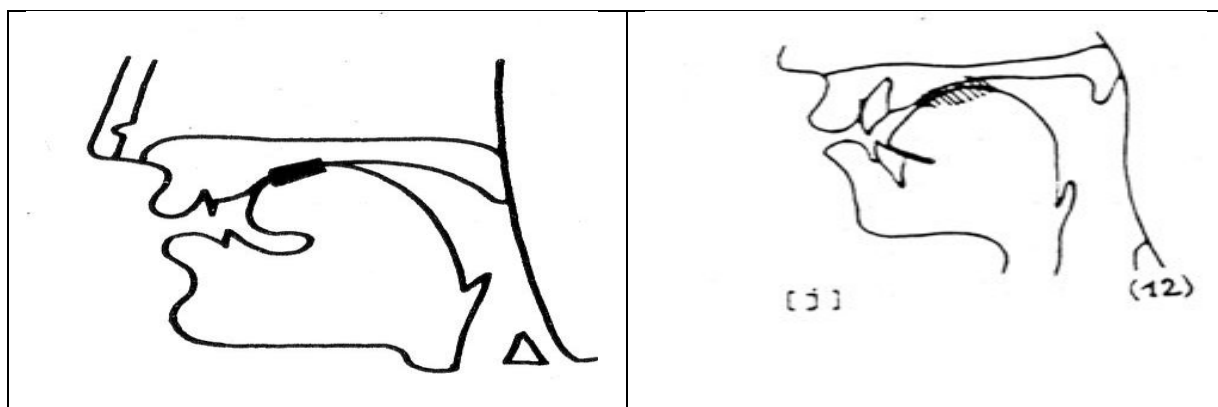
1. Pulmonic, affricate, voiced, oral, post alveolar / /
2. Alveolar, lenis, plosive, and oral / /
3. Velaric, voiced, and nasal / /
4. Egressive, pulmonic, lenis, semi vowel, and oral / /
5. Voiced, dental, fricative, and oral / /
6. Voiced, nasal, and bilabial / /
7. Voiceless, alveolar, plosive, and oral / /
8. Glottalic, voiceless, fricative, and oral / /
9. Voiceless, alveolar, fricative, and oral / /
10. Lenis, labio-dental, fricative, and oral / /

Exercise 7-5

Look carefully at the following diagrams about the different places of articulation and discuss the points below.

1. Name the place of articulation for each diagram.
2. List the sounds that are produced at each of these places.
3. Explain how the sounds are produced at each place.
4. For each of these sounds, give a word in each it appears in initial, middle, and final position.





Exercise 7-6

Divide each of the following groups of phonetic sounds symbols into two sets of three, each of which must have something in common phonetically. The first one is done for you.

symbol	Set 1	Set 2
P m t n k ŋ	P t k (oral plosive)	N m ŋ (nasals)
S l p m f v		
F j w l z θ		
S v h ð m ʃθ		
L k n r w g		
T m b w s g		

Exercise 7-7

The consonant sounds in each of the following pairs are alike in some respects, but different in others. Specify the resemblances and differences.

Example: /p/ and /b/ both are bilabial, both are stop, but /p/ is voiceless, and /b/ is voiced.

1. /z/ and /d/
2. /s/ and /d/
3. /t/ and /k/
4. /v/ and /g/
5. /b/ and /v/
6. /s/ and /ʃ/
7. /m/ and /n/
8. /l/ and /p/
9. /ŋ/ and /k/



- 10. /g/ and /k/
- 11. /t/ and /s/
- 12. /j/ and /d/
- 13. /ð/ and /ð/
- 14. /r/ and /h/
- 15. /tʃ/ and /d/
- 16. /s/ and /d/
- 17. /w/ and /g/
- 18. /l/ and /h/
- 19. /n/ and /v/
- 20. /ð/ and /w/

Exercise 7-8

Complete the following characterizations by inserting in each case, three of the following terms; **voiced, voiceless, bilabial, alveolar, velar, devoiced, fricative, stop, nasal, oral, glottal, approximant, dental, affricate, glide, plosive, lateral.**

- 1. /b/ is,, andconsonant.
- 2. /k/ is,, andconsonant.
- 3. /d/ is,, andconsonant.
- 4. /t/ is,, andconsonant.
- 5. /m/ is,, andconsonant.
- 6. /f/ is,, andconsonant.
- 7. /r/ is,, andconsonant.
- 8. /s/ is,, andconsonant.
- 9. /z/ is,, andconsonant.
- 10. /l/ is,, andconsonant.
- 11. /w/ is,, andconsonant.
- 12. /ð/ is,, andconsonant.
- 13. /h/ is,, andconsonant.
- 14. /ŋ/ is,, andconsonant.
- 15. /θ/ is,, andconsonant.



Exercise 7-9

Answer the following questions by giving only the sound symbol that best represents the right answer.

1. What voiced consonant has the same place of articulation as /t/ and the same manner of articulation as /f/? It is
2. What voiceless consonant has the same active articulator as /b/ and the same passive articulator as /θ/? It is
3. What voiced consonant has the same place of articulation as /m/ and the same manner of articulation as /g/? It is
4. What voiced consonant has the same active articulator as /n/ and the same passive articulator as /f/? It is

Chapter 8

Vowel sounds: Production, classification and description

Description	<p>This lecture aims at introducing a micro picture of the process of vowel sounds production, description and classification. It explores key concepts related to the meanings of vowel sounds, letters versus sound symbols, criteria of classification, points of differences between vowels and consonants, detailed description of production and classification. The emphasis is put on the idea of distinction between the different categories of vowels. Through the developments of the lecture students will become familiar with the idea of how vowel sounds are produced, classified and described. Key content of the lecture includes two sections; the first one deals with the theoretical matters while the second one presents a number of practical materials and exercises. It is worth to mention that this lecture is also supported by diagrams for each category of vowel sounds in each stage of the lecture.</p>
Objectives	<p>On successful completion of the lecture, students should be able, among other things, to;</p> <ol style="list-style-type: none"> 1. Introduce a general overview of the process of vowel sounds production, description and classification. 2. List the differences in production and function of vowels versus consonants. 3. Enable learners to reflect more on the specific criteria for vowel sounds production, description and classification. 4. Enable learners to distinguish between the criteria used for consonants and vowel sounds description and classification. 5. Identify the four descriptive parameters that are used for vowels articulation. 6. Differentiate between the available sub-groups of vowels. 7. Raise learners' awareness of micro production and classification of each vowel as well as category. 8. Raise learners' awareness about the contribution of vowels lectures in relationship with the subsequent lectures "English Transcription". 9. Understand the importance of the vowels in the evaluation process. 10. Understand the importance of the vowels in the process of correct pronunciation of English words correctly.



Section A: Lecture

Introduction

The inter-actions of the vocal tract and the air produce finally what is called “sound”. The most basic division of sounds is either “consonants” or “vowels”. In the previous lecture we have seen the consonants of English in term of the production, description and classification processes. Now it is high time to present the properties of vowels of English in terms also of the production, description and classification processes. The current lecture helps students to understand better the properties of English sound system and how vowels are different from consonants.

8. 1. Definition of Vowel Sounds of English

Vowels can be defined from two points of view;

- **From a Phonetic Point of View:** a vowel is a speech sound in which the stream of air flow from the lungs through the vocal tract is not blocked in any points at all, and which usually pronounced with vibration of the vocal folds.
- **From a Linguistic Point of View:** a vowel is a speech sound that has typically a central function. It means that they occupy the center of a syllable while the consonants are said to be marginal in the syllable formation. In other words, vowels must be present to form a syllable while consonants are not (it is possible to have a syllable without a consonant but impossible without a vowel).
- Vowels are predominant sounds in English sound system because they carry most of the pronunciation features of English.

8. 2. Vowels of English: Letters versus Sounds

In standards British English sound system, there are (24 + 1) vowels. The following table presents all the phonetic symbols of the (24 + 1) vowels + example words + letters that represent each sound.

Number	Letters	Phonetic Symbols for Vowels	Example Words
Short Vowels			
1	A	/ɪ/	Fish
2	E	/e/	Yes
3	I	/æ/	Bat
4	O	/ʌ/	Some
5	u	/ɒ/	Gone
6		/ɒ/	Pull
7		/ʊ/	
		/ə/	About
Long Vowels			
8		/i:/	Mean
9		/ɜ:/	Purse
10		/ɑ:/	Card
11		/ɔ:/	Horse
12		/u:/	Soon
Diphthongs			
13		/ɪə/	Fierce
14		/eə/	Aired
15		/ʊə/	Moored
16		/eɪ/	Pain
17		/aɪ/	Tide
18		/ɔɪ/	Voice
19		/əʊ/	Load
20		/aʊ/	Loud
Triphthongs			
21		/eɪə/	player
22		/aɪə/	Fire
23		/ɔɪə/	Loyal
24		/əʊə/	Mower
25		/aʊə/	Hour

Table 8-1: English Vowel Sounds (Letters versus Sounds)



8. 3. Points of Difference

In fact, the criteria used for consonants' classification do not match with the way of vowels. The nature of air stream, the position of the vocal folds, the position of the velum, place of articulation and manner of articulation can not describe the properties of vowels in a way or another because simply the process of production is not the same. The reasons are as follows:

- Vowels are different from consonants in many aspects as it was seen before.
- Vowels, universally speaking, are produced on a pulmonic egressive airstream, with central airflow, voiced, and oral.
- Articulators do not have any contact with each other.

Consequently, it seems that vowels are not produced, classified and described in the same way as consonants. So they require new criteria and descriptive parameters which best cover all the properties of them. Furthermore, those criteria will depicts the ways in which vowels do vary from each other and some of them are grouped together differently from other group of vowels.

8. 4. Criteria for Vowels Description

In order to know more about vowels, it is important to know how and where they are made in the vocal tract. It is important also to be able to group certain vowels together which make them easier for students to be able to understand and feel how these sounds are interrelated. If you can group one sound in its appropriate group of vowels, then you can understand the system of similarities and differences that exist between vowels.

Vowels are described differently from consonants. In order to describe any vowel you need to consider the following criteria;

1. The front-back dimension (position of the tongue).
2. The high-low dimension (position of the tongue).
3. Lips position (rounded, unrounded, spread)
4. Duration of time (short, long, and so on)

For better describing the vowels students must ask and answer the following questions;

1. What is the advancement of the tongue? (front, central, back);
2. What is the height of the tongue? (lose, mid close, mid open, open);
3. What is the position of the lips? (rounded, unrounded, neutral);
4. What is the length of the sound? (Short, long, diphthongs, triphphongs).



8. 4. Classification of English Vowels

8. 4. 1. The Front-Back Dimension

8. 4. 1. 1. Front Vowels

They are produced with the front of the tongue raised towards the hard palate (although not raised enough in order to let the air moves freely). The front vowels produced in this way are presented as follows:

- Kit / i /
- Dress / e /
- Trap / æ /
- Fleece / iː /
- face / eɪ /

8. 4. 1. 2. Back Vowels

Conversely, the back vowels have the back of the tongue raised, towards the soft palate or velum. The back vowels produced in this way are presented as follows:

- Lot / ɒ /
- Foot / ʊ /
- Palm / aː /
- Thought / ɔː /
- Goat / əʊ /
- Goose / uː /

8. 4. 1. 3. Central Vowels

Central vowels involve a raising of the body of the tongue towards the area where the hard palate and the soft palate join. The central vowels produced in this way are presented as follows:

- About / ə /
- Nurse / ɜː /
- Strut / ʌ /



8. 4. 2. The High-Low Dimension

8. 4. 2. 1. High Vowels

High vowels have the tongue raised towards the roof of the mouth. The high vowels produced in this way are presented as follows:

- Kit / i /
- Fleece / iː /
- Foot / ʊ /
- Goose / uː /

8. 4. 2. 2. Low Vowels

Low vowels are those where the tongue is not raised at all, but rather lowered from its resting position: when you produce a low vowel, you will be able to feel your mouth opening and your jaw dropping. The low vowels produced in this way are presented as follows:

- Trap / æ /
- Lot / ɒ /
- Palm / ɑː /

8. 4. 2. 3. Mid Vowels

There is also another class of vowels between high and low vowels, they are called mid vowels or you can classify them as (high-mid and low-mid). The high-mid and low-mid vowels produced in this way are presented as follows:

- Face / eɪ /
- Goat / əʊ /
- Dress / e /
- Thought / ɔː /
- About / ə /
- Nurse / ɜː /
- Strut / ʌ /

8. 4. 3. The lips Position Dimension

It refers to the different shapes of the upper and lower lips. The lips are very active speech organs especially for vowels. They take many different shapes such as rounded, unrounded, neutral, spread; strong rounded, etc. As an example, it is more common for back vowels to be rounded than for front ones, and for high vowels to be rounded than low ones. Rounded vowels are given in the following words;

- Foot / ʊ /
- Thought / ɔː /
- Goose / uː /

8. 4. 4. The Duration Dimension

It is called also the length of the vowel. Vowels are different from each other in terms of the period of time they consume while producing them. On this basis vowels are divided into four categories (short, long, diphthongs, and triphthongs). We understand from the duration criteria that the difference in the duration implies a difference in the quality of vowel sound.

8. 4. 4. 1. Short Vowels

English has a large number of vowels. The first category worth to be examined is short vowels. In this respect, American linguists distinguish between two types of vowels **Lax** and **Tense** vowels. Lax vowels are articulated with weak breath force, the duration is very short (this can be seen with short vowels) versus tense vowels which are articulated with more energy, the duration is longer than short vowels (this can be seen with long vowels). There are six short vowels. The sound symbols for these vowels are represented in the following list of words;

- Bet / e /
- Gas / æ /
- But / ʌ /
- Pot / ɒ /
- Put / ʊ /
- Bit / i /

They are called short vowels because the period of time for their production is short if we compare it with other vowels. During their production, the speech organs do not change their position. They are also called pure, plain, mono-phongs because they are just single sounds. The short vowels are produced as follows;

1. / **I** /: the tongue is raised while the lips are slightly spread.
2. / **e** /: the tongue is raised while the lips are spread.
3. / **æ** /: the front of the tongue is raised fully while the lips are slightly spread.
4. / **ʌ** /: the center of the tongue is raised between mid-open towards fully open position while the lips are neutral.
5. / **ɒ** /: the back of the tongue is lowered to fully open, position while the lips are rounded.
6. / **ʊ** /: the center and the back of the tongue is raised up to mid-close position while the lips are rounded.

8. 4. 4. 1. 2. Shwa or / ə /

There is another short vowel in English which is called Shwa. The phonetic symbol for this sound is / ə /. It is a mid-central, low, unstressed, and unrounded vowel. The lips are neutral. It occurs in unstressed syllables. It is called also a neutral or reduced.

- See the Tongue Diagram below in (Figure 7- 1) for more details about the position of short vowels and (Figure 7 - 3) for more details about the comparison of both the position of short and long vowels together.

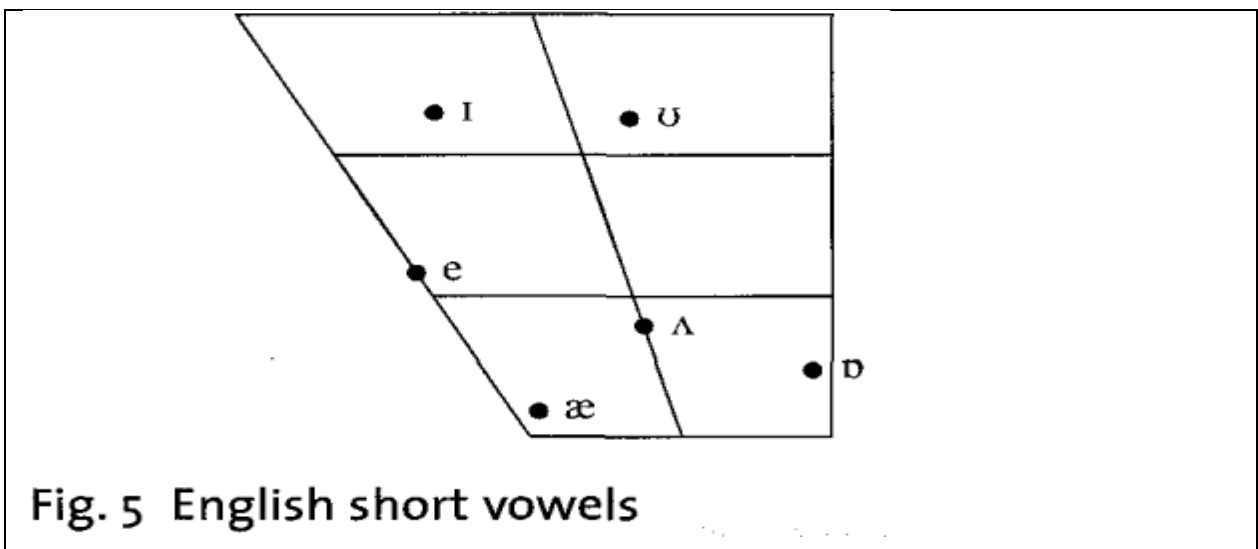


Figure 8-1: The Position of Short Vowels (Roach: 2009: 24)

8. 4. 4. 2. Long Vowels

They are called long vowels because they tend to be longer in duration than short vowels. In English, there are five long vowels. They share the same features with short vowels in regard to the quality and different features in regard to the length. They are also called as pure, plain, monophongs because they are also composed of one single sound segment. But, in order to distinguish between them and short vowels when we come to represent these sounds phonetically a length mark is added to the symbol sound. They are marked with the vowel sound symbol + a dot at the end /: /. The sound symbols for these vowels are represented in the following list of words;

- Peace / i: /
- Bird / ɜ: /
- Pass / a: /
- Board / ɔ: /
- Food / u: /
- The five long vowel sounds are produced as follows;
 1. / i: /: the front of the tongue is raised up to the hard palate, while the lips are slightly spread. It is a close front vowel.
 2. / ɜ: /: the lips are neutral. It is a mid-central vowel.
 3. / a: /: the lips are neutral and the tongue is lowered to a fully open position. It is an open central vowel.
 4. / ɔ: /: the back of the tongue is raised between mid-close and mid-open position, while lips are rounded.
 5. / u: /: the back of the tongue is in contact with the palate, and lips are slightly rounded.
- See the Tongue Diagram below in (Figure 7- 2) for more details about the position of long vowels and (Figure 7 - 3) for more details about the comparison of both the position of short and long vowels together.

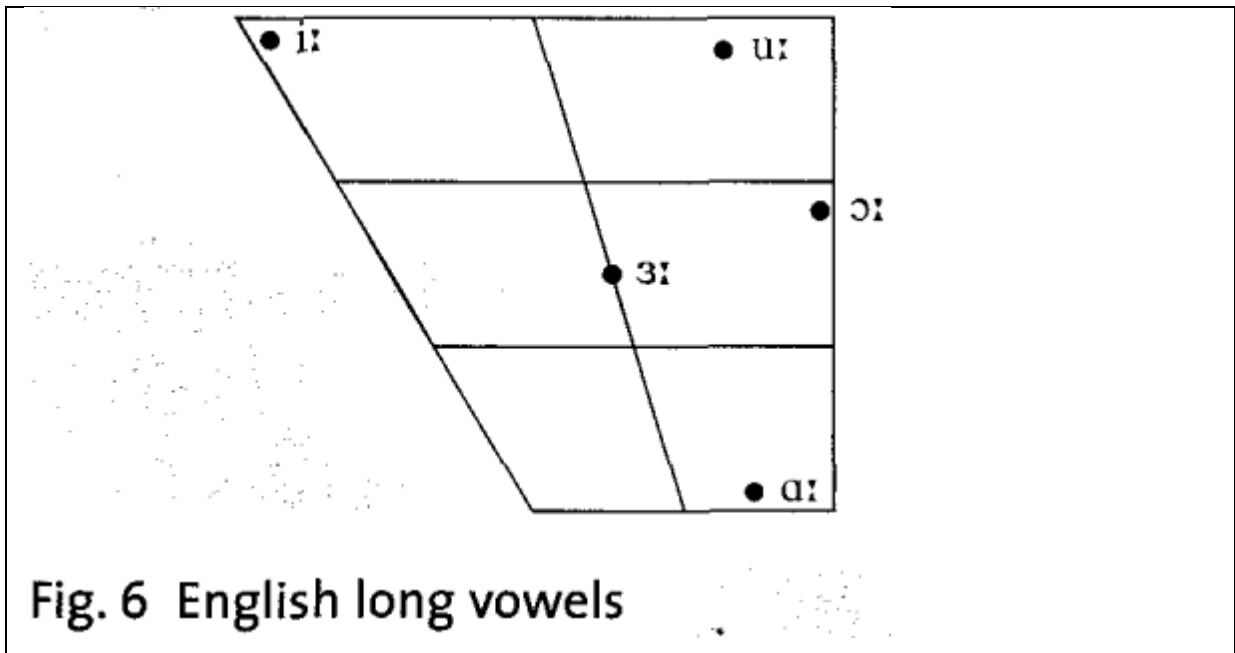


Figure 8-2: The Position of Short Vowels (Adopted from Roach: 2009: 27)

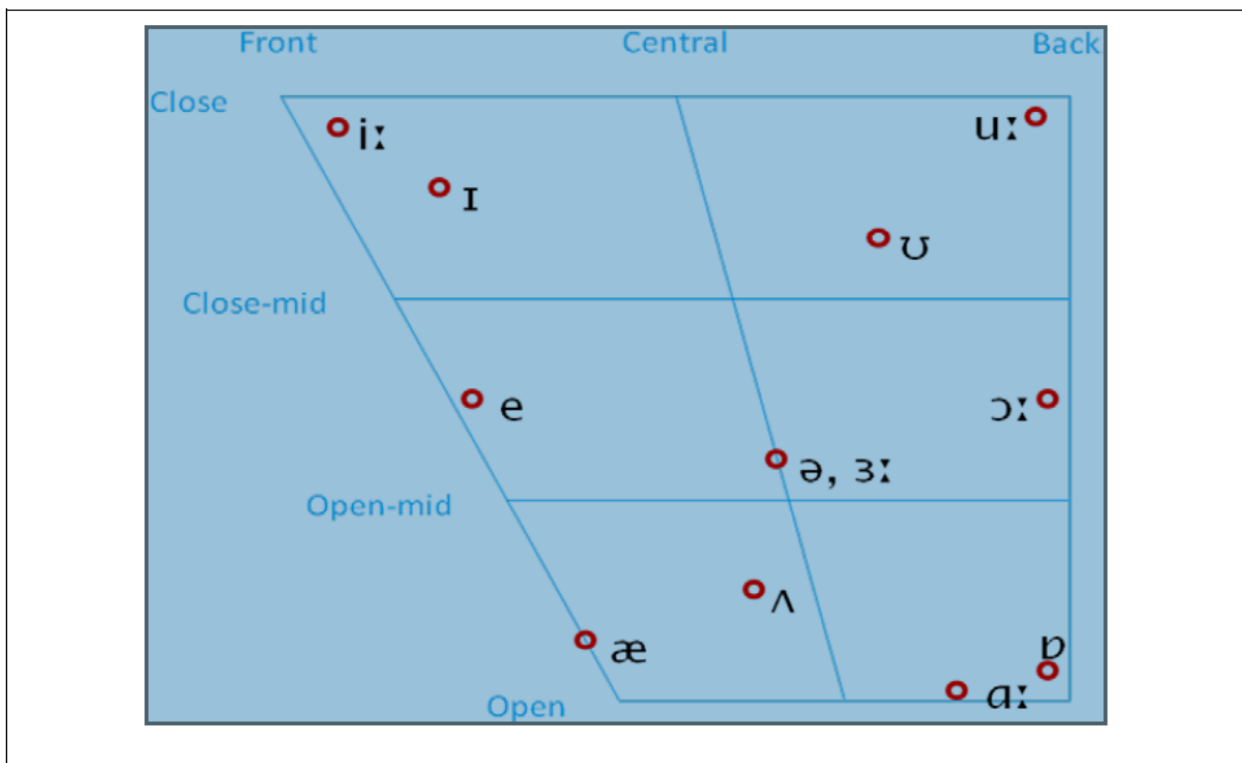


Figure 8-3: Comparison of Positions of Short and Long Vowels

8. 4. 4. 3. Diphthong

English vowel system consists of another group of vowels called diphthongs. There are eight (08) diphthongs. They are sound sequences consisting of two sound segments. When we produce them we start with a monophong, and then, the quality of the sound changes but never

reach another monophong. This happens through a gliding movement of the tongue. They are also called gliding-vowels which mean double sounds “2 segments” and they are of two groups; centering and diphthongs closing diphthongs. The figure below presents the tree diagram of the sub-groups of diphthongs.

