PREFACE

In the curricular structure introduced by the University for the students of Post Graduate degree programme, the opportunity to pursue post Graduate course in a subject is equally available to all learners. Instead of being guided by any presumption about ability level, it would perhaps stand to reason if receptivity of a learner is judged in the course of the learning process. That would be entirely in keeping with the objectives of open education which does not believe in artificial differentiation. I am happy to note that this University has been recently accredited by National Assessment and Accreditation Council of India (NAAC) with grade 'A'.

Keeping this in view, the study materials of the Post Graduate level in different subjects are prepared on the basis of a well laid-out syllabus. The course structure combines the best elements in the approved syllabi of Central and State Universities in respective subjects. It has been so designed as to be upgradable with the addition of new information as well as results of fresh thinking and analysis.

The accepted methodology of distance education has been followed in the preparation of these study materials. Co-operation in every form of experienced scholarship is indispensible for a work on this kind. We, therefore, owe an enormous debt of gratitude to everyone whose tireless efforts went into the writing, editing and devising of a proper layout of the materials. Practically speaking, their role amounts to an all-out involvement in layout of the materials and an involvement in 'invisible teaching', as well. For, whoever makes use of these study materials would virtually derive the benefit of learning under their collective care without each being seen by the other.

The more a learner would seriously pursue these study materials, the easier will it be for him or her to reach out to larger horizons of a subject. Care has also been taken to make the language lucid and presentation attractive so that they may be rated as quality self-learning materials. If anything remains still obscure or difficult to follow, arrangements are there to come to terms throughout the counseling sessions regularly available at the network of study centers set up by the University.

Needless to add, a great deal of these efforts is still experimental-in fact, pioneering in certain areas. Naturally, there is every possibility of some lapse or deficiency here and there. However, these do admit of rectification and further improvement in due course. On the whole, therefore, these study materials are expected to evoke wider appreciation the more they receive serious attention of all concerned.

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Post Graduate English Language Teaching Programme (PGELT)

Course Code : PGEL-3 (Core Course)

Course Title: Phonetics and Phonology in English

First Print : August, 2022

Printed in accordance with the regulations of the Distance Education Bureau of the University Grants Commission

Netaji Subhas Open University
CBCS Postgraduate Degree Program (PGEL
Course Code: PGEL-3 (Core Course)
Course Title: Phonetics and Phonology in English

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: Board of Studies :

Netaji Subhas
Open University

PGELT-03
Core Course

Course Code: PGEL-O3 (Core Course)

Course Title: Phonetics and Phonology in English

Module 1 : General Phonetics

Module 2 : English Phonology

Module 3 : Supra-segmental Features-1

Module 4 : Supra-Segmental Features-2

PGEL-O3

Phonetics and Phonology in English

Module 1 : General Phonetics

Unit 1 ❑ The Nature of Spoken English

1.1 Introduction

We use language to express our thoughts by means of spoken or written words. English is also used for the same purpose, that is, to communicate our thoughts in different contexts, and is used by a majority of people all over the world as a first, second or foreign language.

Spoken English has a number of sounds that form words, and words create sentences. When we say English words and sentences, we use typical English stress and intonation patterns to create our meaning. Our spoken language consists of a succession of speech sounds that are produced voluntarily with the help of organs of speech. The organs of speech move in certain definite ways to produce the appropriate language for communication. In connected speech, the succession of sounds is produced through transitions from one segment to the other in quick succession. The transitions occur in a natural manner in speech contexts.

We hope you have gone through different features of spoken English in your previous units. Here, at the beginning of Unit - 1, we have summed up the features for your reading and assimilation. We would like you to go through this unit with this

awareness. Some activities and tasks have been designed for you to check your knowledge and proficiency in this regard.

1.2 Objectives

After going through the unit, you will learn about:

a) the origin and the development of speech and its place in communication

b) the different features of English phonetics and phonology

c) classification of phonemes

d) the segmental and supra-segmental features

e) English RP

1.3 Speech is Primary; Writing is Secondary

One of the important features of modern linguistics is the priority of the spoken language over the written language. Though the traditional grammarians tended to assume that the spoken language is inferior to and in some respect dependent upon the standard written language, modern linguists maintain that the spoken language is primary as we can produce speech with our speech organs. Writing is largely a means of representing speech through another medium. The main reasons cited by linguists for considering speech as primary are related to the origin and functions of language. As speech is older and more widespread than written language, this priority has been conferred upon spoken language. Language serves the communicative needs of a speech community and the spoken language provides the basis of all systems of writing. There are different units of language in its spoken form such as; sound, syllable, words, and sentences. [Note: Alphabet system is an evolved system and uses distinct symbols. The syllabic system depends on the speech sounds the language has, and each sound is represented by a letter or symbol which in itself is a syllable.]

Task 1

Look at the following words given in the box:

cast, called, sale, band, woman, village, what

Now, tell us which letter is common in the spelling of all the words? Is that letter pronounced the same in all these words? Go through the words again from the pronouncing dictionary to find it out.

Your answer:

Task 2 : Look at the following of words:

though	tough	cough
through	rough	bought
thorough	bough	

Which letters in spelling are common to all the words? Do you think, these letters represent the same sound in all the words? If not, write down the sounds for each word?

Your answer:

The ideographic system is based on ideas or concepts. No writing system is capable of representing all the significant variations of pitch, stress and intonation. In case of speech, the linguistic communication is verbal and sound-based in which all the supra-segmental variations can easily be incorporated. Speech is more spontaneous form of communication; it has more scope of variations than the written form. Furthermore, in case of speech, any face-to-face interaction between the speaker and listener, the verbal message is reinforced by non-verbal gestures and even with pre-verbal sounds. Writing requires writing materials whereas speech can be used without any medium or materials for effective communication. Speech and writing are two modes of communication or expression. Both the mediums are capable of carrying the same linguistic information. This paradigm shift from traditional grammar-based study of written language to a more scientific and objective study of spoken English has opened this vast field of study called English Phonetics and English Phonology.

Students of ELT (English Language Teaching) and other professionals concerned with Verbal communication such as speech therapists or BPO call centre pronunciation trainers are required to have a basic knowledge of the segmental and supra-segmental features of verbal sound. Even speech therapists and trainers of English language for special purpose such as the hospitality and tourism industry and medical transcription require knowledge of English speech sounds, of their production, properties, transmission and reception. Student of ELT need to know about the organs of speech and the mental processes that are involved in speech production. As English in India is mainly taught as a second language, the students are required to learn about the English language and its production as possessed by the native speakers of English. This unit on the nature of spoken English will help you to become familiar with the nature of spoken English language.

Task 3: Look at the following of words:

Song, scent, descend, brass, assume,
cement, fancy, pace, exercise
Tax, psychology

All the words above, contains one common consonant sound. Can you identify that sound? Which letter stands for that sound in each word?

Your answer:

Task 4: Look at the following sets of words:

Bead, weep, seize, believe, piece, peace,
theme, people, police, key, ski, Quay, aesthetic

All the words above possess a common vowel sound. The vowel sound that we find in the word 'bee' is common to all the words. Which letters in each word represent that sound?

Your answer:

1.4 Nature of Spoken English (Speech)

English language, like any other modern language, is a highly structured speech-based form of verbal communication. English phonetics and phonology deal with the nature of spoken language along with the segmental and supra-segmental features of the spoken language. On an average the people who use English language use it mostly in its spoken form without any knowledge of the sound system, classification and sound structure. Spoken English is a highly structured, rule-governed, and creative transformation of thought into linguistic communication. According to Ulrike Gut:

> …speakers use several thousand speech sounds every day to communicate their feelings, wishes and intentions and encounter equally many speech sounds when listening to the feelings, wishes and intentions of others. Yet, almost none of the speakers are aware of what they do when they produce or perceive speech.

While for written communication in English, 26 letters (5 vowels and 21 consonants) along with some diacritical marks are used, for the purpose of spoken English, speech sounds (44 phonemes) are used along with the supra-segmental features

features like stress and intonation for linguistic communication.