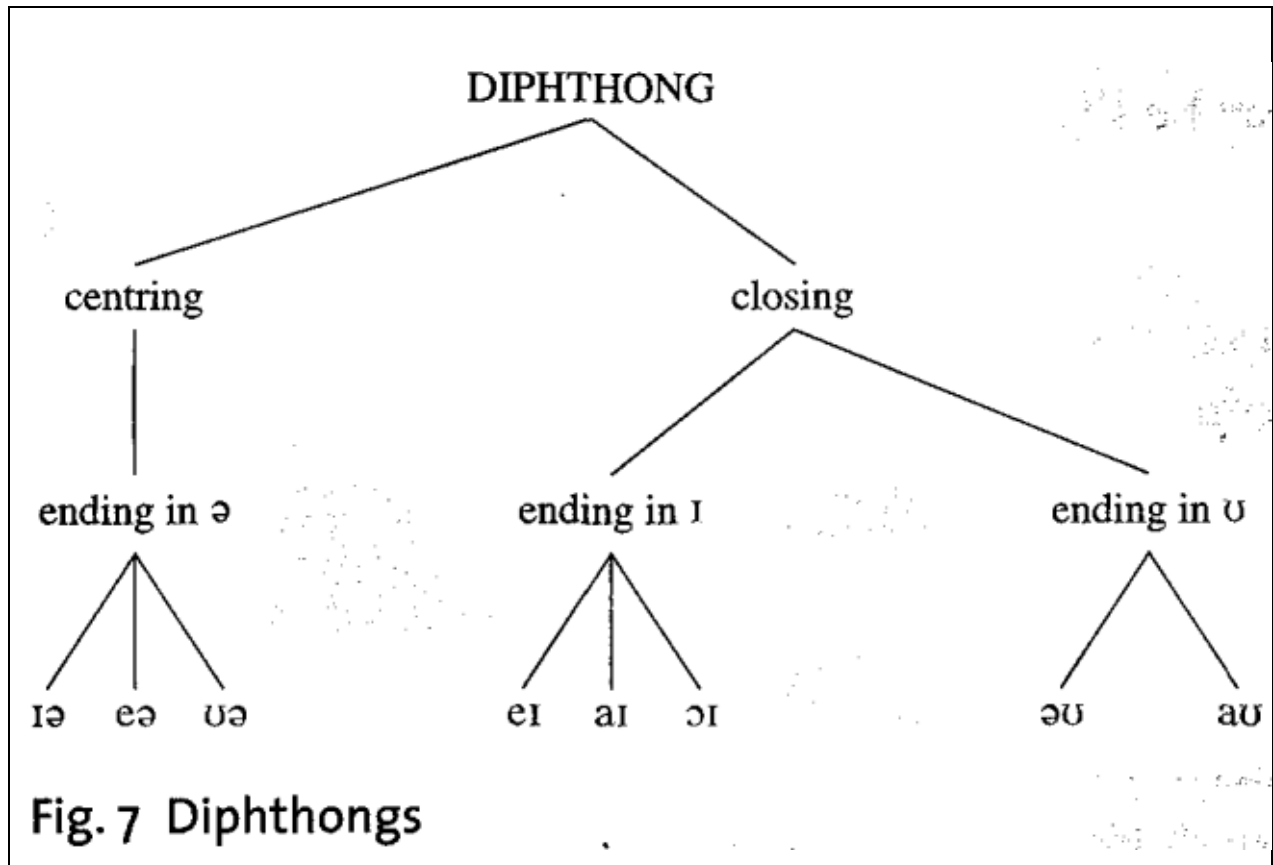


Figure 8-4: The Tree of Diphthongs (Roach: 2009: 27)

8. 4. 4. 3. 1. Centering Diphthongs

There are three centering diphthongs. The gliding movement of the tongue starts from some points of the tongue towards the center of the tongue altogether. They are called centering diphthongs because all their gliding movements end the center of the tongue. The sound symbols for this category of diphthongs are represented in the following list of words;

- Beard / ɪə /
- Scarce / eə /
- Tour / ʊə /

The table below shows the centering diphthongs of RP. The arrows show the directions of the glides between the two vowels. See the Tongue Diagram below for more details about the

gliding movement of the central diphthongs and (Figure 7 - 5) for more details about the gliding movement of all the diphthongs.

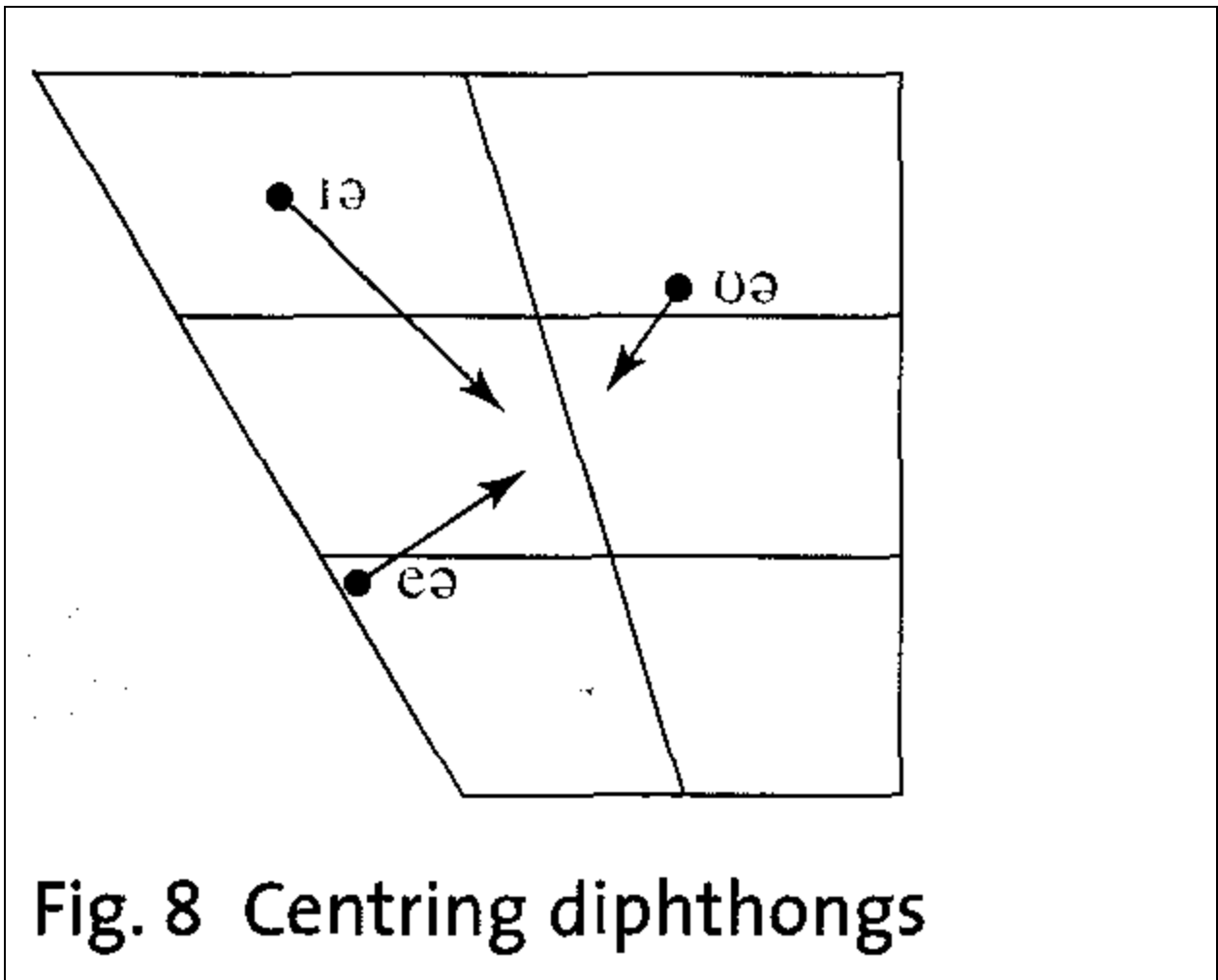


Figure 8-5: Gliding Movements of the Centering Diphthongs (Roach: 2009)

8. 4. 4. 3. 2. Closing diphthongs

There are five closing diphthongs. The gliding movement of the tongue starts from some points of the tongue towards the close area of the tongue altogether. They are called closing diphthongs because all their gliding movements end the close area of the tongue. The sound symbols for this category of diphthongs are represented in the following list of words;

- Face / eɪ /
- Time / aɪ /
- Void / ɔɪ /
- No / əʊ /
- Now / aʊ /

The table below shows the closing diphthongs of RP. The arrows show the directions of the glides between the two vowels. See the Tongue Diagram below in for more details about the gliding movement of the closing diphthongs vowels and (Figure 7- 7) for more details about the gliding movement of the diphthongs.

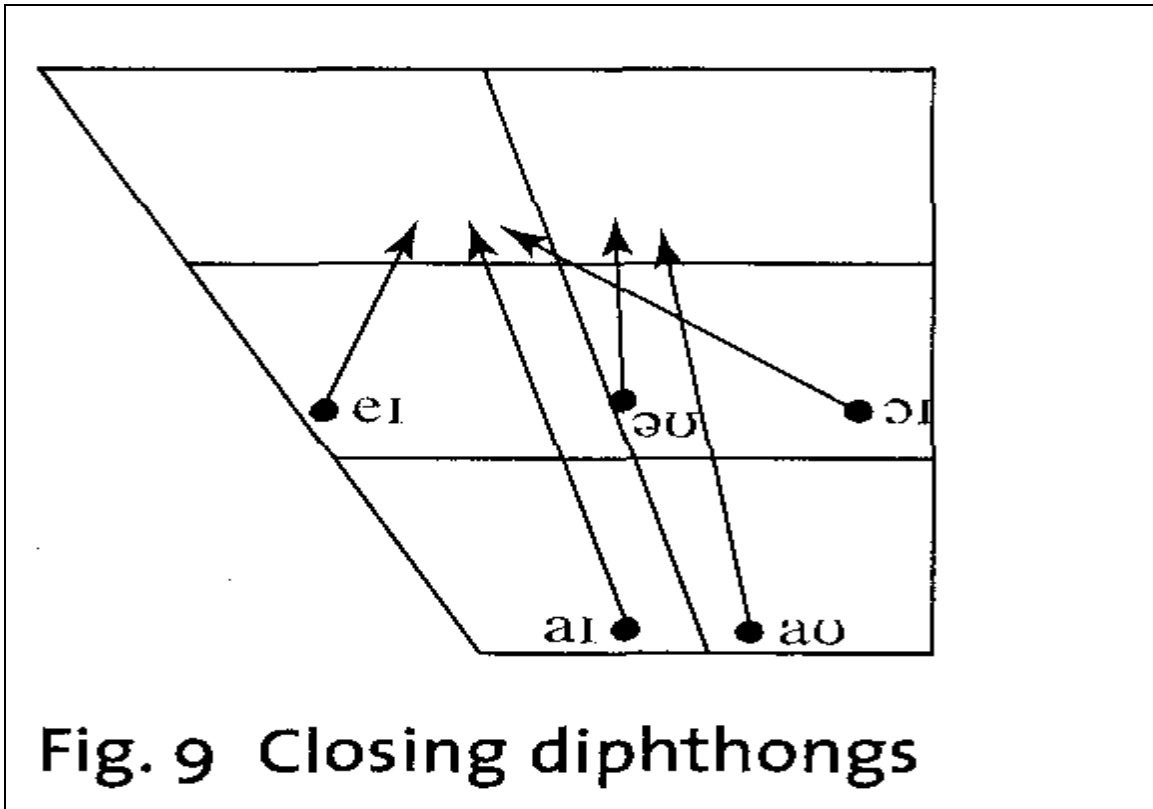


Figure 8-6: The Gliding Movements of the Closing Diphthongs (Roach: 2009:)

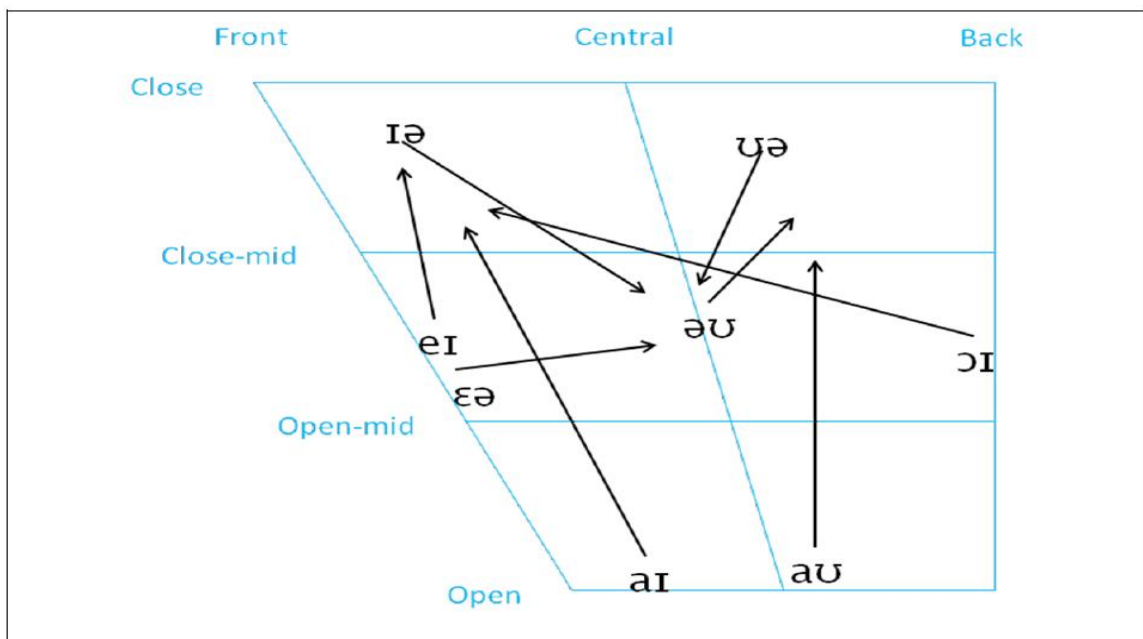


Figure 8-7: Gliding Movement of the Diphthongs



8. 4. 4. 3. 3. Diphthongs are analyzed as One Vowel Phoneme

All English diphthongs are usually falling diphthongs, when the first sound is longer and louder the second sound is shorter and lower. A diphthong sound is analyzed as one vowel phoneme: for example, the word “**face**” has three (03) phonemes /f/ + /eɪ/ + /s/ instead of four (04) phonemes /f/ + / e/ + /ɪ/ + /s/.

8. 4. 4. 4. Triphthong

In addition to the diphthongs there are another category of vowels which is called triphthongs. There are five (05) triphthongs in British English sound system. They are called triphthongs because they are composed of three vocalic sounds “3 segments”. When we produce them we make a gliding movement as follows; from one sound to another then to a third one rapidly without any interruption like in the word “**royal**”. Triphthongs are analyzed as closing diphthongs followed by a shwa, which means closing diphthongs move towards shwa. The sound symbols for this category of vowels are represented in the following list of words;

- Player / eɪə /
- Liar / aɪə /
- Royal / ɔɪə /
- Lower / əʊə /
- Power / aʊə /

The table below shows the centering diphthongs of RP. The arrows show the directions of the glides between the three vowels. Triphthongs sounds represent the most significant differences between rohtic and non-rohtic accent “British English and American English”. See the Tongue Diagram (Figure 5-8) for more details about the gliding movement of the triphthongs;

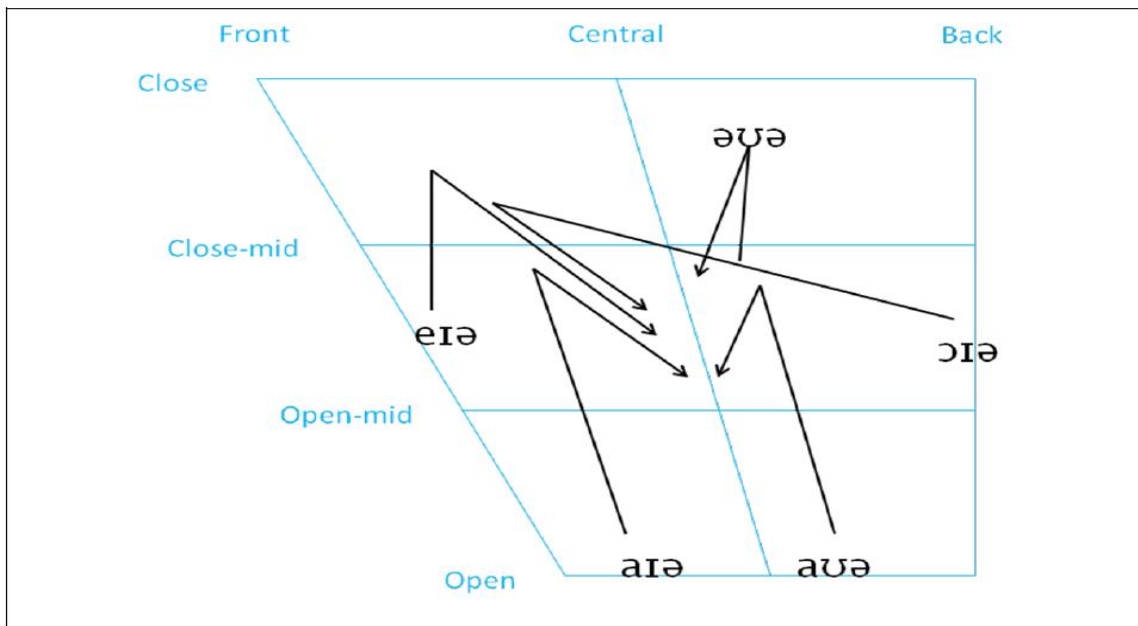


Figure 8-8: Gliding Movement of the Triphthongs

8. 4. 4. 5. Final Description of the Vowels

The following table summarizes all the criteria “parameters” that can be applied to the vowels classification and description.

N	Phonetic Symbol	Description “4 Parameters”
Short Vowels		
1	/i/	Short high front unrounded monophong
2	/e/	Short mid front unrounded monophong
3	/æ/	Short low front unrounded monophong
4	/ʌ/	Shot low central unrounded monophong
5	/ɒ/	Short low back rounded monophong
6	/ʊ/	Short high back rounded mononphong
7	/ə/	Short mid central unrounded monophong
Long Vowels		
1	/iː/	Long high front unrounded monophong
2	/ɜː/	Long mid central unrounded monophong
3	/ɔː/	Long mid back rounded monophong
4	/uː/	Long high back rounded monophong

5	/ɑɪ/	Long low back unrounded monophong
Diphthongs		
1	/eɪ/	Diphthong moving from front unrounded to high unrounded
2	/aɪ/	Diphthong low central unrounded to high front unrounded
3	/ɔɪ/	Diphthong low back rounded to high front unrounded
4	/ɪə/	Diphthong high front unrounded to mid central unrounded
5	/ɛə/	Diphthong mid front unrounded to mid central unrounded
6	/ʊə/	Diphthong high back unrounded to mid central unrounded
7	/aʊ/	Diphthong low central unrounded to high back rounded
8	/əʊ/	Diphthong mid central unrounded to high back rounded
Triphthongs		
1	/eɪə/	Triphthong moving from moving from front unrounded to high unrounded to the center
2	/aɪə/	Triphthong moving from low central unrounded to high front unrounded then tot eh center
3	/ɔɪə/	Triphthong moving from low back rounded to high front unrounded then to the center
4	/əʊə/	Triphthong moving from mid central unrounded to high back rounded then to the center
5	/aʊə/	Triphthong moving from low central unrounded to high back rounded then to the center

Table 8-2: Macro Description of Vowels

Summary

English sound system has amazing set of vowel sounds. The process of production, classification and description is not so easy since plenty of complex operations must be involved simultaneously. So for a complete and better identification of each one with its category it is very imperative to ask and answer up to four questions in which each one of them must represent a different stage of production in the vocal tract. In other words, each question and answer must stand for one criterion. By this, vowels description is ready, easy and complete.