Spoken English is highly structured and rule-governed. The Standard English that is used internationally for spoken English is modelled on the English RP (Received Pronunciation), that means the Standard English language spoken by the educated gentry, especially living in the south of London, which happens to be the seat of power.

The segmental features of English with all the supra-segmental features like pitch, stress and intonation are all based on the British RP. In the Anglophonic world, that includes the Commonwealth countries under Great Britain, the United States of America, and the erstwhile colonies of the British Empire, English is spoken in various forms and ways. There are segmental and supra-segmental variations in the spoken English used worldwide. Nowadays the use of International English for internet and information communication technology (ICT) has emerged more popular than any particular form of spoken English like American English or Indian English.

Any study of the nature of spoken English therefore involves a scientific and synchronic study of language rather than a historical or diachronic study of language. Ferdinand de Saussure, in *A Course in General Linguistics*, pointed out that *la langue* (the language) is a theoretical object of study abstracted from the structures of specific languages. *La parole* (speech) is called the "executive side" or the concrete "utterances" that constitute all acts of language. The linguistic sigh is made of a *signifier* (sound image) and a *signified* (concept). So, the concept or thought (*la langue*) is given a material shape or existence through concrete speech utterance. Linguistic "signs are combined like links in a chain to form the line of language according to two relations: the *syntagmatic* (all units present in their articulation) and the associative (all related units present in the mind but absent from the actual sequence)" (Leitch 959). For Saussure, the spoken form of language might include certain phrases that are practiced by the speaker like a parrot to perform concrete language or speech. Saussure defined "Language as organized thought coupled with sound" and states:

> Language can be compared with a sheet of paper: thought is the front and the sound the back; one cannot cut the front without cutting the back at the same time; likewise in language, one can neither divide sound from thought nor thought from sound; the division could be accomplished only abstractedly, and the result would be either pure psychology or pure phonology. (967)

Structural linguistics deals with the form and structure of concrete utterance and undertakes a synchronic study of language instead of a historical or philological study of the evolution of words and language. The minimal and indivisible component of

spoken English is phoneme that needs production, transmission, reception, and classification. In the next section, we will learn about the Structuralist analysis of English phonemes.

Task 5: Look at the following sets of words:

i)	question, quite, quiet, square, squash
ii)	excuse, excite, box, exercise
iii)	exact, examine, exist, exert
iv)	until, use(n.) utilize, university

In each set of words one of the letters represents a combination of two sounds. Now identify the letter and associated sounds in each case.

Your answer:

1.5 Phonetics: An Introduction

As a systematic study of human speech sounds, phonetics provides means of describing and classifying all sounds that can be produced by organs of speech. Henry Sweet in 1877 described the "importance of phonetics as the indispensable foundation of all study of language" - whether that study be purely theoretical, or practical as well - is now generally admitted. Phonetics is a branch of linguistics concerned with describing the physical properties of speech from its production to reception. According to Henry Rogers:

> "Phonetics is concerned with the sounds we make in speech: how we produce them, how these sounds are transferred from the speaker to the hearer as sound waves, and how we hear and perceive them." (2013,1)

Phonetics is an objective and scientific analysis of producing human speech sounds. Phonetics, according to T. Balasubramanian, "deals with the production, transmission and reception of the sounds of human speech". Phonetics provides a scientific method for the analysis, description, classification and transcription of speech sounds or phonemes. These methods of analysis in phonetics are equally valid for all human speech sounds, regardless of the language or speaker. This branch of linguistics is often referred to as General Phonetics.

Phonetics, as a branch of linguistics, divides, or segments, concrete utterances into individual speech sounds or phonemes and analyses the phonemes in the following ways:

(1) Articulatory phonetics describes in detail how the organs of speech are used to produce, or articulate, speech sounds.

(2) Acoustic phonetics studies the physical properties of speech sounds and the transmission of the phonemes from speaker to listener, the duration, frequency, intensity, and quality of the sounds.