Section B: Practice: Exercises

Study Questions: discuss the following questions briefly.

1. What is meant by the word “vowel sound”?
2. What is the nature of air stream for vowel sounds?
3. How are vowels different from consonants?
4. What are the main criteria “parameters” used to describe vowels?
5. State the assigned role for the tongue in relationship with the vowels production?
6. Do the lips take part when we come to pronounce vowels?
7. Do the speech organs change their positions for vowels production? How?
8. What is the main difference between the pure and double vowels?
9. What is the extra idea for triphthongs?
10. What are the main differences and similarities between the diphthongs and triphthongs?
11. What are the main differences and similarities between short vowels and long vowels altogether with diphthongs and triphthongs altogether?

Exercise 8 -1

Indicate whether the following statements are TRUE or FALSE, if false; say how the correct statement should be.

1. While vowels are produced speech organs are in contact between each other
2. All vowels of English are produced with the vibration of the vocal folds
3. Vowels are different with consonants in terms of what they need to be produced such as the vocal tract and air
4. The vowels of the following words “lure, hair, and fake” are said to be centering diphthongs
5. Consonants and vowels are produced in the same way in the vocal tract
6. A triphthong is described along three points in the tongue
7. Vowel sounds are described in terms of the position of the velum
8. Back vowels are always with rounded lips
9. Short and long vowels are also called soft vowels
10. The tongue does not change its position for both short and long vowels
11. Triphthongs and diphthongs are similar vowel sounds in quality



12. A vowel whose articulation involves movements from one vowel position to another one is called a diphthong
13. A monophong is described along five points in the mouth
14. The diphthongs in the following words “no and now” are said to be back closing
15. Diphthongs and triphthongs are rough vowels
16. The lips position for short /u/ is very rounded while for long /u: / are just rounded.....
17. Short and long vowels are different in terms of quality
18. /i/ and /i:/ have the exact same points in the tongue
19. The lips are neutral for both central and front vowel sounds
20. Triphthongs are two vocalic sounds combination + the central vowel
21. Vowels are more important for syllable formation than consonants
22. The phonemic system of English vowels is represented by (6) symbols
23. The grapheme system of English vowels is represented by (24) symbols
24. The term –touchness- in absent in terms of vowels production
25. The front and the back of the tongue are not involved in vowels production.....
26. Front vowels are always rounded
27. Between the highest and lowest vowels there are mid vowels
28. The shape of the vocal tract varies from one vowel to another according to the position taken up by the position of the vocal folds
29. In English, one word can consist of just vowel sounds
30. Diphthongs and triphthongs are monosyllabic vowels
31. Vowels can be described in the same way as consonants
32. Vowels are described in terms of the movement of the air in the vocal tract

Exercise 8-2

Match the articulator in the first column with its appropriate description in the second one.

Articulator	Description
<ul style="list-style-type: none"> • Low 	<ul style="list-style-type: none"> • The surface of the tongue raised towards hard palate.
<ul style="list-style-type: none"> • High 	<ul style="list-style-type: none"> • Tongue advanced
<ul style="list-style-type: none"> • Close 	<ul style="list-style-type: none"> • Tongue retracted
<ul style="list-style-type: none"> • Open 	<ul style="list-style-type: none"> • Narrow oral cavity
<ul style="list-style-type: none"> • Back 	<ul style="list-style-type: none"> • Tongue flat
<ul style="list-style-type: none"> • Front 	<ul style="list-style-type: none"> • Wide oral cavity



Exercise 8-3

Identify the initial vowel, and then, give the length quality, points in the tongue, and the shape of the lips of it in the following words.

1. Kit / /
2. Udder / /
3. Adder / /
4. Dance / /
5. Pleasure / /
6. Hopper / /
7. Blue / /
8. Booking / /
9. Bird / /
10. Board / /
11. Rush / /
12. Loose / /
13. Peace / /

Exercise 8-4

The following are descriptions of RP vowels. Give the symbol for each vowel and example word containing the same vowel sound in initial, middle, and final position.

1. Lax front mid (high-mid and low –mid) / / word
2. Tense back low or tense back open / /
3. The back of the tongue touches the palate and the lips are slightly rounded / /
4. The front of the tongue raised up to the palate and the lips are spread / /
5. The front of the tongue is fully raised and the lips are slightly spread / /
6. A front mid- close vowel. The tongue is raised and the lips are spread / /
7. The centre of the tongue is raised between mid-open toward fully open position / /
8. The back of the tongue is lowered to fully open position / /
9. The centre and the back of the tongue are raised up to the mid- close position while the lips are very closely rounded / /

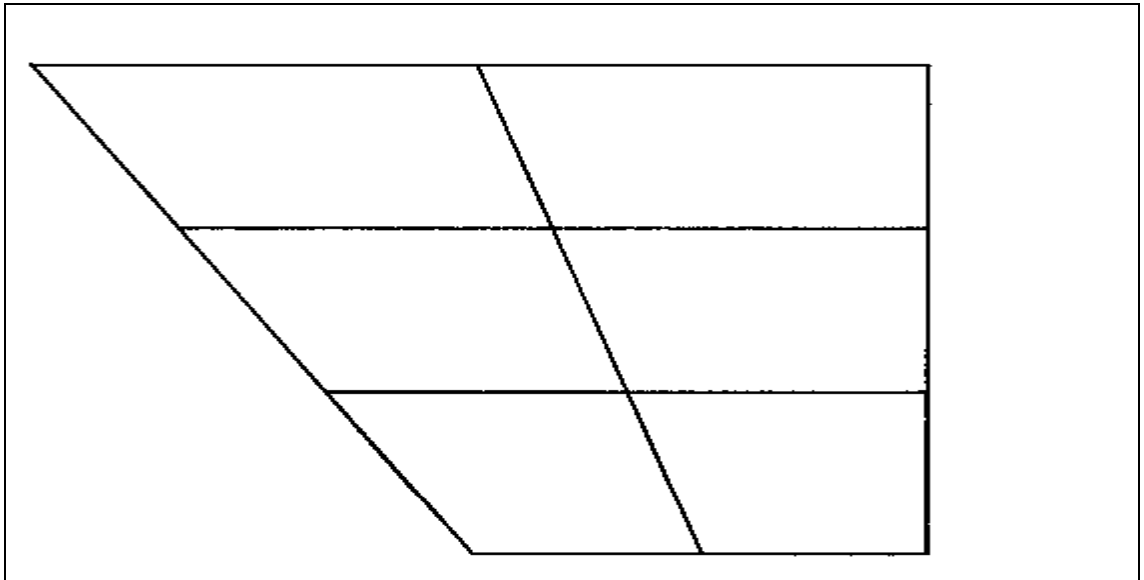
Exercise 8-5

1. Transcribe the following list of English words.

1. Lip / /
2. Gone / /
3. But / /
4. Push / /
5. Bat / /
6. Bet / /
7. About / /

2. What do you notice in terms of the category of vowels they contain?

3. Complete and identify the position of each vowel of the previous words in the following tongue diagram.



4. Once the position of each vowel is well identified. Describe each vowel in terms of the following criteria; the front-back of the tongue, the high-low of the tongue, the position of the lips and the duration.

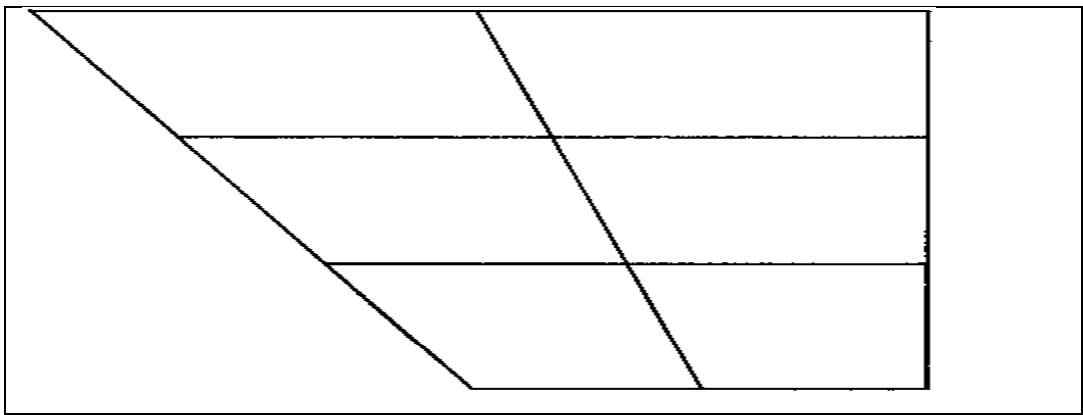
1. / / is a
2. / / is a
3. / / is a
4. / / is a
5. / / is a
6. / / is a
7. / / is a

Exercise 8-6

1. Transcribe the following list of English words.

1. soon / /
2. fern / /
3. board / /
4. half / /
5. feet / /

1. What do you notice in terms of the category of vowels they contain?
2. Complete and identify the position of each vowel of the previous words in the following tongue diagram.



3. Once the position of each vowel sound is well identified. Describe each vowel in terms of the following criteria; the front-back of the tongue, the high-low of the tongue, the position of the lips and the duration.

1. / / is a
2. / / is a
3. / / is a
4. / / is a
5. / / is a

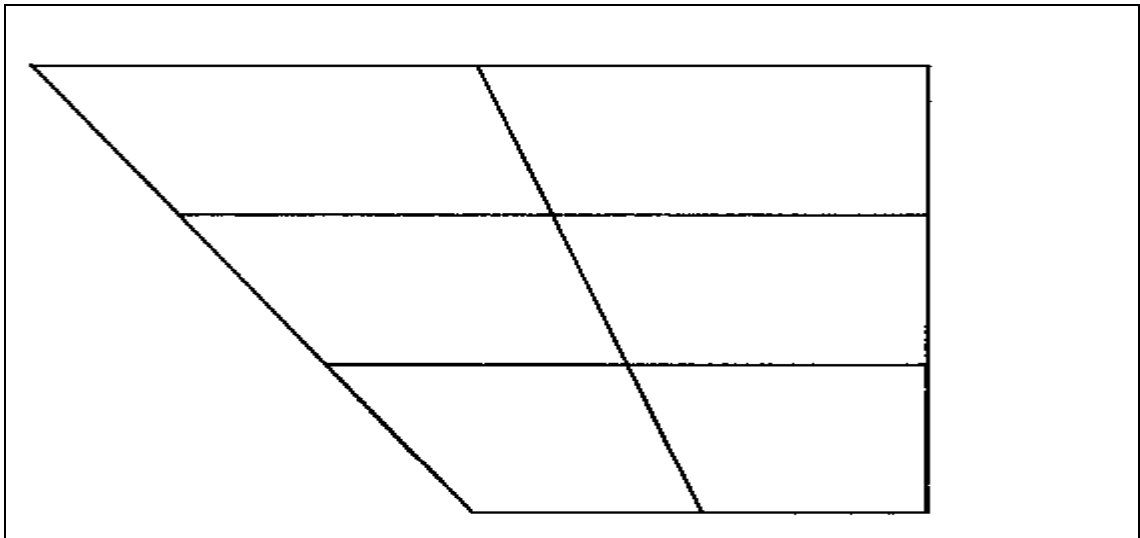
Exercise 8-7

1. Transcribe the following list of English words.

1. beard / /
2. moored / /
3. scarce / /

2. What do you notice in terms of the category of vowels they contain?

3. Complete and identify the position of each vowel of the previous words in the following tongue diagram.



4. Once the position of each vowel is well identified. Describe each vowel sound in terms of the following criteria; the front-back of the tongue, the high-low of the tongue, the position of the lips and the duration.

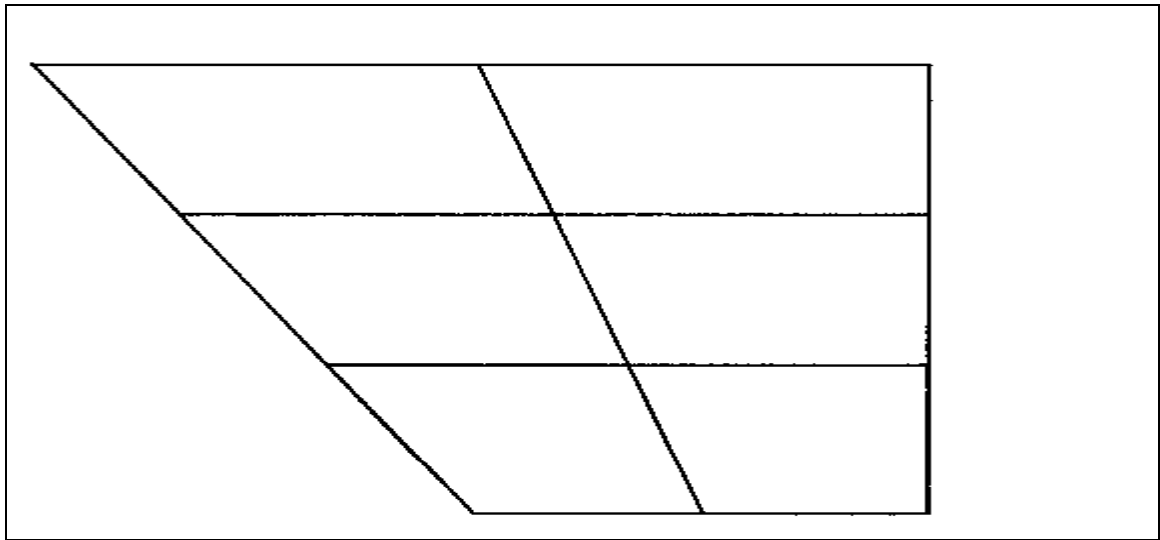
1. / / is a
2. / / is a
3. / / is a

Exercise 8-8

1. Transcribe the following list of English words.

1. voice / /
2. time / /
3. paid / /
4. most / /
5. now / /

2. What do you notice in terms of the category of vowel sounds they contain?
3. Complete and identify the position of each vowel of the previous words in the following tongue diagram.



4. Once the position of each vowel is well identified. Describe each vowel in terms of the following criteria; the front-back of the tongue, the high-low of the tongue, the position of the lips and the duration.

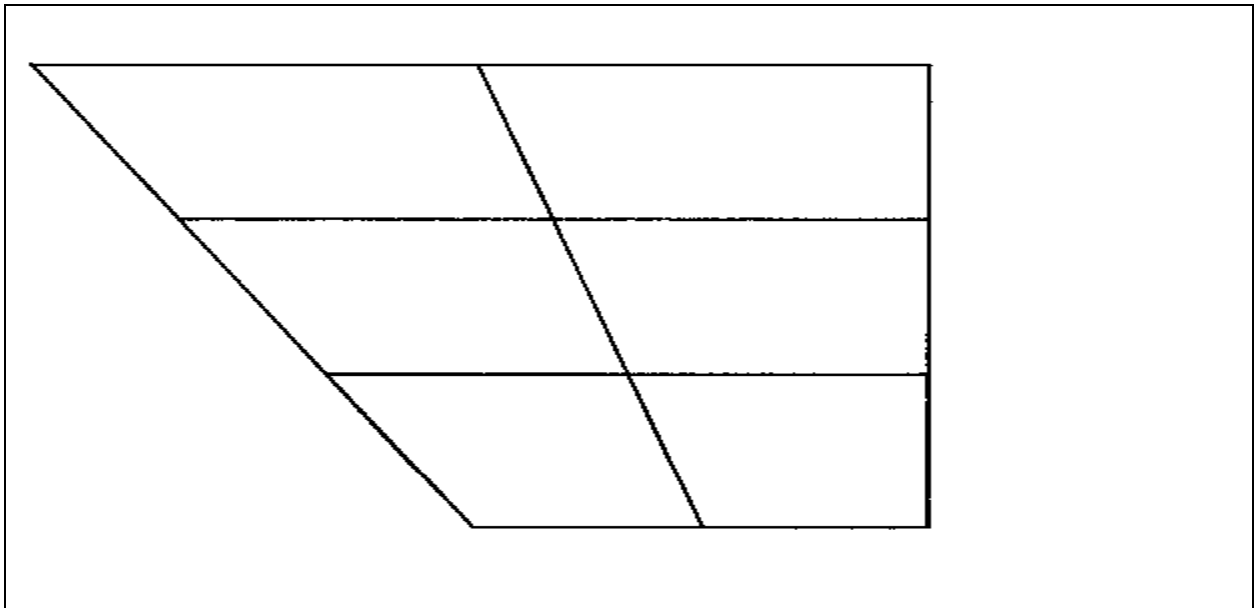
1. / / is a
2. / / is a
3. / / is a
4. / / is a
5. / / is a

Exercise 8-9

1. Transcribe the following list of English words.

1. player / /
2. power / /
3. fire / /
4. lower / /
5. royal / /

2. What do you notice in terms of the category of vowels they contain?
3. Complete the following he tongue diagram and identify the position of each vowel of the previous words in the tongue diagram.



4. Once the position of each vowel is well identified. Describe each vowel in terms of the following criteria; the front-back of the tongue, the high-low of the tongue, the position of the lips and the duration.

1. / / is a
2. / / is a
3. / / is a
4. / / is a
5. / / is a

Exercise 8-10

Circle the word (s) that contain(s) a vowel that best fits the description on the left (bold type).

- | | | | | | |
|-------------------|----------|---------|-------------|-------|--------|
| 1. Low | small | bad | great | car | lea |
| 2. Front | river | song | tell | trap | bright |
| 3. Central | keyboard | find | procurement | now | |
| 4. Back | loud | so | left | mud | trip |
| 5. Spread | leg | precept | primal | preen | |
| 6. High | shore | shop | bank | fall | moose |
| 7. Rounded | meet | coarse | such | group | cry |

Exercise 8-11

Transcribe the following pairs of words and then say whether their vowels have the same or different quality of tenseness?

1. Back-sat / / /
2. Shop-caught/ / /
3. Bid-key/ / /
4. Luck-flick/ / /
5. Fill-feel/ / /
6. Food-foot/ / /
7. Fell-fail/ / /
8. Hide-height/ / /
9. Least-heed/ / /
10. Drug-cook/ / /
11. Sink-fit/ / /
12. Oak-own/ / /
13. Sun-bed/ / /
14. Got-farm/ / /
15. Last-least/ / /

Exercise 8-12

Divide each of the following groups of words into two sets of two, each of which must have something about vowels in common. The first one is done for you.

N	Words	Set 01	Set 02
1	Skew- muddle- but-rebuke	Rebuke-skew (<u>back vowel</u>)	Muddle-but (<u>open mid central</u>)
2	Buff-fake-birth-salient		
3	High-lure-grind-ensure		
4	Work-adder- ado-bet		
5	Royal-slim-employer-kid		
6	Silica-screen-sill-reboot		
7	Most-nine-house-late		
8	Hopper-action-eagle-flinty		



Exercise 8-13

Transcribe the example words and find more than a word with the same phonetic transcription-pronunciation- (remember that you are dealing with sounds and not with spellings).

- 1. / / e.g., son, sun
- 2. / / e.g., buy, by
- 3. / / e.g., boy
- 4. / / e.g., you
- 5. / / e.g., night
- 6. / / e.g., I
- 7. / / e.g., see
- 8. / / e.g., knows
- 9. / / e.g., none

Exercise 8-14

One of the following words from the following sets of words contains a vowel which is different from the rest of vowels in all other words in one or more than one quality. Pick out it and say how it is different from others?

- 1. Pull, men, board, fit
- 2. Food, cake, bird, peace
- 3. Face, pin, tour, fierce
- 4. Royal, night, employer, tire
- 5. Kid, power, find, cairn
- 6. Beard, pain, lure, air

Exercise 8-15

Put a circle on the word from the following group of words that best answer the following questions.

1a- Which of the following words contains a rounded vowel?

1b- (put seek hook grew grey hoe hold)

1a- Which of the following words contains a front vowel?



1b- (see seat met tap throw tape through)

1a- Which of the following words contains a high vowel?

1b- (see seat steak throw list lost through)

1a- Which of the following words contains a central vowel?

1b- (about put luck hit purse father kept)

1a- Which of the following words contains a high back vowel?

1b- (put love hit heat luck look food)

Exercise 8-16

Provide at least five (05) words which contain the same vowel sound in front of each word from the given list.

1. Make / /
2. Find / /
3. Bear / /
4. Tour / /
5. Rear / /
6. Power / /
7. Employer / /
8. Lower / /

Final Section: Recapitulation and Evaluation of the First Semester

Description	This final section aims at introducing graduate first year English students with an idea about the process of final recapitulation and evaluation. It explores key concepts related to the main idea “summary” of each lecture, general study questions, types of quizzes, types of the exam, and types of the make up exam. Through the elements of the section students will become familiar with the multiple ways of assessment and evaluation. Key content of the section includes table for final summaries, table of quizzes, table for exam, table for make up exam and table for possible topics to be included in the evaluation process.
Objectives	On successful completion of the recapitulation and evaluation section, students should be able, among other things, to; <ol style="list-style-type: none"> 1. Enable learners to discover the main idea “summary” of each lecture. 2. Discover the different macro question for each lecture. 3. Discover the type and content of the quizzes. 4. Discover the type and content of the exam. 5. Discover the type and content of the make up exam. 6. Discover the topics of the possible quizzes and exams to be included. 7. Understand the importance of the section of evaluation as a mandatory section in the process of successful learning of English Phonetics and Phonology.

Part One: Final Summaries: Mixed Lectures

The following table presents the final summaries of all the previous lectures in relationship with the main idea of each lecture. It is meant by the main idea those matters that EFL students should consider and focus on in the process of dealing with the English Phonetics and Phonology in semester 1.

N	Chapter	Main Idea
1	Introduction into English language	British English and RP Accents
2	Introduction into English Phonetics and Phonology	Articulatory & Functional Phonetics
3	Speech Sounds Production: Stages of Production	Macro Description of Speech Sounds
4	Speech Sounds Production: Speech Organs	Micro description of Speech Sounds
5	Criteria for Speech Sounds Classification	Parameters for Sounds Classification
6	Consonants: Production and Classification	Consonant Sounds Identification



7	Vowels: Production, Description and Classification	Vowel Sounds Identification
8	Mixed Lectures	Segmental Features of Pronunciation

Study Questions

1. What is the best working idea of the first lecture “Introduction into English language”?
2. What are the most important points of the second lecture “Introduction into English Phonetics and Phonology”?
3. What is the macro picture for speech sounds production?
4. What is the macro picture for speech sounds production?
5. How both consonants and vowels are produced, described and classified?
6. What is the most important idea that you have learned from the lecture of “Consonants: Production and Classification”?
7. What is the most important idea that you have learned from the lecture of “Vowels: Production and Classification”?
8. How do you best place the entire previous lectures in the field of English Phonetics and Phonology?



Part Two: Evaluation “Quizzes and Exams”

First Term Quiz 1

The following table presents the contents of the First Term “Quiz 1”.

Setif 2 University	Faculty of Letters and Languages			
Department of English language and Literature	Level: First Year			
Student’s Full Name:	Section / group:			
<u>First Term PHONETICS Quiz</u>				
Discuss the following activities				
<u>Activity 1(5pts)</u>				
The following are descriptions of RP consonants and vowels. Give the symbol for each sound.				
Number	Description	Symbol Sound		
01	Voiced alveolar plosive			
02	Alveolar voiceless fricative			
03	Open-mid back rounded vowel			
04	Dental lenis fricative			
05	Lax front mid			
06	Labio-dental frodis fricative			
07	Lax back fairly open			
08	Voiceless glottal fricative			
09	Diphthong rising from low front to high front			
10	Post-alveolar frodis fricative			
11	Diphthong rising from center mid to high back			
12	Tense back open			
13	Post-alveolar lenis affricate			
<u>Activity 2(5pts)</u>				
Put a tick where appropriate in the following table.				
Sound	Both lips	Lips and teeth	Tongue and teeth	Tongue and the front part of roof of the mouth
/p/				
/f/				
/θ/				

/m/				
/t/				
/s/				
w/				

Activity 3 (5pts)

Put a tick where appropriate in the following table.

Sound	Air flow is blocked in the mouth with a sudden release of air	Air is restricted and friction can be heard	Air flow is restricted but can not be heard	Air flow is blocked in the mouth but it goes up into the nose
/p/				
/f/				
/θ/				
/m/				
/t/				
/s/				
/w/				

Activity 4 (5pts)

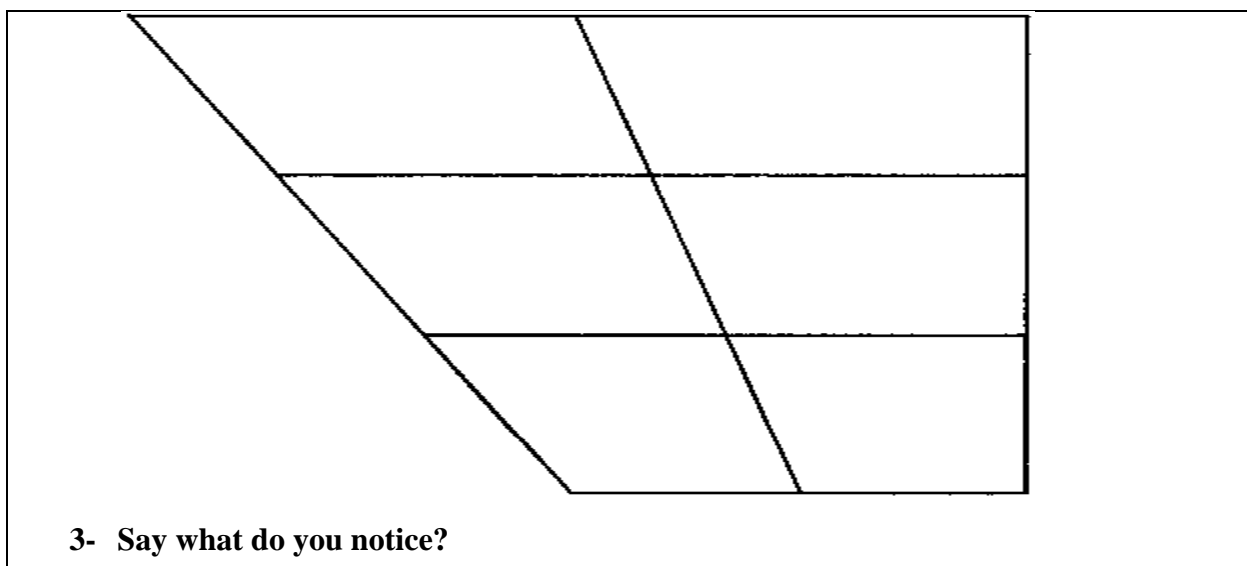
1. What voiced consonant has the same place of articulation as /t/ and the same manner of articulation as /f/? It is the sound
2. What voiceless consonant has the same active articulator as /b/ and the same passive articulator as /θ/? It is the sound
3. What voiced consonant has the same place of articulation /m/ and the same manner of articulation as /g/? It is the sound
4. What voiced consonant has the same active articulator as /n/ and the same passive articulator as /f/? It is the sound
5. What lenis consonant sound has the same position of the velum as /m/ and the place of articulation as /f/? It is the sound
6. What is voiceless consonant sound has the same place of articulation as /z/ and the same position of the vocal folds as /f/ /f/? It is the sound



First Term Quiz 2

The following table presents the contents of the First Term “Quiz 2”.

Setif 2 University	Faculty of Letters and Languages
Department of English language and Literature	Level: First Year
Student's Full Name:	Section / group:
<u>First Term PHONETICS Quiz</u>	
Discuss the following activities	
<u>Activity 1 (10 pts)</u>	
Indicate whether the following statements are TRUE or FALSE? If false; correct it.	
1. The consonants and vowels are defined in the same way linguistically	
2. English has similar symbols for sounds and spelling	
3. In English, vowels are less important than consonants	
4. Velar is about the place of articulation	
5. Oral and nasal sounds leaves the vocal tract in the same passage	
6. The height of the tongue refers to the horizontal movements	
7. Places of articulation refer to the way the air escapes out from the vocal tract	
8. Places of articulation and manner of articulation have the same connotations	
9. Open and high vowels indicate the same points in the tongue	
10. Articulator phonetics and functional phonetics are similar terms.....	
<u>Activity 2 (10 pts)</u>	
1- Transcribe the following list of English words.	
1. Feed	/ /
2. Lift	/ /
3. Royal	/ /
4. Make	/ /
5. Lure	/ /
2- Identify the position of each vowel sound in the following tongue diagram.	



3- Say what do you notice?

First Term Exam

The following table presents the contents of the First Term Exam.

Setif 2 University	Faculty of Letters and Languages		
Department of English language and Literature	Level: First Year		
Student's Full Name:	Section / group:		
<u>First Term PHONETICS Exam</u>			
<u>Exercise 1(5 pts):</u>			
The following are descriptions of RP consonants and vowels. Give the Phonetic symbol for each consonant and vowel.			
Description	Symbol	Description	Symbol
Voiced alveolar plosive		Labiodentals fortis fricative	
Dental lenis fricative		Lax front mid	
Alveolar fortis fricative		Tense back open	
Post-alveolar lenis fricative		Lax back fairly high	
Alveolar voiceless fricative		Vowel rising from low front to high front	
Voiceless glottal fricative		Open mid back rounded vowel sound	
Post alveolar lenis affricate		Post alveolar fortis fricative	
Voiced alveolar fricative		Vowel rising for the center to back close	
Dental voiced stop		Voiced affricate oral	
Alveolar voiceless fricative		Voiced nasal fricative	
<u>Exercise 2 (5 pts):</u>			
Answer the following questions:			
1. What voiced consonant has the same place of articulation as /t/ and the same manner of			

articulation as /f/?

Answer: This sound is /...../

2. What voiceless consonant has the same active articulator as /b/ and the same passive articulator as /θ/?

Answer: This sound is /...../

3. What voiced consonant has the same place of articulation as /m/ and the same manner of articulation as /g/?

Answer: This sound is /...../

4. What voiced consonant sound has the same active articulator as /n/ and the same passive articulator as /f/?

Answer: This sound is /...../

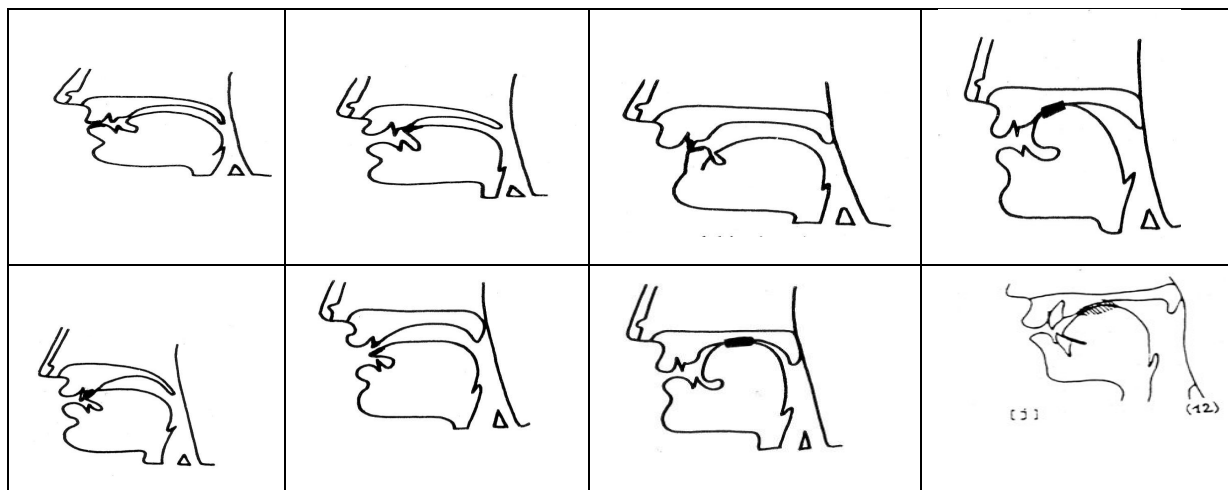
5. Which rounded vowel sound has the same height of the tongue as /ɜ:/

Answer: This sound is /...../

Exercise 3 (5 pts)

Study the diagrams below and state (1) the place of articulation, (2) the manner of articulation, (3) the position of the velum, (4) the position of the vocal cords and (6) the IPA symbols of the possible sounds. Use the table below to provide your answers.

N	Answers	N	Answers
1	1	.....
2	2	.....
3	3	.....
4	4	.....



Exercise 4 (5 pts)

Compare the sounds in the following groups in terms of the relevant phonetic features. Give the similarities and differences.

1. /s, θ, f/



- 2. /t, d, n, z/
- 3. /w, j, r/
- 4. /m, s, z, g/

First Term Make up Exam

The following table presents the contents of the First Term Exam.

Setif 2 University Department of English language and Literature Student's Full Name:	Faculty of Letters and Languages Level: First Year Section / group:
<u>First Term PHONETICS Make up Exam</u>	
<u>Exercise 1(5 pts)</u> Draw a line under the words where the written (R) is pronounced in RP.	
<ol style="list-style-type: none"> 1. My city is far away from here. 2. She kept staring at him all day long! 3. Did you iron kid carton? 4. His English isn't that bad after all! 5. They are brave man and actors. 	
<u>Exercise 2 (5 pts)</u> Provide short answer tot eh following questions.	
<ol style="list-style-type: none"> 1. In which consonant sound there is friction but no vibration. The sound is /..... / 2. What is the other name for tip of the tongue? The other name is 3. What is the second name for the blade of the tongue? The second name is..... 4. What makes a sound oral or nasal? The answer is 5. Which manner of articulation is the most dominant in English? It is the 6. What is the second name of the soft palate? The second name is 7. What does the macro picture of the speech sounds mean? It means the 8. What does the micro picture of the speech sounds mean? It means the..... 9. Are the points of articulation the same as place of articulation? It means the t is 10. What do supra-laryngeal organs mean? They mean those speech organs which are 	
<u>Exercise 3(10 pts)</u> Indicate whether the following statements are TRUE or FALSE. Tick where appropriate and justify your answers.	
<ol style="list-style-type: none"> 1. In a glottal sound there is a friction but no vibration 2. The vocal tract refers to the air passage above the larynx..... 	

3. The role of the uvula is to shut off the nasal cavity.....
4. When the velum is lowered, the sound is oral.....
5. The term apico-dental refers to the use of the tip of the tongue.....
6. The separation of the articulators in an affricate closure is slower than in a stop.....
7. The epiglottis closes the nasal cavity when the epiglottis is raised, the sound is oral.....
8. The terms “high”, “low, and “central” refer to the distance between the jaws.....
9. Plosive and stops have different air closure.....
10. Velum actions determines the Fortis and lenis qualities of sounds.....
11. Approximants have both consonants and vowels qualities.....
12. Complete closure + friction + same place of articulation = affricates.....
13. Stop consonants have only one place of articulation.....
14. Short and long vowels are the same in terms of the quality.....
15. The tongue diagram represents the length and duration quality of consonant sounds.....
16. Manners of articulation are made up of both fixed and active speech organs.....
17. Soft palate positions determines both the oral and lenis qualities.....
18. Stops and fricatives have the same degree of air closure.....
19. The lungs are part of the vocal tract.....
20. Stages and mechanisms of speech sounds are two terms of the same idea.....

Suggested Topics for Evaluation

Setif 2 University

Faculty of Letters and Languages

Department of English language and Literature

Level: First Year

Student's Full Name:

Section / group:

Topics for Evaluation

The following topics are suggested to be included in the evaluation process after the syllabus of the First Semester about English Phonetics and Phonology” Segmental Features” has been covered in both theory and practice.

1. English Language Accent and Varieties
2. Phonetics branches,
3. Sections and definition O Phonetics
4. Phonology: definition and domain
5. Common aspects between Phonetics and Phonology
6. Speech sounds organs
7. Speech sounds production
8. Stages and mechanisms of speech production

- 9.** Speech sounds description
- 10.** Speech sounds production: macro picture
- 11.** Speech sounds production: micro picture
- 12.** Speech sounds classification
- 13.** Qualities of sounds: manners of articulation, places of articulation, voicing , oral, nasal and so on
- 14.** Consonant sounds: definition, types, and description
- 15.** Vowel sounds: definition, types and description
- 16.** Differences between consonants and vowels
- 17.** The five parameters of consonants classification
- 18.** The four parameters of vowels classification
- 19.** Basic parameters of speech sounds classification
- 20.** Secondary parameters of speech sounds classification
- 21.** The different treatments of some special sounds of English language.
- 22.** The different distribution of some special sounds of English language.
- 23.** The use of diagrams, tables and figures in the evaluation
- 24.** Comparison between the segmental and supra-segmental feature of pronunciation
- 25.** Every topic explored in this document is likely to be included.

Chapter 9

English Symbols and Transcription

Description	<p>This lecture aims at introducing a macro picture of the available writing systems. It explores key concepts about the definition, rules, and types of transcription. Through the developments of the lecture students will become familiar with the alternative options and symbols for writing speech sounds. The emphasis is put on the distinction between phonemic and phonetic transcription. Key content of the lecture includes two sections; the first one deals with the theoretical matters while the second one presents a number of practical materials and exercises.</p>
Objectives	<p>On successful completion of the lecture, students should be able, among other things, to;</p> <ol style="list-style-type: none"> 1. Present a general overview of the existing writing systems. 2. Enable learners to distinguish between the sounds and letters “sounds symbols and spellings”. 3. Enable learners to reflect more on the specific criteria for phonemic and phonetic transcription. 3. Introduce the different rules and symbols used for phonemic and phonetic transcription. 4. Raise learners’ awareness of the role, importance and domain of uses of transcription. 5. Raise learners’ awareness about the contribution of the transcription lecture on the subsequent lectures “English Syllable Structure”. 6. Understand the importance of the transcription in the evaluation process as well as in the process of correct pronunciation of English words correctly.

Section A: Lecture

Introduction

Phonetics, like any other science, uses some specific symbols in order to facilitate the process of dealing with the multiple aspects of the field of speech sounds. In this field of study, there are four distinctive symbols:



- / /, or slashes, to make phonemes or phonemic writing.
- [], square, to make allophones or phonetic writing.
- { }, bracelets, to make morphemes.
- < >, to mark graphemes or normal writing.

So this current chapter introduces the common ideas about the writing systems “transcription” that students should be aware of them in order to know how to deal more successfully with English pronunciation features.

9. 1. Definition of the term “Transcription”

The term transcription refers to the process and methods of writing down speech sounds in a systematic and consistent way. So each sound must be identified and written in an appropriate way and symbol. The transcription terms means the act of writing human speech sounds, syllables, words and sentences exactly in the same way as they are said or heard. So transcription accounts more on the eyes instead of the ears. In short, the most important idea within transcription is the distinction between letters and sounds. Principally speaking, there are several ways of transcription.

9. 2. Sounds and Spelling

Although the relationship between sounds and symbols in IPA is one to one, things are very different in the writing system of English. As a quick look at the words “rough, through, bough, though and cough” illustrate. All these words contain the sequence of the symbols “ough” and yet we note two things:

- the written symbols represent different sounds, and
- The same four symbols may represent different numbers of sounds. In “rough” it represents two sounds, while in through” it represents only one.

So there is no one to one correspondence between a symbol and a sound in English. This is also evident when we look at the pronunciation of many English words. Consequently, many efforts come into light in order to enable linguists to transcribe English sounds consistently and accurately.

9. 3. Transcription Types

Transcription types refer to the ways by which we can write or transcribe what we say or hear. In fact, there are several ways to do this:

9. 3. 1. Alphabetic Writing

This kind is the normal writing system which we find in books, articles and magazines. This is the type known by most people and readers. So it is the most common and ordinary system. As said earlier, Alphabetic writing system in English does not exactly match what we say, or at least it sometimes does and sometimes it does not. For example, the alphabetic system of the word “sit” exactly matches its pronunciation form. In contrast, the word “enough” is clearly not a good match. This Alphabetic system is also called Orthographic System.

9. 3. 2. Phonemic Writing

When we use Phonemic symbols to write the sounds, words, or sentences, this way is called Phonemic Writing or Transcription. This way is also called Broad Transcription. A Broad Transcription shows an absence of Phonetic detail. The broadest transcription contains only phonemes. It is referred to as a **Phonemic Transcription** and is written between slants (//). It is widely used in dictionaries and dictation with some extra symbols for vowel length (: /), primary stress (ˈ), secondary stress (ˌ), and the diacritic for syllabic consonants. Here are some examples of Alphabetic and Phonemic Writing.

Number	Alphabetic Writing	Phonemic Writing
1	< that >	/ ðæt /
2	< coat >	/ kəʊt /
3	< dog >	/ dɒg /
4	< kick >	/ teɪk /
5	< take >	/ haʊs /
6	< house >	/ ðis /
7	< this >	/ weɪ /
8	< way >	/ ɔ:l /
9	< all >	/ ð ə /
10	< the >	

Table 9-1: Alphabetic versus Phonemic Writings

9. 3. 3. Phonetic Writing

In this type, we use allophonic symbols. This writing is also called Allophonic Writing, Detailed Writing, or Narrowing Writing. This system adds secondary diacritics “marks to the phonemes”. These symbols may indicate the following characteristics: aspiration, nasalization, voicing and so on. The term narrow is applied to a transcription which contains a certain amount of Phonetic details: the narrower a transcription is the more phonetic details it contains and the more diacritic signs and special symbols it requires. Symbols in this kind of transcription are placed between square bracket ([.....]).

9. 4. Guidelines for Phonemic Transcription

1. Remember that you are dealing with sounds and not with spellings (letters).
2. The main difference is to listen for whether the consonant sound is voiceless or voiced.
3. The following consonant letters have (nearly always) their usual English sound values: (p, b, t, k, m, n, l, r, f, v, z, h, w).
4. Do not use capital letters or punctuation marks. The IPA does not follow conventional writing rules and makes use of some capitals and punctuation marks as symbols indicating specific sounds or properties of sounds. For example, a (G) is the symbol for a voiced uvular stop; a colon after a symbol indicates length.
5. Do not use the letters **x**, **c**, or **q** in the transcription. These are symbols for sounds that occur in other languages. /x/ is a voiceless velar fricative, /c/ is a voiceless palatal stop, and /q/ is a voiceless uvular stop. The sounds that letters represent in English are transcribed as follows:
 - (x) represents either /ks/ or /gs/ as in fix and exactly, respectively
 - © represents either /k/ or /s/ as in car and since, respectively;
 - and (q) represents the sound /k/ as in quick and risqué.
6. Be careful to distinguish your symbols properly. Be especially careful not to confuse between vowels.
7. If there are double letters in the spelling form of a word, do not use double consonants in a transcription. For example, rabbit is transcribed /raebit/. Remember that the spelling system is totally different from that of transcription system. Rely more on your ears rather than your eyes.
8. In speech there are actually no gaps between words. In transcription you will find that some words seem to “stick” together and you should transcribe them as such. For example, “Is a” in the phrase “is a cat” would be transcribed /izkaet/.

9. Be careful when transcribing /r/, /l/, /m/, and /n/ when they occur at the end of a word. In most instances, they can form a syllable on their own in this position. You would transcribe these “syllabic” consonants with a tick mark under the symbol to indicate this. For example, puddle /pʌdl̩/.

10. Use these various “ sounds” like rules in transcribing vowels before nasals and /r/:

- Words that contain “ank” and “and”, like tank, thank, bank, band, tanned, should be transcribed with the vowel /ae/ and the appropriate nasal consonant is /ŋ/.
- Words that contain “ing” or “ink”, like thing, ring, singer, think, blink, should be transcribed with the vowel /I/ and the appropriate nasal consonant is /ŋ/.