(3) Auditory phonetics analyses the reception of speech sounds by the listener, the transmission of the sounds from ear to the brain, and how the sounds are processed.

Some phoneticians are interested in describing the production of different sounds that occur in English language; some are concerned with speech and in teaching communicative English. Nowadays, computers are being programmed to recognize speech of individuals and convert it into text. The application of phonetics in both verbal and written communication is extensive (Ladefoged). The following are some of the uses of phonetics:

a) Pedagogic: teaching English as a first, second, third or as foreign language,
b) Pronunciation error analysis, rectification and training,
c) Identification of orthographic problems related to spelling and pronunciation,
d) Speech pathologists can understand how the vocal apparatus works,
e) Speech scientists working in the field of ICT based communication for developing speech recognition software and for conversion of speech to text and vice versa,
f) Speech therapy,
g) Use of English for special purposes like medical transcription, BPO call centres, hospital and tourism industry, internet and web technologies, media and advertisement, phonemic translation in dubbing, etc.

Following are the two broad areas of work in phonetics:

(a) general studies of the articulation, acoustics or perception of speech,
(b) studies of the phonetic properties of specific languages.

In this latter sense, it is evident that a further dimension will be required, in order to study how the sounds are used within the pronunciation system of a language (Crystal 364).

With the foundation of International Phonetic Association (IPA) in 1886 by a group of European phoneticians such as Paul Passy, phonetics emerged as an independent area of study under linguistics. In 1889 IPA published the International

Phonetic Alphabet also called IPA. In its modified and expanded form, IPA is today the most widely used system for transcribing the sounds of any language.

Task 6: Go through the following pairs of words. Do you find same pronunciation in them? If so, write 'S' in the brackets provided against each pair; if not so write 'D' for the different.

i) write, right ( ) ii) tear, tier ( ) iii) heard, hard ( )

iv) hurt, heart ( ) v) let, late, ( ) vi) get, gate ( )

Your answer:

1.6 Phonology

The study of phonology can be traced to Greece in third century BC in the works of ancient Greek grammarians who analysed the sound patterns of Greek and Latin in Europe. In India, phonological description of Sanskrit language was developed by Panini in his *Ashtadyayi*. John Hart, *Orthographie* (1569) and William Bullokar in *Brooke at Large* (1580) were concerned with the spelling and pronunciation of English during sixteenth century. The stress pattern of English language, now known as supra-segmental phonology, was studied by Charles Butler in *The English Grammar* (1634). According to David Crystal, Phonology is a "branch of linguistics which studies the sound systems of languages" (365). Phonemes are the basic unit of speech sound produced by the human vocal apparatus. The sounds, studied by phonetics, used in different languages, are "organized into a system of contrasts, which are analysed in terms of phonemes, distinctive features or other such phonological units, according to the theory used" (ibid)

The following are the aims of English phonology, as identified by David Crystal in *A Dictionary of Linguistics and Phonetics* (2008):

(a) to demonstrate the patterns of distinctive sounds found in English language
(b) to make as general statements as possible about the nature of sound systems in English language
(c) to analyse the range and function of sounds in English languages
(d) to show the types of phonetic relationships that relate and contrast words and other linguistic units.

According to Crystal, "in linguistic theories, phonology is seen in one of two main ways:

(a) as a level of linguistic organization, contrasted with the levels of phonetics, grammar and semantics in the first instance,
(b) as a component of a generative grammar (the phonological component), contrasted with various other components (e.g. syntactic/semantic in early generative grammar; covert in the minimalist programme).

Two broad categories under which the features of English language are studied are segmental and supra-segmental features. Segmental phonology analyses the phonemes, i.e., the minimal, indivisible unit of speech sounds. In English R.P. there are 44 phonemes that are classified according to the position of the vocal cords, the manner of articulation, and the place of articulation. Supra-segmental phonology that is also called non-segmental phonology analyses those features which extend over more than one segment, such as pitch, tone groups, intonation variation, accent pattern, etc. Distinction has also been made between diachronic and synchronic phonology. Diachronic study involves an analysis of sound change in the history of language, as is done in philology. Synchronic study involves an analysis of sound patterns irrespective of the historical changes that affect pronunciation.