11. The remaining consonant letters can well be shown in the following table:

Letters	Phonemes	Examples
c	/s, k/, always voiceless	Cellar /s/ Club/k/ Access /ks/
ck	/k/	Pick /k/
g	/g, d/	Get /g/ Age / / Beige / /
qu	/kw/	Queen /kw/
s	/s/ or /z/ in some words of French origin	Sign, basis /s/ Please, realize /z/ Measure, vision / /
th	/θ/ or /ð/; all the function words (articles, prepositions, pronouns, adverbials) except through and thorough have a voiced –th-sound /ð/. -All of content words have a voiceless –th-sound /θ/, especially in initial and final position. In median position “th” is often voiced.	- With, thy, they, then –th- is pronounced as /ð Thin, thigh, bath-th- is pronounced /ð/ Mother, father-th- is pronounced /ð/
x	/ks/	Box /boks/

Table 9-2: Letters and their Corresponding Symbols in Transcriptions



12. Plural-, genitive and third person singular (s):

- /s/ after voiceless sounds examples; cats, tips, kicks
- /z/ after voiced sounds examples; pens, cars, songs
- /ɪz/ after sibilants (s,z, ʃ, ʒ, tʃ, dʒ) examples; kisses, dishes, boxes

13. Past- and Past Participle (ed):

- /t/ after voiceless sounds examples; sipped, kicked
- /d/ after voiced sounds examples; sinned, followed
- /ɪd/ after /d/ and /t/ examples; mended, sorted

14. In British English (RP) /r/ sound is only transcribed when it is in a front of a vowel. Otherwise it is not pronounced and transcribed.

9. 5. Differences in Symbols

Phonetics, unfortunately, show some differences in both Phonemic and Phonetic symbolization owing to a number of reasons. Among the most influential reasons are:

- Differences in dialects and accents: British symbols are sometimes different from American symbols.
- Individual differences between authors and phoneticians. Different authors sometimes have their preferred symbols and dictionaries since there is no two dictionaries use exactly the same set of symbols.
- The symbols of the IPA “International Phonetic Association” have not yet solved the problem. All over the world there are still authors and phoneticians who do not agree with the IPA symbols.

9. 6. The International Phonetic Alphabet

The IPA system comes as a response to avoid confusion in symbolization, to unify how phoneticians all over the world can write phonemes and allophones, so the International Phonetic Association issued a unified list of symbols. Despite the fact that some phoneticians all over the world are completely and sometimes prefer to have different symbols, mainly for the factors of easiness and practicality. But there is still always an official standard of symbolization.

9. 7. Phonetic Diacritics

Most phonemes have allophones and secondary features like length, aspiration, voicing, devoicing, resonance, and nasalization. These are sound related features so they need also symbols in order to manifest them in the phonemic or phonetic transcription. To symbolize them there are a number of symbols which are called diacritics or special marks. These diacritics are added exactly over, under or after the allophone.

9. 8. Phonemic and Phonetic Differences

A phonemic feature is that way which makes a distinctive phoneme and causes a significant difference in meaning. Such features are also called functional, distinctive or significant features. In English, for example, voicing quality makes the only difference between these pairs: /p/ and /b/, /t/ and /d/, /k/ and /g/.

Also, the difference between /p/ and /b/ is phonemic but the same difference is not phonemic in Arabic language as an example. So phonemic differences affect meaning, but phonetic differences do not.

Summary

In this chapter we have seen two main types of transcription, Phonemic and Phonetic transcription. The first one represents all phonemes heard in a word honestly and accurately, one by one and one for one. So every phoneme heard or said has its own symbol recorded in this system. It seems as somehow more important than other writings since it manifests speech sounds perfectly. Phonetic transcription is more detailed and more accurate. In fact, it uses the same phonemic symbols with extra symbols at the same time some more additional marks, and diacritics. So the latter requires more efforts and focus than the previous one.



Section B: Practice: Exercises

Study Questions: discuss the following questions briefly.

1. What is meant by the word “transcription”?
2. What are the tasks of the International Phonetic Association?
3. What are the most common writing systems do you know?
4. What is the difference between the Alphabetic and Transcription systems?
5. What is the difference between the Phonemic and Phonetic transcription?
6. What are the roles and meanings of the extra symbols used in transcription?
7. Does phonemic transcription affect meaning?
8. What is the most working type of transcription according to you? Why?

Exercise 9-1

Indicate whether the following statements are TRUE or FALSE, if false; say how the correct statement should be.

1. Transcription refers to the distinction between vowels and consonants.
2. Transcription is the alternative system by which we write speech sounds
3. Phonetics like other sciences of language uses codes to convey messages
4. Transcription is the formal way by which people exchange meanings and feeling
5. The grapheme system is the less ordinary way of symbolizing sounds
6. Phonetic transcription is less detailed, and henceforth, is most used among authors and phoneticians
7. Phonemic writing is structured according to these extra symbols, diacritics and signs of speech.....
8. Square brackets are used to represent the phonemic transcription while slashes represents the alphabetic writing
9. In transcription, it is not important at all to make any distinction between the letters and sounds
10. Similar rules of the alphabetic system are applied to both the phonemic transcription and phonetic transcription
11. Capital letters and double letters in the grapheme system must have their place as they are in the transcription system
12. The /r/ sound is transcribed in the same way either for British English and American English



13. There is a complete consensus about the phonetic symbols through the IPA “International Phonetic Association”
14. It is advisable to use phonetic transcription instead of phonemic transcription since the first one is less time and effort consuming and have exactly the same precision in terms of sound representation

Exercise 9-2

The following word pairs are minimal pairs in British PR. Identify the phonemes and the corresponding graphemes in which these minimal pairs differ.

Number	Minimal pairs	Phoneme / /	Grapheme < >
1	Sigh- thigh		
2	Rough-rub		
3	Dye-deer		
4	Bile-bowl		
5	Thought-caught		
6	joke-choke		
7	Bird-bud		
8	Dough-do		
9	Niece-nice		
10	That-chat		
11	Yacht-shot		
12	There-care		

Exercise 9-3

How can the following phonemes be represented in spelling? Give words as examples for each possibility.

/i:/	/əʊ/	/ɔɪ/	/s/	/dʒ/	/ŋ/
1.	1.	1.	1.	1.	1.
2.	2.	2.	2.	2.	2.
3.	3.	3.	3.	3.	3.
4.	4.	4.	4.	4.	4.
5.	5.	5.	5.	5.	5.

Exercise 9-4

Transcribe the following words phonemically according to both British and American English. Explain the differences.

- | | | |
|---------------|---------|---------|
| 1. Half | /...../ | /...../ |
| 2. Glass | /...../ | /...../ |
| 3. Work | /...../ | /...../ |
| 4. Compliment | /...../ | /...../ |
| 5. Laugh | /...../ | /...../ |
| 6. God | /...../ | /...../ |
| 7. Travel | /...../ | /...../ |
| 8. Situation | /...../ | /...../ |
| 9. Airport | /...../ | /...../ |
| 10. Paradise | /...../ | /...../ |

Exercise 9-5

Transcribe the following words according to both Phonetic Transcription and Phonemic Transcription. Explain the differences.

- | | | |
|---------------|---------|---------|
| 1. See | /...../ | /...../ |
| 2. Find | /...../ | /...../ |
| 3. Singular | /...../ | /...../ |
| 4. Come | /...../ | /...../ |
| 5. Laugh | /...../ | /...../ |
| 6. Throughout | /...../ | /...../ |
| 7. Mercy | /...../ | /...../ |
| 8. Phonetic | /...../ | /...../ |
| 9. After | /...../ | /...../ |
| 10. Teaching | /...../ | /...../ |

Exercise 9-6

Complete the following table by writing the sound that correctly ends each of these words.

N	Word	/s/ /z/ /iz/	Word	/t/ /d/ /id/
1	Inventions		Placed	
2	Professors		Allotted	
3	Coughs		Mentioned	
4	Matches		Suggested	
5	Examples		Argued	
6	Manages		Masked	

Exercise 9-7

1. Transcribe the following words phonemically.

Number	Word	Phonemic Transcription
1	Consumers	/...../
2	Prices	/...../
3	Products	/...../
4	Excuses	/...../
5	Mistakes	/...../
6	Provides	/...../
7	Benefits	/...../
8	Teaches	/...../

2. Transcribe the following words. What do you notice?

Number	Word	Phonemic Transcription
1	Waited	/...../
2	Retreated	/...../
3	Ended	/...../
4	Handed	/...../
5	Placed	/...../
6	Washed	/...../
7	Stopped	/...../
8	Finished	/...../
9	Required	/...../

3. Transcribe the following words. What do you notice?

Number	Word	Phonemic Transcription
1	Enough	/...../
2	Lieutenant	/...../
3	Locked	/...../
4	Stopped	/...../
5	Cough	/...../
6	Plough	/...../
7	This	/...../
8	Thought	/...../
9	Archaic	/...../
10	Church	/...../
11	Architect	/...../
12	Night	/...../
13	Though	/...../
14	Quotient	/...../
15	quits	/...../

4. Transcribe the following sayings and proverbs.

a- Actions speak louder than words

/...../

b- Absence makes the heart grow fonder

/...../

c- Better the devil you know (than the devil you do not know)

/...../

d- The early bird catches the worm

/...../

e- An eye for an eye (and a tooth for a tooth)

/...../

f- Like father, like son

/...../

g- All that glitters/glistens is not gold



- //
- h-** Give somebody an inch (and they will take a mile)
//
- i-** Do not judge a book by its cover
//
- j-** He who laughs last laughs longest
//
- k-** Look before you leap
//
- l-** Live and let live
//
- m-** You can not make an omeletts without breaking eggs
//
- n-** No pain, no gain
//
- o-** The pen is mightier than the sword
//
- p-** A rose by any other name would smell as sweet
//
- q-** You scratch my back and I will scratch yours
//
- r-** Nothing ventured, nothing gained
//
- s-** Where there is a will there is a way
//
- t-** Love me, love my dog
//
- u-** A friend in need, is a friend indeed
//

5. Transcribe the following idioms.

a- We are all in the same boat

//

b- Too many cooks spoil the broth

//

c- Hang in there

//

d- Get lost

//

e- In the blink of an eye

//

f- Bag of nerves

//

g- They decided to bury the hatchet and try to be friends again

//

6. Transcribe the following passages phonemically.

The term narrow is applied to a transcription which contains a certain amount of phonetic detail: the narrower a transcription is the more phonetic details it contains and the more diacritic signs and special symbols it requires. This kind of transcription is called a Phonetic Transcription and is placed between square brackets.

A Broad Transcription shows an absence of phonetic detail. The broadest transcription contains only phonemes. It is referred to as a Phonemic Transcription and is written between slants.

In dictionaries (and dictation) it is common usage to use a phonemic transcription with the added symbols for vowel length, primary stress, secondary stress, and the diacritic for syllabic consonants.

Chapter 10

English Syllable Structure

Description	<p>This lecture aims at introducing a macro picture of the structure of English language syllable. It explores key concepts about the different definitions suggested to the terms syllable, different types of syllable, different parts of the syllable. Through the developments of the lecture students will become familiar with the process of syllable division. The emphasis is put on the analysis of English syllable into its different parts and types. Key content of the lecture includes two sections; the first one deals with the theoretical matters while the second one presents a number of practical materials and exercises. It is worth also to mention that this lecture is supported by figures and diagrams for each stage in the lecture.</p>
Objectives	<p>On successful completion of the lecture, students should be able, among other things, to;</p> <ol style="list-style-type: none"> 1. Differentiate between the different contribution and functions of vowels and consonants in the syllable construction. 2. Differentiate between the linguistic definition and phonetic definition for vowels and consonants. 3. Identify and differentiate the prominence and pulse approach to the syllable. 4. Identify the different parts and types of the syllable. 5. Enable learners to transcribe and analyze syllable appropriately into its parts. 6. Raise learners' awareness about the contribution of syllable lecture on the subsequent lectures "consonants clusters". 7. Understand the importance of the syllable structure in the evaluation process as well as in the process of correct pronunciation of English words correctly.

Section A: Lecture

Introduction

The linguistic definition of vowels and consonants in the previous lectures suggests that vowels have typically a central function over consonants. In other words, vowels are more important than consonants in the syllable formation. This means that they occupy the center of a syllable while the consonants are said to be marginal in the syllable. So in any way vowels must be present to form a syllable while consonant are not (you can have a syllable without a



consonant but it is not possible at all without a vowel). In this lecture, we present the main ideas about the meaning of the syllable, parts of the syllable, types of the English syllable and the common division and structure.

10. 1. Definition of a Syllable

The syllable is a very important unit of sounds consisting of a group of consonants and vowels. In this respect, the syllable may be defined as an uninterrupted unit of utterance that is typically larger than a single sound and smaller or equal to a word. In English, syllables are usually described as consisting of a center which has little or no obstruction to airflow and with sounds which are comparatively loud; before and after the center (that is at the beginning and at the end of the syllable) is described as having obstruction of airflow.

- The center is produced with no obstruction because it is represented by a vowel.
- The beginning and the end of the syllable are with an obstruction of the air stream because they are represented by consonants.
- From the above definition it seems that there are two phonetic definitions of a syllable: the **Pulse** approach and the **Prominence** approach.

10. 1. 1. The Pulse Approach

It was put forth by the Psychologist S.T. Stetson. He attempts to define the syllable on the basis of the articulatory effort needed to produce it. This theory argues that each syllable corresponds to an increase in the air pressure; air from the lungs being released as a series of chest pulses. In other words every syllable is initiated by a chest pulse, a contraction of the muscles of the rib cage that pushes more air out of the lungs. This theory suggests that the syllable rather than the sound is the basic unit of speech: vowels are central or nuclear to the syllable and they make the chest pulse audible whereas consonants are used to begin “onset” or close “termination-coda” of a syllable.

10. 1. 2. The Prominence Approach

This approach attempts to define a syllable in auditory terms. It claims that in a string of sounds some are more sonorous “louder or more prominent” than others. Each peak of sonority corresponds to the center of a syllable and these peaks are best represented by vowels. The less sonorous sounds provide valleys of prominence and are best illustrated by the closures or narrowings which produce consonants, e.g.: the word “paradigmatic”

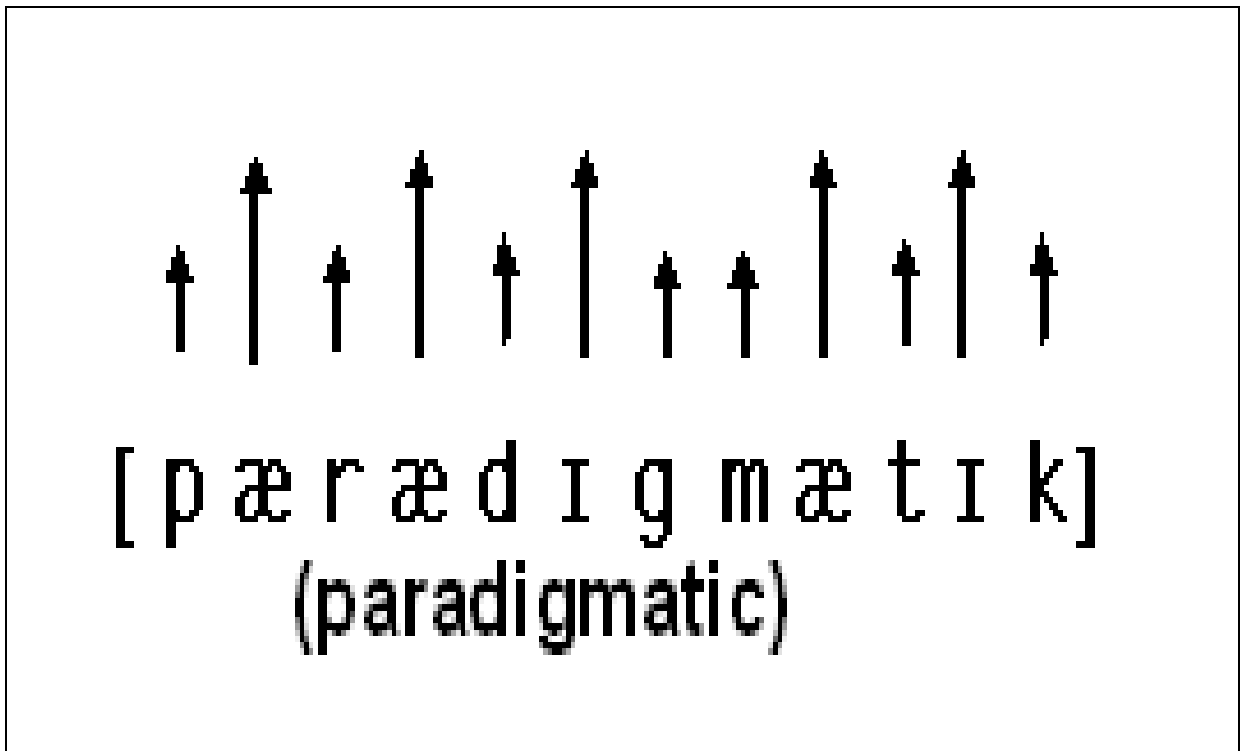


Figure 10-1: The Prominence Approach

A spectrogram shows that vowels are produced more loudly than consonants and, which may prove the prominence of vowels over consonants. This justifies the fact that native speakers often omit the last consonant.

The following figure shows the relative sonority of a number of the sounds of English:

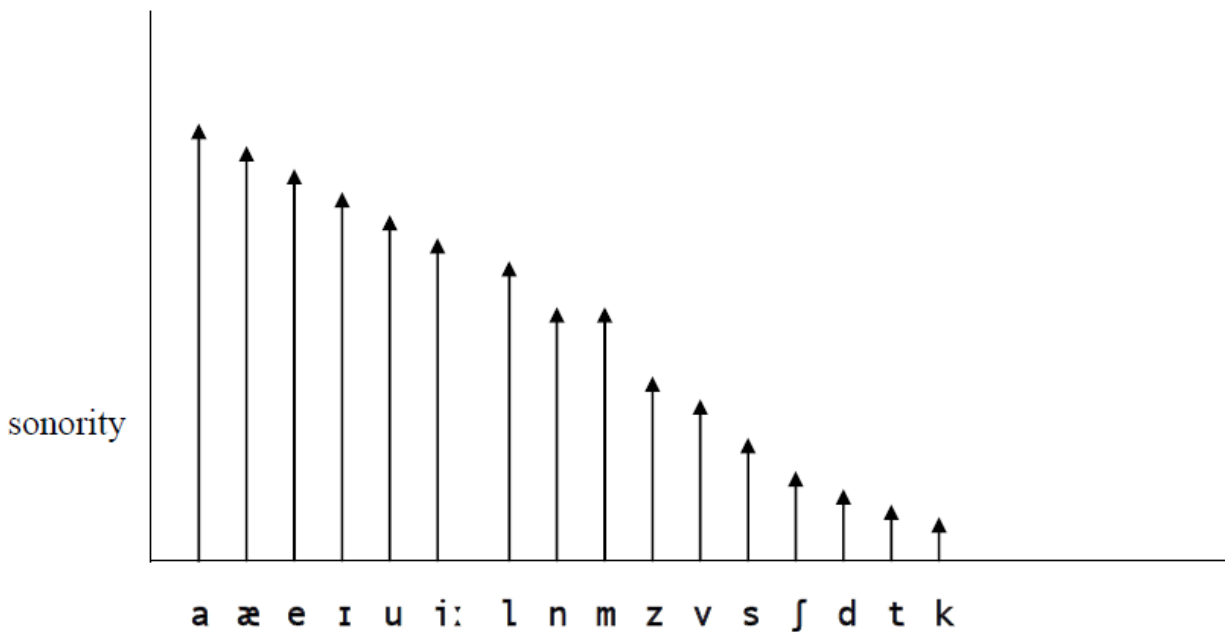


Figure 10-2: The Relative Sonority of English Sounds

It appears from this chart that vowels are more prominent than consonants but some of the consonants are close to vowels in sonority. So the degree of sonority is relative among both vowels and consonants.

10. 2. Syllable Structure: Parts and Types

10. 2. 1. Syllable Parts

Most speakers of English have no trouble dividing a word up into its components syllables. Sometimes how a particular word is divided might vary from one individual to another, but a division is always easy and possible. Here are some words divided into their components syllables “a period –full stop- is used to mark the end of a syllable”.

- **Tomato = to.ma.to**
- **Window= win.dow**
- **Extra= ex.tra**

Each Syllable have its internal structure: it can be divided into parts. The parts are onset and rhyme; within the rhyme we find the nucleus and coda. Not all syllables have all the parts; the smallest possible syllable contains a nucleus only. A syllable may or may not have an onset and coda and may have them all.

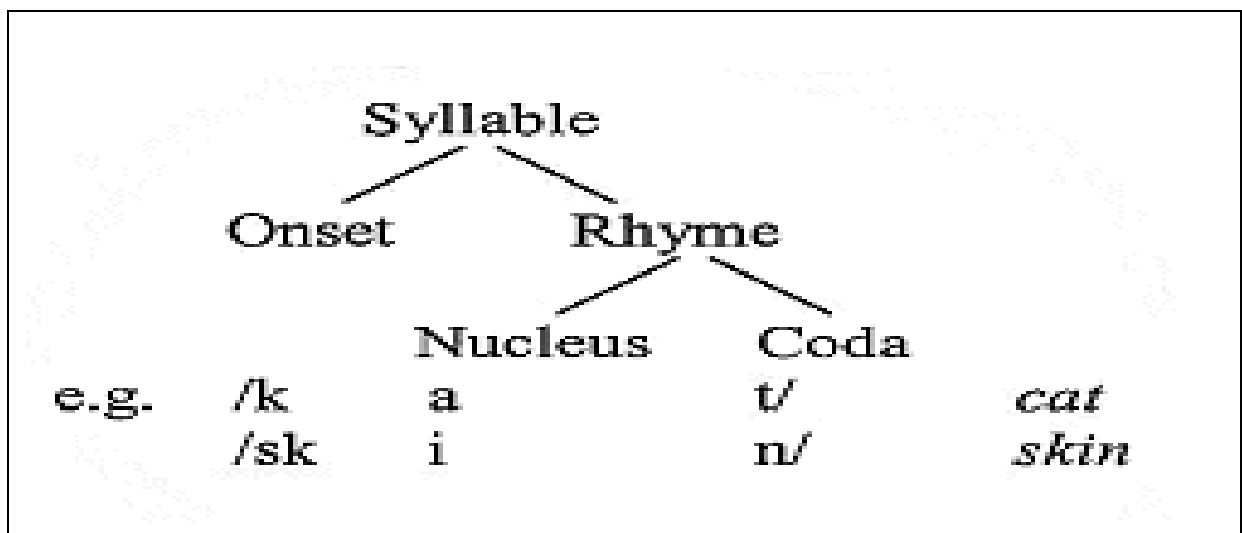


Figure 10-3: The Internal Structure of an English Syllable

10. 2. 1. 1. Onset

The beginning sounds of the syllable. i. e., the one preceding the nucleus is called the onset. These are always consonants in English. If a syllable starts with a vowel we say the



syllable has no onset. Any vowel can occur at the beginning of a syllable. If the syllable begins with more than one consonant sound we call this a consonant cluster. In the following words, the onset is in a **bold** type; while the rest underlined.

- **Rid** flap strap

➤ If a word contains more than one syllable, each syllable will have the usual syllable parts; like in the following words.

- **Win** down **to** ma **top** re **pos** te **rou** fun **da** men **tal**

10.2.1.2. Rhyme “or Rime”

The rest of the syllable, after the onset “the underlined portions of the words above” is called the **rhyme** or “**rime**”. The latter can also be divided up: **rhyme**= **nucleus** + **coda**

The nucleus as the term suggests, is the core or essential part of a syllable. A nucleus must be present in order for a syllable to be present. Syllable nuclei are most often highly “**sonorant**” and “**resonant**” sounds, that can be relatively loud and carry a clear pitch level. In English and in most other languages, most syllable nuclei are vowels. If there is no consonant sound at the end of the syllable we say that the syllable has a zero coda.

10.2.2. Types of a Syllable

An English syllable has a possibility to be divided as follows:

10.2.2.1. A Minimum Syllable

It is that one which has just one single sound. This single sound is a vowel in isolation. That is to say, there is no consonant sound either at the beginning or at the end (zero onset and zero coda). This syllable can be represented as follows: /**0**+**V**+**0**/. Like in the following words;

- Are / **a:** /
- Or / **ɔ:** /
- Err / **ɜ:** /

10.2.2.2. An Onset Syllable

This syllable has some consonant sounds at the beginning and zero consonants at the end. So it has from one up to three consonant sounds (1-3) before the center “nucleus” of the syllable



with zero consonant sounds after the center. i. e., onset + center. This syllable can be represented as follows: **/CCC+V+0/**. Like in the following words;

- Bar = one consonant + vowel /bɑː/
- Tree = two consonant + vowel /triː/
- Spree = three consonant + vowel /spriː/

10. 2. 2. 3. A Coda Syllable

This syllable has from one up to four consonant sounds after the center of the syllable with zero consonant sounds before the center i.e., center + coda. This syllable can be represented as follows: **/0+V+CCCC/**. Like in the following words;

- Am = center + one consonant sound /a + m/
- Ant = center + two consonant sound / a + nt /
- Asks = center + three consonant sounds / a + sks /
- Ampls = center + four consonant sounds / a + mpl /

10. 2. 2. 4. An Onset and Coda Syllable

This type of syllable has from one up to three consonant sounds (1-3) before the center of the syllable and from one up to four consonants sounds (1-4) after the center of the syllable i.e., onset + center + coda. This syllable can be represented as follows: **/CCC+V+CCCC/**. Like in the following words;

- Run = one consonant before and one consonant after / r ʌ n/
- Depth = one consonant before and two consonant after / depθ/
- Swept = two consonant before and two consonant after / swept /

Summary

To conclude, analyzing syllables structure, as we have seen in this chapter, can be useful to foreign language learners. Obviously there are many more limitations of possible combinations of vowels and consonants, but an understanding of basic structures described above will help to some extent learners in a way or another to become aware of precisely what type and part of the syllable they are dealing with.



Section B: Practice: Exercises

Study Questions: discuss the following questions briefly.

1. What is meant by the word “syllable”?
2. What is the internal structure of an English syllable?
3. What is the difference between the pulse and prominence approach to syllable?
4. Do all syllables of English language have the vowel sound? Why?
5. Do syllables belong to the segmental or supra-segmental features of sounds?
6. Is it true that the onset a substantial part of the English syllable? Why?
7. Is it also true that the nucleus a substantial part of the English syllable? Why?
8. What is the smallest syllable in English?
9. What is the biggest syllable in English?

Exercise 10-1

Indicate whether the following statements are TRUE or FALSE, if false; say how the correct statement should be.

1. Every English vowel can be used in initial position
2. Every vowel can be preceded by a single consonant
3. Every syllable in English is made up of “at least” three parts.....
4. The rhyme is composed of nucleus and onset
5. Every vowel can be followed by a single consonant
6. The onset is the consonant at the end of the syllable after the nucleus
7. In English, most syllable nuclei are minimum syllables
8. It is possible that syllables to be different in size.....
9. A syllable with the rhyme does not have a coda
10. It is possible that a syllable with the rhyme may not have an onset
11. All syllables of English have onset and coda
12. A nucleus is an optional in syllable structure
13. Syllable nuclei are most often highly sonorant or resonant sounds
14. A nucleus is not important to be present in order for the syllable to be present
15. In some cases a word can begin with four consonant sounds
16. A syllable with zero coda has no consonant sound at the end
17. A syllable with zero onset has no consonant sound at the beginning
18. A syllable with a zero onset starts with a consonant sound



19. Each peak of sonority corresponds to a consonant sound
20. /u/ is more sonorous than /ae/
21. /h/ can occur in final position
22. Each centre in a syllable corresponds to a peak in a sonority
23. The nucleus term refers to the core part of a syllable
24. If a word contains more than one syllable, each syllable will have the unusual syllable parts: like the case in the following words; window, fundamental, tomato ; etc.
25. The smallest syllable in English is one V
26. The syllable in the word “read” has an onset, peak, and coda
27. The syllable in the word “read” has both an onset and rime
28. Sounds before and after the centre of the syllable are described as less loud sound with less obstruction of air stream
29. The smallest possible syllable contains a nucleus only
30. The internal syllable is the onset, nucleus, and coda
31. There are two definitions of a syllable; the pulse approach which is about the auditory terms (some sounds are more louder and prominent than others and this corresponds well with the centre of a syllable, the prominence approach which is about the articulatory effort i.e. the air pressure of each syllable is initiated by a chest pulse through a contraction of the muscles of the rib cage that pushes more air out of the lungs.....
32. Consonants sounds are central or unclear to the syllable
33. Vowel sounds are used to begin (initiation) or close (termination) a syllable
34. Vowel sounds are less prominent than consonant sounds
35. The word “sylphs” has the following syllable structure CVCCC
36. Some consonant sounds are close in prominence or sonority to vowel sounds

Exercise 10-2

Transcribe the following words and then identify the syllable type and part they have.

See the following Example word: sit /sit/ it is an onset and coda syllable.

1. Next // it is
2. Err / /
3. I / /
4. Spray //
5. Rough //.....
6. Ought //.....

7. Bar //.....
8. Ease //.....
9. Ice /...../.....
10. Prompt /...../.....

Exercise 10-3

Transcribe the following words and then identify the onset, centre, and coda for each syllable as it is shown in the following table.

N	Word+ transcription	Onset	Nucleus	Coda
01	Banks / baenks/	/b/ is the onset	/ae/	/ŋ/+/k/+/s/
02	Are //			
03	Prompts //			
04	Sixth /...../			
05	Bonds /...../			
06	Through /...../			
07	Feeds /...../			
08	Hinge /...../			
09	Door /...../			
10	Or /...../			
11	Sound //			
12	Flee //			
13	Ill //			
14	Felt /...../			
15	Scrambles//			

Exercise 10-4

1. Transcribe the following words in the following table.
2. Divide and say how many syllables in each word.
3. What do you notice?

Number	Word	Transcription	Word	Transcription
1	Attempt		Minimal	
2	Capital		Brackets	

3	Dramatic		Attention	
4	Prefer		Structure	
5	Activity		Statement	
6	Parents		Generate	
7	Teachers		Although	
8	Personal		Feature	
9	Approach		Entrance	
10	Crouch		Answer	
11	Travel		Appreciate	
12	Garden		Command	
13	Lovely		Yesterday	
14	Village		Learner	
15	Husband		Number	

Exercise 10-5

1. Transcribe the following words in the following table.
2. Divide and say how many syllables in each word.
3. What do you notice?

Number	Word	Transcription	Word	Transcription
1	Rose		Says	
2	Long		Wages	
3	Chair		Chop	
4	Age		Cash	
5	Warm		French	
6	Next		Draw	
7	Thanks		Word	
8	Oil		Teeth	
9	Wood		Jeep	
10	Know		Chain	
11	Wrong		Quick	
12	Right		Choose	
13	Wash		Month	
14	Bank		Year	
15	Lunch		Large	

Chapter 11

Consonants Clusters “Phonotactics” of English

Description	<p>This lecture aims at introducing learners with a specific image of the consonants clusters of the English syllable. It explores key concepts about the different ideas about the consonant and vowel sounds that constitute the syllable, different clusters in the initial position, different clusters in the final positions, and the possible exceptions. Through the developments of the lecture students will become familiar with the multiple and specific combinations of English consonants clusters. The emphasis is put on the analysis of English syllable structure. Key content of the lecture includes two sections; the first one deals with the theoretical matters while the second one presents a number of practical materials and exercises. it is worth to mention that the lecture is supported with tables for better illustrations</p>
Objectives	<p>On successful completion of the lecture, students should be able, among other things, to;</p> <ol style="list-style-type: none"> 1. Differentiate between the different combination in the initial and final positions. 2. Identify the specific consonant clusters in the initial position. 3. Identify the specific consonant clusters in the initial position. 4. Enable learners to transcribe and analyze syllable appropriately into its parts according to its combinations. 5. Raise learners’ awareness about the contribution of syllable lecture on the subsequent lectures “Stress Placements”. 6. Understand the importance of the consonants clusters in the evaluation process as well in as in the process of correct pronunciation of English words correctly.

Section A: Lecture

Introduction

Students’ knowledge about the internal structure of English syllable and words seems to be not enough to have sufficient practical knowledge about the question of dealing successfully with the way sounds are arranged in the different parts of the syllable. So to compliment this knowledge there must be additional topics about consonant clusters in order to make learners



familiar with the possible combinations of consonant and vowel sounds in the syllable. Of course, these combinations are either in the initial or final positions of the syllable. So the final aim is to know the multiple common and specific combinations of consonants clusters that distinguish syllables from each other within English language and from other languages at large.

11. 1. Definition

As we said before, a syllable is an arrangement of sequence of sounds in any given language, but it is well acknowledged that not any combination of sounds can appear in a language. So it is that specific distinctive order of sounds within any particular language. This is known as **consonants cluster**. **The latter term means a group of two or more consonant sounds pronounced and arranged with no vowel sound in between either before or after the center of the syllable.** For example, the English language permits the following consonants clusters such as /dr/ and /spl/ initially, but if a word begins with the following consonants cluster /zn/, it violates the phonotactics of English “no word starts with this consonants cluster unlike the previous consonants clusters.

There are restrictions on the type of restriction which can occur in any language. These can be summarized in two groups: consonants clusters in the initial position “before the center”, and consonants clusters in the final position “after the center”. English consonants cluster is characterized and governed as follows: consonants clusters permits up to three “03” consonants clusters initially “onset” and up to four “04” consonants clusters finally “coda”, and also vowels can initiate syllables. The possible consonants clusters can be represented as follows: numerically (3+ V +4) or phonemically /CCCVCCCC/. For example, in a word like /skræmblz/, there are three consonants together at the beginning and four consonants at the end to produce finally the following /CCCVCCCC/ syllable.

Note 1: The consonant sounds of the following syllable (CCCVCCCC) are called as follows;

C	C	C	V	C	C	C	C
C ₁	C ₂	C ₃	V	C ₁	C ₂	C ₃	C ₄
Pre initial	initial	post initial	center	pre final	final	post final 1	post final 2

Examples:

The following words have the following consonant sounds.



Scrambles

/s k r æ m b l z/
 Pre initial initial post initial center pre final final post final 1 post final 2

Spree

/s p r i:/
 Pre initial initial post initial center

Asks

/æ s k s/
 Center pre final final post final

Cattle

/k æ t l/
 Initial center final post final

11. 2. English Possible Consonant Clusters

The following table represents a selection of all possible consonants clusters in initial and final positions.

	Consonant Clusters	Example Words + Transcription
01	v	I /...../
02	C v	Key /...../
03	C c v	Tree /...../
04	C cc v	Spree /...../
05	V c	Am /...../
06	V c c	Ant /...../
07	V c cc	Asks /...../

08	V c ccc	Ample /...../
09	C v c	Seek /...../
10	C v c c	Cattle /...../
11	C v c cc	Lapsed /...../
12	C v c c c	Thousandths /...../
13	C c v c	Speak /...../
14	C c v c c	Script /...../
15	C c v c c c	Trends /...../
16	C c v c c c c	Trampled /...../
17	C c c v c	Scram /...../
18	C c c v c c	Script /...../
19	C c c v c c c	Strands /...../
20	C c c v c c c c	Scrambles /...../

Table 11-1: Possible Consonants Clusters Initially and Finally

11.3. Consonants Clusters in Initial and Final Positions

11.3.1. Consonants Clusters in Initial Position

11.3.1.1. Vowel

➤ We can have three possible monosyllabic words:

1. E / / 6- a / /
2. A / / 7- I / /
3. Are / / 8- owe / /
4. Or / / 9- ear / /
5. Err / / 10- air / /

11.3.1.2. Initial Vowel Sound Pattern

- All vowel sounds of English can occur in initial position except /ʊ/ and /ʊə/.

11.3.1.3. Initial /CV/ Pattern

- All consonants can occur in the initial position except the following cases “sounds”;
 - /ŋ/ does not occur initially
 - /ʒ/ occurs before /ɪ/ and /i:/ e.g., gigolo, gigot,

11.3.1.4. Initial /CCV/ Pattern

- There are two consonants in this cluster, the first must come from the set / p, t, k, b, g, f, v, θ s, f, h / while the second one can come from the list of consonants in front of the given sounds.

1. /p/+ /l/ or /r/ or /j/ as in play
2. /t/+ /r/ or /j/ or /w/ as in twin
3. /k/+ /l/ or /r/ or /j/ or /w/ as in climb
4. /b/+ /l/ /r/ /j/ as in blue
5. /g/+ /l/ /r/ /j/ /w/ as in grow
6. /f/+ /l/ /r/ /j/ as in fly
7. /v/+ /j/ as in view
8. /θ/+ /r/ /j/ /w/ as in thwart
9. /s/+ /l/ /j/ /w/ /p/ /t/ /k/ /m/ /n/ as in snow
10. /ʃ/+ /r/ as in shred
11. /h/+ /j/ as in huge

➤ Notes:

1. /S/ +/ r/ occur only in the word “syringe” pronounced as /srɪndʒ/.
2. /G/ +/ j/ occur only in “gules”.
3. /G/ +/ w/ occur in “girls” names such as “Gwen”.
4. /θ/ +/ j/ occur only in « « thew »».

11.3.1.5. Initial /CCCV/ Pattern

The maximum cluster of consonants cluster /CCCV/ in initial position in English is three. They must be followed by a vowel /V/, thus: /CCCV/. If there are three consonants,



however, the first must be /s/, the second must come from the set / p, t, k /, and the third must come from the set /l, r, w, j /. See the following example for more details.

For example,	<u>01</u>	C	C	C	+	V	(3 consonants)
		• /S/	/P/	/L/		any vowel	
		•	/T/	/R/		any vowel	
		•	/K/	/W/		any vowel	

11.3.2. Consonant Clusters in Final Position

11.3.2.1. Final /V/ Pattern

- All vowels occur finally except / e/, / æ/, / ʌ/, and / ɒ/

11.3.2.2. Final /VC/ Pattern

- All consonants can occur finally except /r/, /h/, /j/, and /w/.
- /ʒ/ occurs finally after /ɪ/, /ɑɪ/, /uɪ/, and /eɪ/ example words, garage, prestige, Moulin rouge, beige.
- /ŋ/ sound can occur after /l/, /æ/, /ʌ/, and /ɒ/.
- Only /d/ sound can occur after all vowels.
- No vowel sound can occur before all consonants.

11.3.2.3. Final /VCC/ Pattern

1. /p/ + /t/ /θ/ /s/ as in caps
2. /t/ + /θ/ /s/ as in puts
3. /k/ + /t/ /s/ as in box
4. /b/ + /d/ /z/ as in nibs
5. /d/ + /z/ /θ/ as in feds
6. /g/ + /d/ /z/ as in rugs
7. /tʃ/ + /t/ as in itched
8. /m/ + /p/ /d/ /f/ /θ/ /z/ as in limp
9. /n/ + /t/ /d/ /tʃ/ /d/ /θ/ /z/ as in mint
10. /ŋ/ + /k/ /d/ /z/ /θ/ as in length
11. /l/ + /p/ /t/ /k/ /b/ /d/ // tʃ/ /d/ /m/ /n/ /f/ /v/ /ə/ /s/ /z/ / ʃ/ as in bulb
12. /f/ + /t/ /θ/ /s/ as in left
13. /v/ + /d/ /z/ as in loved
14. /θ/ + /t/ /s/ as in earthed



15. /ð/ + /d/ or /z/ as in oaths
 16. /s/ + /p/ or /t/ or /k/ as in rusk
 17. /z/ + /d/ as in seized

➤ **Notes:**

- /r, h, j, w/ do not combine with other consonants in final position.
- /g, n, ð/ do not occupy final position in final CC cluster.
- /pθ/ can occur only after /e/.
- /mθ/ can occur only after /ɔɪ/.
- /ln/ can occur only after /ɪ/.
- /lf/ can occur only after /e/.
- /fθ/ can occur only after /ɪ/.
- Only /dʒ/ can occur only after all vowels.
- /nz, lz/ can occur after all but two vowels.
- No vowel combines with all clusters.

11.3.2.4. Final /VCCC/ Pattern

It is quite frequent in English although it is not found as widely in it as the /VCC/ pattern. It is not necessary to go into the same detail for /VCCC/ as for /VCC/ but it can be claimed that the following list comprehends all forty –nine possibilities of clusters of final /VCCC/.

1. /pts/ as in scripts /
2. /pst/ as in lapsed /
3. /p θs/ as in depths /
4. /tst/ as in blitzed /
5. /tθs/ as in widths /
6. /dst/ as in midst /
7. /Kts/ as in facts /
8. /kst/ as in next /
9. /ks θ/ as in sixth /
10. /mpt/ as in bumped /
11. /mps/ as in limps /
12. /mfs/ as in nymphs /
13. /ntθ/ as in thousandth /
14. /nts/ as in pints /
15. /ndz/ as in finds /
16. /n t f t/ as in lunched /
17. /nd d/ as in lunged /
18. nθs/ as in tenths /



19. /nst/	as in minced /
20. /nzd/	as in cleansed /
21. / ηst/	as in amongst /
22. / ηkt/	as in lined /
23. / ηk θ/	as in lenth /
24. / ηks/	as in thanks /
25. /lpt/	as in helped /
26. /lps/	as in gulps /
27. /lts /	as in wilts /
28. /Lkt/	as in milked /
29. /lks/	as in silks /
30. /lbz/	as in bulbs /
31. /ldz/	as in welds /
32. /l t f t/	as in filched /
33. /ld d/	as in bulged /
34. /lmd/	as in overwhelmed /
35. /lmz/	as in helms /
36. /lnz/	as in gallons /
37. /lfs/	as in sylphs /
38. /lf θ/	as in twelfth /
39. /lvd/	as in shelved /
40. /lvz/	as in elves /
41. /l θs/	as in health's /
42. /lst/	as in waltzed /
43. /fts/	as in lifts /
44. /f θs/	as in fifths /
45. /spt/	as in gasped /
46. /sps/	as in lisps /
47. /sts/	as in lasts /

11. 3. 2. 5. Final /VCCCC/ Pattern

It is where four consonants occur at the end of a word or syllable. This type of combination is rare in English and found only when the inflectional endings /s/ and /t/ are added to a /VCCC/ form as in the word: exempt +s = exempts.

Summary

In this chapter we have seen the different ideas related to the possible combinations of consonants of English syllable structure. In fact, it is very important for English foreign language students to know about the possible combinations and clusters of consonants and vowels as well as the possible exceptions.



Section B: Practice: Exercises

Study Questions: discuss the following questions briefly.

1. What is meant by the word “consonant clusters”?
2. Does any combination of consonants possible in English syllable? Why?
3. How many consonant sounds does English language allow before and after the center?
4. What is the maximum number of English consonant sounds initially and finally?
5. What is the function of consonants clusters in the process of leaning English pronunciation features?

Exercise 11-1

Indicate whether the following statements are TRUE or FALSE, if false; say how the correct statement should be.

1. Every English consonants sound can be used in initial position
2. Every vowel and consonant can be preceded by a single consonant
3. English allows no more than three (03) final consonant clusters
4. If the syllable begins with more than one consonant we call this a consonant cluster
5. A consonant cluster must have more than one consonant sound
6. Some vowels do not occur at the beginning of a syllable
7. All vowels can occur in initial position
8. All consonants can occur in initial position
9. All consonants can occur in final position
10. In some cases a word can begin with four consonant sounds
11. /ŋ/ occurs finally after short vowels
12. The consonant cluster /zn/ is possible in English sound system
13. /h/ can occur in final position
14. If the syllable begins with no more than one consonant sound before the nucleus we call this a consonant cluster
15. The biggest consonant cluster in English is /CCCVCCC/
16. Not every sequence of phones is a possible onset or coda of English syllables.....
17. The rules that determine the possible onsets and codas are called “Phonotactics constraints”
18. The consonant cluster /lnz/ is a non English cluster

19. It is a key fact that different languages have different phonotactics constraints.....
20. The smallest syllable in English is one /V/
21. All vowels without exception occur in a final position
22. All consonant sounds without exception occur in a final position
23. In the CCCV cluster the first sound must be the /s/ while the second sound can be any consonant sound
24. Phonotactics constrains play a major role in syllabification.....
25. The consonant cluster /nzd/ is an English consonant cluster
26. The word “sylphs” has the following syllable structure /CVCCC/

Exercise 11-2

Below is a list of monosyllabic and disyllabic words. Some of them are English words, others are nonsense words. Transcribe the given words and then determine whether the consonant clusters in each word are possible according to the Phonotactics of English.

Tick “P” for POSSIBLE word and “NP” for NOT POSSIBLE word. In the latter case say why it is not possible. Rely on an example is given to you.