Task: 7: Based on your reading of the previous section, answer the following questions:

a. Is Spelling in English is closely connected to its pronunciation?
b. When did the grammarians begin to see dissimilarities between spelling and pronunciation?
c. Is Sanskrit a Phonetic language?
d. How do we represent the various speech sounds in English?
e. Is it enough to learn how to produce individual speech sounds to acquire fluency in speaking?

Phonetics in an objective manner deals with the production of phonemes, the properties and perception of such speech sounds of English language. Phonology, according to Ulrike Gut, "is concerned with how these speech sounds form patterns" in English language". Phonologists investigate, for example, which function a sound has in a language and which sounds can be combined - follow each other - and which cannot."

Thus, in segmental phonology, the classification of the English speech sound according to the position of vocal cords, manner and place of articulation, has been made. Supra-segmental phonology deals with larger units such as clusters, syllables, accent and intonation. Segmental phonology deals with the classification and description of phonemes as stated in the next section.

Task 8: Go through the following words find out the exact number of sounds in each word:

i) thumb	ii) mango	iii) pleasure	iv) third	v) scissors
vi) psychology	vii) journal	viii) mother	ix) eye	x) through

Your answer:

Task 9

I hope you have successfully done the Task 7. Now write down the initial sound of each word and make word with the same initial sound. One is done for you.

Example - i) thumb→/ θ /→ thigh

Your answer:

1.7 Classification of English Phonemes

Phonology deals with the basic unit of sound or phoneme. The phoneme is the smallest unit of sound that is distinct, cannot be broken further and minimal. The sound of phoneme allows the differentiation of words or lexical distinctions. As a basic unit of sound in a language, every phoneme has a separate symbol. Although there are only 26 letters of the alphabet for writing English language, there are 44 distinctive phonemes in English language. In several words beginning with the same letter, different phonemes or sounds are used in the initial position. English phonemes are classified according to the phonetic features like articulatory process, acoustic qualities and auditory reception. English phonemes are all produced with the help of pulmonic [respiratory] egressive [releasing out] air stream mechanism. The air stream that passes through a pair of vocal cords located in the larynx [Adam's apple] or the phonatory system is regulated by the approximation of the cords. When these vocal cords are loosely held together the air stream can pass freely to produce nine (9) voiceless consonants in English R.P. When the vocal cords are tightly held together the air stream is accompanied by a buzzing sound and such phonemes are called voiced. All the vowels (20) along with fifteen (15) consonants are voiced phonemes in English R.P. English phonemes are primarily classified into vowels and consonants. There are twenty (20) vowels in English R.P. These vowels are further classified according to the position of the tongue that acts as active articulator into monophthongs

and diphthongs. There are twelve (12) monophthongs in English R.P. that are further classified according to their length into two types: short and long. The tongue takes one particular position and seven (7) short vowels are produced and when the sound is elongated, five (5) long vowels are produced. These vowels are further classified according to the place of articulation in to Front vowels, Central vowels and Back vowels. Apart from these twelve monophthongs there are eight (8) diphthongs in English R.P. classified according to the glide of tongue from one place to another place. There are twenty-four (24) consonants in English R.P. that are classified according to the position of the vocal cords, their manner and place of articulation.

Task 10

Can you cite two different words which have only one sound and that is a vowel glide. Write down those words and cite the glide :

1. _____, 2. _____ = / /

1.8 English RP

Received Pronunciation or RP of English language is the name given to the regionally neutral accent in British English. RP of English is historically derived from the speech used in the Court, House of Lords, and people living in the urban locations of south England and the public schools of England. Social factors rather than linguistic factors are responsible for the prestige attached to this dominant accent in British English. The superiority of RP is not based on the fact that it is associated with the better-educated, elite users of English language. It has become a norm for the description of British English. RP was adopted by BBC and popularised as a form of pronunciation understood by the people of Great Britain. British RP was also used in the colonies and the Commonwealth countries and later became synonymous with "BBC English" or "Queen's English." Regional variations in English were not considered and the accent was mainly used in media communications, academics and official discourse. Although RP no longer has the prestigious social position it once held, it is widely used for teaching English as a Second Language (ESL) or as a foreign language. Younger net-savvy generation prefer colloquial forms of accent that are marked by regional variations. International English nowadays contain several such regional variations in accent pattern. Modern linguistics, however, stresses on accent as something "broad" that may be markedly different from RP.