	Word	Transcription	P	NP	Why Not Possible
01	Allah	/aelah/		×	/h/ never occur in final position
02	Blankth	/...../			
03	crinsed	/...../			
04	gulched	/...../			
05	hosped	/...../			
06	splin	/...../			
07	stumps	/...../			
08	swathed	/...../			
09	tralcts	/...../			
10	tresmew	/...../			
11	znfier	/...../			
12	ululate	/...../			
13	krut	/...../			
14	Mnutess	/...../			
15	Makkah	/...../			
16	kti	/...../			

17	slim	/...../			
18	Scrambles	/...../			
19	znify	/...../			
20	waltzed	/...../			
21	sullen	/...../			
22	ctshaer	/...../			
23	situation	/...../			
24	filch	/...../			
25	znseen	/...../			
26	glimped	/...../			
27	mpray	/...../			
28	bulged	/...../			

Chapter 12

Introduction into Stress Meanings of English Language

Description	This lecture aims at introducing a macro picture of the meanings of stress in English languages. It explores key concepts related to the meanings of word stress placement, factors affecting stress placement, and types of stress. Through the developments of the lecture students will become familiar with the different meanings of stress, primary stress, secondary stress, and tertiary stress. Key content of the lecture includes two sections; the first one deals with the theoretical matters while the second one presents a number of practical materials and exercises.
Objectives	<p>On successful completion of the lecture, students should be able, among other things, to;</p> <ol style="list-style-type: none"> 1. Enable learners to discover the meaning of the word stress placement. 2. Discover the different factors affecting the stress placement. 3. Differentiate between the different types or degrees of stress. 4. Raise learners' awareness about the contribution of stress placement lecture on the subsequent lecture "Weak Forms versus Strong Forms". 5. Understand the importance of the stress placement in the evaluation process as well in as in the process of correct pronunciation of English words correctly.

Section A: Lecture

Introduction

As we have seen in the previous lectures syllables are articulated with different degrees of prominence. Some syllables which are given a special degree of prominence may occur at the beginning, in the middle or at the end of words. In the following words; "**f**ather", the first syllable seems stronger than the second; in the word "**a**bout", the second one seems stronger than the other and in the word "**s**yllable", the first syllable stands out from the rest. A greater degree of prominence given to one or more syllables in a word which singles it out through changes in the pitch and intensity of the voice and results in qualitative and quantitative modifications of sounds in the accented syllable is known as **Word Stress**.



12. 1. Definition of Stress

Stress is a supra-segmental feature unlike the consonants and vowels. It is not realized on a single segment, but it extends over more than one single segment: it is associated with a syllable. Stress is not an absolute property: it is the relative prominence of syllables. In contrast to the segment such as consonants and vowels, whose values “characteristics” are determinable independently on the environment of the segment alone, in stress placement, it is not possible to tell whether a particular syllable is stressed or unstressed without comparing it to other “neighboring” syllable.

Stress is defined as an extra force used when pronouncing particular word or syllable, i.e. the amount of energy expended in producing a syllable. It is a relative matter in the sense that some syllables are produced with more or less energy than others.

Stress is that cumulative property, which is signaled out by a number of phonetic factors, which work together to pick out a stressed syllable from the unstressed ones which surround it. There are three important factors which combine together to signal stress placement. These factors are as follows;

- A. The vowels of stressed syllables are produced with higher fundamental frequency; that is, the vocal folds vibrate more quickly, and this is heard as higher pitch.
- B. The duration of stressed syllables is greater, and they are perceived as longer.
- C. Stressed syllables are produced with greater intensity, and are thus heard as louder than adjacent unstressed syllables. To take our earlier examples of the words “father”, “about” and “syllable”, the stressed syllables have the full vowels , but the unstressed ones typically have schwa.

Stress is present at the syllable level, word level and at the sentence level. Every word said in isolation has a stress. English stress is a distinctive pronunciation feature in a word. If stress changes, then meaning and word class might change either completely or partially. For example, the stress placement in the word “present”, if it is on the first syllable “a ‘present”, then this word is a noun but if the stress is on the second syllable “pre ‘sent”, then this word is a verb. So stress is a part of the English pronunciation system. In order to be a good speaker, stress placement must be respected and understood. In short, stress is a very important issue in speaking and learning English either to understand your interlocutors or to be understood.



12. 2. Types of Stress

The above title refers to the **degree of stress** which is about that interactions that take place between the three phonetic factors mentioned before to produce an effect which is clearly audible, but crucially relative: that is to say, we can not distinguish a stressed syllable from an unstressed syllable if each is spoken in isolation, but only by comparing the syllables of a word, or a longer string, to see which ones are picked out as more prominent. Indeed, with English word, there can be more than one level of stress. Some words have only stressed versus unstressed syllables, as in “father, about, and syllable”. However, there are many English words which have more than the stressed and unstressed syllables or levels. In this respect, Phonologists distinguish four levels or types of stress which are as follows;

12. 2. 1. Primary Stress

It takes place on the syllable which is produced with more energy than other syllables in a word. It is indicated by an acute accent on top of a vowel letter in spelling and the phonetic symbol /' / before the first segment of a syllable in transcription. **E. g. ‘atom**

12. 2. 2. Secondary Stress

It can be found in long words “e. g. , photo ‘graphic” but this stress is not a phonological sign since its placement never results in an opposition between two words; it may just indicate word structure. This type of stress is signaled with a comma before the stressed syllable.

12. 3. Factors Affecting Stress Placement “Assignment”

Recent work in Generative Phonology has stated the rules for stress placement “assignment” in English which is based on the following factors:

- a. The morphological nature of the word “simple, complex, compound, derivations, inflections”,
- b. The syntactic category “word class” of the word “noun, verb, adjective, ...”,
- c. The number of syllables in a word.

Summary

Supra-segmental features are also essential elements for accurate or correct pronunciation of English words. As we have seen, stress plays a central role not only in the way the words or



utterances are pronounced but also have all the influence on the word meaning. In this respect, students should be familiar with every idea related to stress placement and rules.

Section B: Practice: Exercises

Study Questions: discuss the following questions briefly.

1. What is meant by the word “stress”?
2. Does stress belong to the segmental or supra-segmental features?
3. Does stress have the same pattern of air force?
4. Is stressed placed upon phonemes or syllables?

Exercise 12-1

Indicate whether the following statements are TRUE or FALSE, if false; say how the correct statement should be.

1. Supra-segmental are not phonemes
2. Stress is not a phoneme
3. Syllable which takes stress is louder, stronger, and prominent than others.....
4. All words syllables take some degree of stress
5. Some consonant sounds take stress
6. Stressed syllables are produced with more energy.....
7. Stress is defined as the extra force used when pronouncing particular syllables in a word.....
8. In compound nouns, football teams have stress on first element.....
9. Only vowel sounds take stress
10. All syllables in a word are equally stressed
11. Primary stress is more important than secondary stress.....
12. The place of primary stress affects the word class and meaning.....
13. The place of secondary stress does not affect the word class and meaning but it just indicates the word structure.....
14. The phonetic symbol for primary stress and secondary stress is the same.....
15. Stress placement in English is affected by 4 important factors.....
16. Stress placement affects largely words’ pronunciation.....
17. Stress placement does not affect words’ meaning.....

Chapter 13

Stress Placement “Rules” in English Syllables and Words

Description	<p>This lecture aims at introducing a micro picture of the stress placement in English syllable and words. It explores key concepts related to the stress rules in simple and complex words, and the role of suffixes and prefixes in stress placement. The emphasis is put more the distinction between stressed syllables and unstressed syllables. Through the developments of the lecture students will become familiar with which syllables that take primary stress, secondary stress, and tertiary stress. Key content of the lecture includes two sections; the first one deals with the theoretical matters while the second one presents a number of practical materials and exercises.</p>
Objectives	<p>On successful completion of the lecture, students should be able, among other things, to;</p> <ol style="list-style-type: none"> 1. Identify the specific rules that govern the use of stress over English syllables and words. 2. Identify the specific rules and exceptions for simple words as well as complex words. 3. Differentiate between the use of stress among different types of words “simple, complex, prefixes and suffixes. 4. Enable learners to transcribe and analyze English words according to the distribution of stress. 5. Raise learners’ awareness about the contribution of stress placement lecture on the subsequent lecture “Weak Forms versus Strong Forms”. 6. Understand the importance of the stress placement in the evaluation process as well in as in the process of correct pronunciation of English words correctly.

Section A: Lecture

Introduction

As we have seen in the previous lectures syllables are articulated with different degrees of prominence. Some syllables which are given a special degree of prominence may occur at the beginning, in the middle or at the end of words. In the following words; “**father**”, the first



syllable seems stronger than the second; in the word “**about**”, the second one seems stronger than the other and in the word “**syllable**”, the first syllable stands out from the rest. A greater degree of prominence given to one or more syllables in a word which singles it out through changes in the pitch and intensity of the voice and results in qualitative and quantitative modifications of sounds in the accented syllable is known as **Word Stress**.

13. 1. Syllable Stress Rules: Simple versus Complex Words

13. 1. 1. Simple Words

This is the stress that falls on one syllable in each word. Each word has one main stress and stress is marked on the vowel in the stressed syllable. Stressed syllables are produced in a higher, longer, louder way than other syllables. For one syllable words, the stress is very easy to find since there is only one vowel sound. In multi-syllable words stress can be difficult to find.

13. 1. 1. 1. One Syllable Words

Since stress is a relative matter, logically, a one syllable words can be spoken in isolation and can not be said to be either stressed or unstressed. However, one syllable words spoken in isolation generally have the phonetic characteristics of primary stress, that is, they consist of heavy syllables “they have a tense vowel as a nucleus, and or a coda”.

13. 1. 1. 2. Two Syllable Words

- Stress is usually on the **First Syllable** of 2 syllable nouns

‘Pen . cil	‘a . pple	‘Prin . ter	‘Chi . na
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- Stress is usually on the **First Syllable** of 2 syllable nouns

‘O . pen	‘Fa . mous	‘Cle . ver	‘Clum . sy
----------	------------	------------	------------

- Stress is usually on the **Second Syllable** of 2 syllable nouns

To re . ‘view	To de . ‘cide	To be . ‘gin	To o . ‘bey
---------------	---------------	--------------	-------------

Exceptions include ‘to answer”, “to borrow”

13. 1. 1. 3. Three or more than Three Syllable Words

- Stress is on the **Penultimate Syllable** “Penultimate means –second from end- for words with endings below:

Words ending in – ic, -ive, -ant	a/ <u>ˈ</u> ler / gic, e/ <u>ˈ</u> ccen / tric, al / <u>ˈ</u> coho / lic
Words ending in – sion, andtion	Demon <u>ˈ</u> stration, edu <u>ˈ</u> cation, infor <u>ˈ</u> mation, reve <u>ˈ</u> lation, so <u>ˈ</u> lution, a <u>ˈ</u> doption, ex <u>ˈ</u> ursion, dis <u>ˈ</u> cussion
Words ending in – ious	De <u>ˈ</u> licious, repe <u>ˈ</u> titious, in <u>ˈ</u> fectious

- Stress is on **Anti-Penultimate Syllable** “anti-penultimate means –third from end-“ for words with the endings below:

Words ending in – cy, - ty, - phy, and -gy	De <u>ˈ</u> mocracy, depen <u>ˈ</u> da <u>ˈ</u> bility, pho <u>ˈ</u> tography, ge <u>ˈ</u> ology,
Words ending in – al	<u>ˈ</u> critical, geo <u>ˈ</u> logical, <u>ˈ</u> ethical
Words ending in – ise	<u>ˈ</u> supervise, <u>ˈ</u> organize, <u>ˈ</u> exercise, <u>ˈ</u> advertise, <u>ˈ</u> recognise
Words ending in – ate	Co <u>ˈ</u> mmunicate, <u>ˈ</u> regulate, a <u>ˈ</u> ppreciate, <u>ˈ</u> calculate, <u>ˈ</u> concentrate

- In addition, a word that ends (finishes) with one of these 09 (er, ful, less, fy, ible, able, ist, ness, izeetc) takes stress on the third syllable from end.
- See the following endings in a pattern:

<u>ˈ</u> e .qual	E <u>ˈ</u> quality	<u>ˈ</u> e.qualize	Equali <u>ˈ</u> sation
<u>ˈ</u> fi .nal	Fi <u>ˈ</u> naliti	<u>ˈ</u> fi.nalise	Finali <u>ˈ</u> sation
<u>ˈ</u> neu .tral	Neu <u>ˈ</u> trality	<u>ˈ</u> neu.tralise	Neutrali <u>ˈ</u> sation

Note: the order of syllable in a word is called as follows:

1. The last syllable of the word (the ultimate syllable) the **ult**,
2. The second -last syllable (the penultimate syllable) the **penult**,
3. The third -last syllable (the antepenultimate syllable) the **antepenult**.

13. 2. 2. Compound Words

13. 2. 2. 1. Compound Nouns

➤ **Noun + noun**

'class .room	'post. office	'air . port
'chartered . accountant	'legal . advice	'business . report

➤ **Adjective + noun**

'Black .board	'Round . table	'White . house
---------------	----------------	----------------

➤ **Phrasal verbs** usually have the most stress on the stressed syllable of the second word
 “part”: verb + **preposition** or verb + **adverb**

Call . 'off	Carry . 'on	Look . 'up
Over. 'flow	Up . 'grade	Break . 'up

➤ **Preposition + verb**

Under . 'stand	Over . 'do	Under . 'estimate
----------------	------------	-------------------

➤ **Compound adjectives** usually have the most stress is on the stressed syllable of the second word “part”:

bright . 'red	old . 'fashioned	well . 'dressed
easy . 'going	light . 'green	bad . 'tempered

➤ Homographs are words that are spelled in the same way yet have different meaning and possibly different pronunciation. Homographs often have the stress on the first syllable of a noun /adjective and on the second syllable of a verb.

13. 3. Parts of speech “Verbs, Nouns, Adjectives”

English has several pairs or triples of related two syllable words which differ in part of speech and in stress placement. The nouns and adjectives are stressed on their “Penultimate Syllables, while the verbs are stressed on their Last Syllables, their Ultimate Syllables. See the table below for more details.

Number	Noun	Verb	Adjective
01	'a .ffix	A .ff". ix	
02	c. 'ompact	Comp. 'act	c. 'ompact
03	c. 'onvert	Conv. 'ert	
04	D .'ischarge	Disch . 'arge	
05	d .'iscout	Disc. 'ount	
06	'impact	Imp. 'act	
07		Perf. 'ect	Pr. 'efect
08	p. 'ermit	Perm. 'it	
09	Pr. 'esent	Pres. 'ent	Pr. 'esent
10	Tr. 'ansport	Transp. 'ort	

Table 13-1: Stress in Verbs, Nouns and Adjectives

13. 4. Suffixes and Prefixes Words

13. 4. 1. Prefixes

Mostly, prefixes do not affect Stress Placement. The prefixes a- as in awake, be- as in befriend and en- as in enclose never take stress. Many words which begin with what appears to be a prefix (but which probably isn't now a morpheme) also fit this pattern.

Some prefixes such as “**step**” as in step mother and “**counter**” as in counter-culture take primary stress. This pattern of stressed prefix is particularly obvious when the prefix has more than one syllable: antimatter, pseudo-scientist, some of these words may be compound words, which normally take primary stress on their first element.

13. 4. 2. Suffixes

1. Some suffixes do not affect stress placement. These include the syllabic inflections (**er, est, es, ed, able, age, al, en, ful, less, ing, ish, ment, ism, ness**), and the derivational suffixes (**ly, ite**).
2. The suffixes (**ese, esque, ique, and ette**) are claimed to take the word's stress.
3. Nouns and adjectives formed with the suffix (**ian**) generally take their main stress on the syllable immediately before the suffix, on their antepenults. Example words: agrarian, librarian...
4. Nouns formed with the suffix (**ity**) take their stress on the Antepenultimate Syllable, which, because the suffix has two syllables, is the syllable immediately before it which



takes stress. Note that the first syllable of the suffix is light and so can not be stressed.

Example words: probity, necessity, sanctity,

5. The following suffixes (**ia, ial, ible, ify, logy, ual**) require that the words main stress falls on the syllable immediately preceding them.
6. Words ending in (**ate, ize**) take their main stress on the second syllable before the suffix when there are enough syllables. Where only one syllable precedes the suffix, it receives main stress: fixate, dictate

Summary

Supra-segmental features are also essential elements for accurate or correct pronunciation of English syllables, words and sentences since they accompany segmental features. As we have seen, stress placement plays a central role not only in the way the words or utterances are pronounced but also have all the influence on the word meaning. In this respect, students should be familiar with every idea related to stress placement.



Section B: Practice: Exercises

Study Questions: discuss the following questions briefly.

1. State briefly the multiple rules for stress placement in simple words?
2. State briefly the multiple rules for stress placement in complex words?
3. What are the possible factors that affect stress placement? Explain.
4. Do suffixes and prefixes affect the rules for stress placement? Why?
5. Does stress placement affect words' meaning? Why?

Exercise 13-1

Indicate whether the following statements are TRUE or FALSE, if false; say how the correct statement should be.

1. Stress in English falls on either vowel or consonant sounds as segment units of pronunciation.....
2. Stress in English falls only on syllable as a supra- segment of speech.....
3. Stress is defined as the extra force used when pronouncing particular syllables in a word.....
4. In compound nouns, verb + noun have stress on second element.....
5. Nouns which are composed of two syllables have stress on the first syllable.....
6. Verbs which are composed of two syllables have stress on the first syllable.....
7. Adjectives which are composed of two syllables have stress on the first syllable.....
8. In compound words verbs, stress placement is the second part of the given word.....
9. The “**ult.**” syllable is the abbreviation form for the first syllable at the beginning of a word.....
10. The “**penult.**” syllable is the abbreviation form for the second syllable from the end of a word.
11. The “**antepenult.**” syllable is the abbreviation form for the third syllable from the beginning of a word.....
12. Stress in compound nouns falls on the second part of the word.....
13. The order of syllables in words of three or more than three syllables has to be started at the end of a word.....
14. In compound words adjectives, stress placement is the second part of the given word.....
15. The word class does not affect the stress placement.....



16. Verbs, nouns, adverbs, and adjectives have the same place of stress.....
17. Prefixes do not make stress move from one syllable to another except “step and counter”.
18. Most suffixes do not affect stress placement such as suffixes of syllabic inflections “er, est, es, ed”.....
19. Stress placement affects largely words’ pronunciation.....
20. Stress placement does not affect words’ meaning.....

Exercise 13-2

Transcribe the following words and then mark the stressed syllable and the unstressed syllables.

Affix (v)	/...../	Affix (n)	/...../
Compact (v)	/...../	Compact (n)	/...../
Convert (v)	/...../	Convert (n)	/...../
Discount (v)	/...../	Discount (n)	/...../
Permit (v)	/...../	Permit (n)	/...../
Pervert (v)	/...../	Pervert (n)	/...../
Refill (v)	/...../	Refill (n)	/...../
Transform (v)	/...../	Transform (n)	/...../

Exercise 13-3

Transcribe the following words and then mark the stressed syllable.

Number	Word	Transcription	Word	Transcription
01	democrat	/...../	democratic	/...../
02	Empathy	/...../	empathic	/...../
03	empathy	/...../	empathetic	/...../
04	sympathy	/...../	sympathetic	/...../
05	grapheme	/...../	graphemic	/...../
06	Phoneme	/...../	phonemic	/...../
07	photograph	/...../	photographic	/...../
08	telephone	/...../	telephonic	/...../

Exercise 13-4

Transcribe the words in the table below and then indicate the syllables which take the primary stress and the one which take the secondary stress.

N	Word	Transcription	Word	Transcription
1	Communication		Revolution	
2	Transcription		Limitation	
3	Situation		Fatality	
4	Examination		Recovery	
5	International		Interdependence	
6	Cooperation		Obligation	
7	Tolerance		Education	
8	Comprehension		University	
9	Punctuation		Classroom	

Exercise 13-5

- a- Transcribe the following words and then mark the stressed syllable.
- b- What do you notice in terms of stress placement?

N	Word	Transcription	Remark
01	Dictate	/...../	.....
02	Probity	/...../	
03	Librarian	/...../	
04	Electricity	/...../	
05	Fixate	/...../	
06	grammarian	/...../	
07	Divorcee	/...../	
08	Sickness	/...../	
09	Devotee	/...../	
10	Privateer	/...../	
11	Picturesque	/...../	
12	Option	/...../	
13	Sanctity	/...../	
14	Actuation	/...../	

Exercise 13-6

Find three example words for each of the following suffixes and identify where the main stress is in, in each word and syllable.

Number	Suffix	03 Words	Stress Pattern
01	ine		
02	ite		
03	ose		

Exercise 13-7

Select at least five example words that end with the list of suffixes in the following table and then mark the stress placement for each.

Number	Suffix	Example	Stress Pattern
01	Ia		
02	Ial		
03	Ible		
04	Ify		
05	Logy		
06	Ual		

Exercise 13-8

Find three example words for each of the following suffixes and identify where the main stress is in, in each word.

Number	Suffix	Example	Stress Pattern
01	Ment		
02	Age		
03	Less		
04	Ism		
05	Ness		
06	En		
07	Ing		
08	Ful		

Chapter 14

Weak Forms versus Strong Forms

Description	<p>This lecture aims at introducing first year English students with an idea about the Reduction Phenomenon in Pronunciation “Weak Forms”. It explores key concepts related to the meanings of weak forms, strong forms, reduction process, uses of weak forms versus strong forms, and functional words versus content words in relationship with their ways of pronunciation. Through the developments of the lecture students will become familiar with the multiple ways of pronouncing functional words. Key content of the lecture includes two sections; the first one deals with the theoretical matters while the second one presents a number of practical materials and exercises.</p>
Objectives	<p>On successful completion of the lecture, students should be able, among other things, to;</p> <ol style="list-style-type: none"> 1. Enable learners to discover the meaning of the weak forms, strong forms, and reduction process. 2. Discover the different factors affecting the use of weak forms versus strong forms. 3. Differentiate between the functional words and content words in relationship with the reduction process in pronunciation. 4. Identify the specific rules that govern the use of weak forms versus strong forms. 7. Enable learners to transcribe and analyze English words according to the use of strong forms versus weak forms. 8. Raise learners’ awareness about the contribution of Stress Placement lecture on the subsequent lectures for “Semester 3 and 4). 9. Understand the importance of the weak forms versus strong forms in the evaluation process as well in as in the process of correct pronunciation of English words correctly.

Section A: Lecture

Introduction

Weak forms are those words which belong to the closed class of words called functional words or grammatical words. In English language, functional words are not like content words in the sense that they;

- do not have a dictionary meaning unlike open class category words “verbs, nouns, adjectives, adverbs”,
- they are limited in number,
- they include auxiliary verbs, pronouns, articles, conjunctions, prepositions,
- their main function is to serve as grammatical cement between content words,
- they maintain relationships between higher syntactic units,
- they carry relatively little meaning, and
- they may combine to form contracted forms.

Nearly all functional words have two pronunciation forms; a strong form and a weak form. The strong form (also called citation form or full form) is stressed and it is the pronunciation form that is usually found in the dictionary entry of the word (Brown and Kondo, 2006 cited in Laoubi, 2010). So it is the first form to which foreigners are usually introduced or it is the primary pronunciation form. The weak form (or the modified pronunciation or reduction process) is unstressed, less prominent, and phonemically different from the strong form in both quality and quantity.

14. 1. Definition

The question of strong and weak form is also referred to as the reduction process because the weak form is generally distinguished from the strong form through the process of reduction. Reduction is the process that affects the quality and quantity of the sound or syllable. Thus, depending on the character of the change, weak form or reduction may be purely quantitative, qualitative or zero. The reduction is called quantitative when it affects the length of sounds. The reduction is called qualitative when the vowel sound changes its quality to a neutral sound. So both strong and weak syllables “forms” in English can be distinguished on the basis of vowel quality, stress type, stress placement, or all both factors.



14. 2. Ways of Weakening

Phonologically speaking, functional words undergo a number of modifications in speech. The way functional words are modified in pronunciation depends on a number of factors. The common ways of weak form are as follows:

14. 2. 1. Vowel Reduction

This feature is almost found in all weak forms. This way of vowel reduction is replaced by another vowel sound which is weaker than the precedent one. There are three common weak vowel sounds in the English weak forms:

- The /ə/ as in “from” “but” “and”
- The /ɪ/ as in “bee” “she” “he”
- The /ʊ/ as in “you” “to”

14. 2. 2. Sound Loss

It is the diminution of the sound quantity of the word. This is done through the omission of sounds from strong form. Technically, this is called “elision”, and it also has three ways:

- Omission of initial consonant as in “has” and “them”; / əz/, /əm/
- Omission of final consonant as in “and”: /n/ or / ən/
- Omission of vowel sound as in “was” “can”; /wz/ /kn/

14. 2. 3. Changes in Consonant Sound

The weak form may result from the change in consonants and appearance of syllabic consonants. In this way, the weak form is affected by neighboring sounds. For some words, reduction will result in the appearance of syllabic consonants. Also, like the other words in connected speech, functional words may undergo different ways of assimilation, linking and elision.

14. 2. 4. Phonological Environment

Some functional words have more than one weak form according to different phonological environments. So the same functional word may be reduced into two or more distinct forms if it occurs in different phonological contexts.



14. 3. Uses of Weak Forms and Strong Forms

There are rules that are followed to identify where a functional word is to be pronounced on its weak form and where the strong form is the normal form. The weak form is the ordinary form of functional words, and they are more frequently used, it is a good way to focus on only the exceptions where the weak form is not used in order to have a clear idea and meaning.

It is important to remember that there are certain contexts where only the strong form is acceptable and others where the weak form is the normal pronunciation. There are some fairly simple rules; we can say that the strong form is used in the following cases:

1. For many weak-form words, when they occur at the end of a sentence. For example, the word “of” has the strong form but when it comes at the beginning or middle, it has the weak form.
2. When weak-form words whose spelling begins with “h” letter such as “her, have, etc.” occur at the beginning of a sentence, the pronunciation is with initial “**h**”, even though this is usually omitted in other contexts.
3. When the functional words occur in isolation in the sense that these words are out of the contexts.
4. When functional words are quoted, they are pronounced strongly.
5. When the word is emphasized in an utterance, it is stressed to show the intended meaning and importance.
6. In connected speech, if the functional word precedes a pause, it is pronounced in its strong form.
7. For auxiliary verbs, if they occur in their negative form, they are always pronounced strongly.
 - The teacher **has** asked for the list. /hæz/
 - She **has** not found her case so far. /hæz/
8. When the word “must” is used in the sense of concluding something, it is usually stressed.
 - He does not answer your question. He **must** be angry. /mʌst/
 - She spent all the week inside the home. She **must** be revising for the exam. /mʌst/
9. In addition, there are a number of functional words which are regularly stressed.
 - Some demonstratives like “this” “that” “those”
 - Interrogatives like “where” “who” “which” “how”

14. 4. The Common Functional Words

The following table lists the most common functional words which have usually both weak and strong pronunciation forms.

Number	Word	Weak form	Strong form
01	a	/ə/	/eɪ/
02	am	/əm/	/æm/
03	an	/ən/	/æn/
04	and	/ən/ or /n/	/ænd/
05	are	/ə/	/ɑː/
06	as	/əz/	/æz/
07	at	/ət/	/æt/
08	be	/bi/	/biː/
09	been	/bin/	/biːn/
10	but	/bət/	/bʌt/
11	can	/kən/	/kæn/
12	could	/kəd/	/kʊd/
13	do	/d (ə)/	/duː/
14	does	/dəz/	/dʌz/
15	for	/fə/	/fɔː/
16	from	/frəm/	/frʊm/
17	had	/həd/	/hæd/
18	has	/həz/	/hæz/
19	have	/həv/	/hæv/
20	he	/hi/	/hiː/
21	her	/hə/	/hɜː/
22	him	/im/	/him/
23	his	/iz/	/hiz/
24	is	/z/	/iz/
25	must	/məst/	/mʌst/

26	not	/nt/	/nɒt/
27	of	/əv/	/ɒv/
28	our	/aɪ/	/aʊə/
29	shall	/ʃəl/	/ʃæl/
30	she	/ʃi/	/ʃiː/
31	should	/ʃəd/	/ʃʊd/
32	some	/səm/	/sʌm/
33	than	/ðən/	/ðæn/
34	that	/ðət/	/ðæt/
35	the	/ðə/ or /ði/	/ðiː/
36	them	/ðəm/	/ðem/
37	there	/ðə/	/ðeə /
38	to	/tə/	/tuː/
39	us	/əs/	/ʌs/
40	was	/wəz/	/wɒz/
41	we	/wi/	/wiː/
42	were	/wə/	/wɜː/
43	who	/hʊ/	/huː/
44	would	/wəd/	/wʊd/
45	will	/wəl/	/wil/
46	you	/jʊ/	/juː/
47	your	/jə/	/jɔː/

Table 14-1: The List of Common Weak and Strong Forms

Summary

In this last chapter we have dealt with matters about the main concepts of the strong forms versus weak forms. In the second section a number of practical exercises will shed more light on the lecture.



Section B: Practice: Exercises

Study Questions: discuss the following questions briefly.

1. What is meant by the term “strong form”?
2. What is meant by the term “weak form”?
3. What are words that typically stressed in English?
4. How are functional words realized under the stress influence?
5. What are the possible contexts that determine the use of strong forms of the function words?
6. What are the possible phonological contexts suitable for reduction?
7. What is the main difference between content words and functional words in relationship with the reduction process?

Exercise 14-1

Indicate whether the following statements are **TRUE** or **FALSE**, if false; say how the correct statement should be.

1. In weak forms, /h/ can be dropped
2. Some English functional words are pronounced in two different way either strong or weak forms.....
3. Almost all the words which accept both weak and strong forms belong to function words.....
4. Some words can have more than one weak form
5. The word “that” has only strong form
6. The reduction process does not affect the sound’s quality.....
7. The reduction process does not affect the sound’s quantity.....
8. A mixture of lexical words and grammatical words represent the list of English words which are subjected to the process of reduction.....
9. The words which are used to convey minor meaning are usually not stressed.....
10. The functional words in English, typically speaking, when they are unstressed and are pronounced in their strong form.....
11. Weak forms are common pronunciation aspects in the every day speech.....



Exercise 14-2

For each of the following questions, circle the letter that best represents the right answer.

Choose only one answer out of the suggested possible answers.

1. The weak pronunciation form of functional words is used in:
 - informal speech
 - semi-formal speech
 - formal speech
 - all of them
2. In natural speech, which form is more frequent than the other?
 - the weak form
 - the strong form
 - they have the same frequency
3. the weak form of the functional words is usually used when:
 - the functional word is quoted
 - the functional word is used in isolation
 - in both “a” and “b” situations
 - in none of them
4. functional words are usually pronounced strongly if:
 - They do not receive sentence stress.
 - They occur in sentence final position.
 - In all of them
 - If the preceding word is stressed.
 - none of them
5. In which situation is the word “that” pronounced weakly?
 - When it is used in a relative clause.
 - When it is used as a demonstrative.
 - in both “a” and “b” situations
 - in none of them
6. the words “her” and “are” have a common weak form which is:
 - / r/
 - /ə/
 - /e/



7. Which one of the following functional words is regular stressed (does not have a weak form at all)?
- because
 - where
 - fore
 - any
8. In which of the following examples is the word “was” pronounced weakly?
- I think he was.
 - She said that her car was broken down.
 - You have written “was” instead of “were”.
 - I did not see you in the meeting since I was there.
9. In which of the following sentences the word “have” must be pronounced strongly?
- My parents have bought a new car.
 - I think that they have something to present.
 - Have your teachers told you that.
 - in all of them
 - in none of them
10. functional words have always strong form when they come before:
- nouns
 - pauses
 - other weak forms
 - strong forms
11. in which sentence should the word “has” be pronounced strongly:
- She has taken them from the box.
 - He has not yet prepared himself.
 - They announced that the file has disappeared.
 - in none of them
 - in all of them without exception



Exercise 14-3

Choose a number of functional words and write short sentences for their realization in both strong and weak forms.

N	Functional Word	Short Sentence	Strong Form	Weak Form
1	-			
2	-			
3	-			
4	-			

Exercise 14-4

Put stress and transcribe the following sentences. "Pay attention to the weak and strong forms"

1a: At the end of the lesson, I managed to leave the classroom.

1b: /...../

2a: I want to drink a cup of coffee and play football with you.

2b: /...../

3a: it is high time to start revision, the exams are coming.

3b: /...../

4a: could you please bring with you my umbrella, it is raining heavily at this moment.

4b: /...../

5a: look at the scene; it starts to get quite good from the evening.

5b: /...../

6a: do not trust him; he is just pulling your feet. It's okay.

6b: /...../

7a: you need to say that over and over gain in order to make him hear you in a better way.

7b: /...../

8a: it is too early to give you my cell phone number; you still a stranger for me.



8b: /...../

9a: the airplanes are landing every two minutes in the national airport.

9b: /...../

10a: there is nothing better for solving problems than putting people in the real life situations.

10b: /...../

11a: every one in the school admit you claver plan to win the game.

11b: /...../

12a: they are plenty of people in the waiting room who want to be examined by the doctor.

12b: /...../

Exercise 14 -5

Transcribe phonemically the following sentences and phrases.

Indicate the primary stress and secondary tress.

Indicate the weak forms where they are likely to occur.

1a: His mother wanted to see him.

1b: /...../

2a: It is never late to learn.

2b: /...../

3a: A word a day keeps ignorance away.

3b: /...../

4a: A sound or a letter, learning is better.

4b: /...../

5a: Say your word or write your letter.

5b: /...../

Final Section: Recapitulation and Evaluation of the Second Semester

Description	This final section aims at introducing graduate first year English students with an idea about the process of final recapitulation and evaluation. It explores key concepts related to the main idea “summary” of each lecture, general study questions, types of quizzes, types of the exam, and types of the make up exam. Through the elements of the section students will become familiar with the multiple ways of assessment and evaluation. Key content of the section includes table for final summaries, table of quizzes, table for exam, table for make up exam and table for possible topics to be included in the evaluation process. It is worth to mention that this section was supported by description and its objectives.
Objectives	On successful completion of the recapitulation and evaluation section, students should be able, among other things, to; <ol style="list-style-type: none"> 1. Enable learners to discover the main idea “summary” of each lecture. 2. Discover the different possible macro question for each lecture. 3. Discover the type and content of the quizzes. 4. Discover the type and content of the exam. 5. Discover the type and content of the make up exam. 6. Discover the topics of the possible quizzes and exams to be included. 7. Understand the importance of the section of evaluation as a mandatory section in the process of successful learning of English Phonetics and Phonology.

Part One: Final Summaries

The following table presents the final summaries of all the previous lectures in relationship with the main idea of each lecture. It is meant by the main idea those matters that EFL students should focus on in the process of dealing with the English Phonetics and Phonology.

N	Chapter	Main Idea
1	English Transcription	Phonetic versus Phonemic Transcription
2	English Syllable Structure	The Internal Parts of the Syllable
3	English Consonants Clusters	Common and Specific Combinations
4	Stress Placement in Syllables and Words	Primary and Secondary Stress



5	Weak Forms versus Strong Forms	Pronunciation of Common Functional Words
6	Mixed Lectures	Supra-Segmental features of Pronunciation

Exercise 1: Study Questions

1. What are the most common writing systems?
2. What is the difference between the phonemic and phonetic transcription?
3. What is the structure of English language syllable?
4. What are the most common combinations, exceptions of consonants cluster of English language?
5. What is the role of stress in English words grammatically and semantically speaking?
6. What is the main difference between the primary and secondary stress?
7. What is the main difference between functional word and content words in pronunciation?

Part Two: Evaluation “Quizzes and Exams”

Second Term Quiz 1

The following table presents the contents of the second term “quiz 1”.

Setif 2 University	Faculty of Letters and Languages
Department of English language and Literature	Level: First Year
Student’s Full Name:	Section / group:
<u>Second Term PHONETICS Quiz 1</u>	
Discuss the following activities	
<u>Activity 1</u>	
Indicate whether the following statements are TRUE or FALSE? If false; say what the correct statement should be. (10 pts)	
1. The rhyme is composed of nucleus and onset .....	.....
2. English allows no more than three (03) final consonant clusters .....	.....
3. In English, most syllable nuclei are vowels .....	.....
4. A consonant cluster must have more than one consonant sound .....	.....
5. A syllable with the rhyme does not have a coda .....	.....
6. All syllables of English have onset and coda .....	.....
7. A nucleus is an optional in syllable structure .....	.....

8. Syllable nuclei are most often highly sonorant or resonant sounds
9. A nucleus is not important to be present in order for the syllable to be present
10. In some cases a word can begin with four consonant sounds

Activity 2

Below is a list of words. Some of them are English words, others are nonsense words. Transcribe the given words and then determine whether the consonant clusters in each word are possible according to the phonotactics of English (consonant clusters).

Tick “P” for POSSIBLE word and “NP” for NOT POSSIBLE word. In the latter case say why it is not possible. Rely on an example is given to you. (10 pts)

	Word	Transcription	P	NP	Why Not Possible
01	Allah	/aelah/		×	/h/ never occur in final position
02	blankth	/...../			
04	znfier	/...../			
05	Makkah	/...../			
06	Scrambles	/...../			

Second Term Quiz 2

The following table presents the contents of the second term “quiz 2”.

Setif 2 University	Faculty of Letters and Languages
Department of English language and Literature	Level: First Year
Student’s Full Name:	Section / group:

Second Term PHONETICS Quiz 2

Discuss the following activities

Activity 1

Indicate whether the following statements are TRUE or FALSE? If false; say what the correct statement should be. (10 pts)

1. Square brackets are used to represent the phonemic transcription while slashes represents the alphabetic writing.....
2. All syllables in a word are equally stressed
3. The reduction process does not affect the sound’s quality.....
4. The reduction process does not affect the sound’s quantity.....
5. The onset is the consonant at the end of the syllable after the nucleus
6. A syllable with the rhyme does not have a coda
7. It is possible that a syllable with the rhyme may not have an onset

8. Only vowel sounds take stress
9. English, most syllable nuclei are minimum syllables
10. Primary stress is more important than secondary stress.....

Activity 2

Transcribe the words in the table below and then indicate the syllables which take the primary stress and the one which take the secondary stress.

N	Word	Transcription	Word	Transcription
1	Travel (n)	.....	Travel (v)	.....
2	Transcription	.....	Limitation	.....
3	Duration	.....	Fatality	.....
4	Father	.....	soon	.....
5	Situation	.....	Capable	.....
6	Join (v)	.....	Join (n)	.....
7	Join (adj)	.....	Join (adv)	.....
8	Come	.....	University	.....
9	Peace	.....	Playful	.....
10	Phonetics	.....	Classroom	.....

Second Term Exam

The following table presents the contents of the second term exam.

Setif 2 University	Faculty of Letters and Languages
Department of English language and Literature	Level: First Year
Student's Full Name:	Section / group:

Second Term PHONETICS Exam

Activity 1 (5 pts)

Below is a list of monosyllabic and disyllabic words. Some of them are English words, others are nonsense words. Transcribe the given words and then determine whether the consonant clusters in each word are possible according to the Phonotactics of English.

Tick "P" for POSSIBLE word and "NP" for NOT POSSIBLE word. In the latter case say why it is not possible. Rely on an example is given to you.

	Word	Transcription	P	NP	Why Not Possible
01	Allah	/aelah/		×	/h/ never occur in final position
02	Fnthaful	/...../			
03	crimsed	/...../			

04	Slusheness	/...../			
05	hospness	/...../			
06	Splin	/...../			
07	Stamps	/...../			
08	snzneesz	/...../			
09	tralct	/...../			
10	znfier	/...../			

Activity 2 (15 pts)

Tick **T** if the statement is true and **F** if the statement is false according to the **RP** accent.

Correct the false statements.

1. Every English vowel can be sued in the initial position.....
2. Every vowel can be preceded by a single consonant.....
3. Every vowel can be followed by a single consonant.....
4. English allows no more than three final consonants clusters.....
5. The onset is the consonant at the end of the syllable after the center.....
6. All consonants occur after all vowels.....
7. Some vowels do not occur at the beginning of a syllable.....
8. In final /VCC/ only /s/ occurs after all vowels.....
9. No vowel combines with all clusters.....
10. All vowels can occur in initial position.....
11. All consonants can occur in initial position.....
12. All vowels can occur in final position.....
13. All consonants can occur in final position.....
14. /h/ may occur in final position in very few words.....
15. /j/ never occurs in final position.....
16. Some words may end in /w/.....
17. Some consonants are closer in sonority with vowels.....
18. All syllables have an onset and coda.....
19. A nucleus is optional in the syllable formation.....
20. In some case a word can begin with four consonants.....
21. A syllable with a zero coda has no consonants at the end.....
22. /ŋ/ occurs finally after short vowels.....
23. No vowel occurs before all consonants.....
24. A syllable with a zero coda starts with a consonant.....
25. Each peak of sonority corresponds to a consonant.....



- 26. /k/ is close in sonority to /i/.....
- 27. A consonant can not be close in sonority to any vowel sound.....
- 28. /u/ is more sonorant than /e/
- 29. Vowels and consonants have the same role in the syllable formation.....
- 30. the second smallest syllable is only /vc/

Second Term Make up Exam

The following table presents the contents of the second term exam.

Setif 2 University	Faculty of Letters and Languages			
Department of English language and Literature	Level: First Year			
Student's Full Name:	Section / group:			
<u>Second Term PHONETICS Make up Exam</u>				
<u>Activity 1 (5 pts)</u>				
Answer the following question briefly.				
<ol style="list-style-type: none"> 1. What makes a strong syllable more strongly perceived? 2. What kind of syllable is likely to be stressed? 3. What mistakes are English foreign language students most likely to make when pronouncing structural words in a sentence, 4. What parameters should you consider before you place stress in words? 5. What vowels other than the diphthongs appear also in strong syllables? 				
<u>Activity 1 (5 pts)</u>				
Put the words in sentences below into the right columns according to the stress patterns.				
The circles in the table represent the number of syllables while the small circle indicates an unstressed syllable and the big circle indicates the stressed syllable.				
Electrician	forgetful	electronic	fireman	make up exam
Researcher	banana	will you do it?	Can you help me?	
Oo	Ooo	oOo	Oooo	ooOo
.....
.....
<u>Activity 10 (5 pts)</u>				
Transcribe the following words phonemically.				
Mark the primary stress and the secondary syllable.				
Indicate the weak and the strong forms whenever it is necessary.				

Number	Word	Transcription	Word	Transcription
01	Right	/...../	Air	/...../
02	Make	/...../	Making	/...../
03	Friend	/...../	Friendship	/...../
04	The	/...../	Here	/...../
05	Clear	/...../	Clearer	/...../
06	Phoneme	/...../	Phonemic	/...../
07	Locate	/...../	Location	/...../
08	Smart	/...../	Smartness	/...../

Suggested Topics for Evaluation

Setif 2 University

Faculty of Letters and Languages

Department of English language and Literature

Level: First Year

Student's Full Name:

Section / group:

Topics for Evaluation

The following topics are suggested to be included in the evaluation process after the syllabus of the Second Semester about English Phonetics and Phonology” Supra-Segmental Features” has been covered in both theory and practice.

1. Transcription: definition, types and techniques
2. Phonemic transcription versus Phonetic transcription
3. Differences between letters and sounds
4. The importance of using symbols for sounds
5. Syllable: definition, types, and parts
6. Transcription and analysis of English syllables
7. Consonants clusters: initial and final clusters
8. Common combinations of English syllables “clusters”
9. specific and exception of consonants clusters
10. Stress: definition and types
11. Stress placement in simple words
12. Stress placement in compound words
13. Stress and parts of speech
14. Factors affecting stress placement
15. Weak and strong forms
16. Comparison between functional words and contents words in pronunciation

- 17.** Common functional words with their weak and strong pronunciation forms
- 18.** The different phonological environments that affect the use of weak and strong forms
- 19.** Specific environment for strong forms versus weak forms
- 20.** Multi-task exercises which brings together transcription, syllable, stress and weak forms.
- 21.** The use of diagrams, tables and figures in the evaluation
- 22.** Comparison between the segmental and supra-segmental feature of pronunciation
- 23.** Every topic explored in this document is likely to be included.
- 24.** Present passages written in English language for transcription

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