1.9 Summary

Through this discussion you are made familiar with the nature of spoken English. The analysis of the origin and development of speech, English phonetics, phonemes, classification of English Phonemes and English RP has been made. We will learn more on Pronunciation in the following units. Here are a set of Review Questions to test your comprehension on the unit.

1.10 Review Questions

1. Write a note on the nature of spoken English.
2. Discuss the difference between Phonetics and Phonology.
3. Write a note on English Phonology.
4. What are the different areas of phonetics? Discuss the interdisciplinary nature of phonetics as a branch of modern linguistics.
5. Would you subscribe to the view that speech is primary and writing / typing secondary? Justify.
6. Write short notes on the following:

   a) Phonemes

   b) English RP / Queen's English / BBC English

   c) Aims of English Phonology

   d) Segmental phonology

   e) Classification of English phonemes
7. Fill in the blanks with words that are pronounced the same but have different spelling :-

   i) write …… ii) straight …….... iii) mite ……..... iv) Sun ……..... v) bear ……..... vi) bow (verb) …… vii) tail ……... viii) cast ……..... ix) sight ……..... x) roll ……..…
8. Look at the following words in two columns and match the words with the same vowel sound.

Flirt	Card
Chirp	Ship
Furl	Hard
Heart	Word
Heard	Skirt
guard	thirst

9. Produce three words with each of the initial sounds of the following English words.

i) father	_____	v) sound	_____
ii) sugar	_____	vi) very	_____
iii) zoo	_____	vii) thanks	_____
iv) sun	_____	viii) there	_____

10. Does your L1 (Mother Tongue) also have all these word final sounds? Which of them are different?

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Unit 2 Place of Phonetics in Communication

2.1 Introduction

The basic function of a language is communication. English is no exception. People generally convey their messages among themselves in order to communicate their views with each other on particular subjects. Their mode of communication is sometimes in writing or through speaking and listening. Spoken words are the most frequent as well as the most important means of communication among the people. As far as spoken language is concerned, pronunciation, rather use of sounds really matters a lot. In this case messages are communicated or transmitted through sounds or audible means. That is why for the purpose of verbal communication what is necessary is proper pronunciation—appropriate handling of sounds. Since Phonetics, the important branch of Linguistics, deals mainly with the pronunciation skills as well as ways of speaking, it has a major role to play in the field of communication.

English as a language is well spread across the world and also in India. It has the status of associate official language, and often is helpful in inter-state communication e.g. a person from Bengal speaking to another person from Kerala finds it easy to communicate through English. It is for this reason, English has acquired the sobriquet 'lingua franca' and this holds good across the world. Though language manifests itself as four distinct skills, and both speaking and writing are common modes of

communication, the more frequent means is the spoken form rather than the written form. It is in this context that learning phonetics gains importance. Knowledge of phonetics makes our speech intelligible to a reasonably large section of the population in the world.

2.2 Objectives

The unit introduces you to—

a) Different features of English phonetics and its application in communication

b) Articulatory phonetics with reference to communicative English

c) Accent training in the BPOs and KPOs

d) Use of phonetics in English Language Teaching for Special Purposes

2.3 Phonetics and Communication

As stated in the previous unit, there are two fields in modern linguistics that are concerned with verbal sound and pronunciation: phonetics and phonology. The study of both phonetics and phonology helps in improving listening and speaking skills. For both native speakers whose mother tongue is English or non-native speakers who are learning English as a second language or as a foreign language, the importance of phonetics in verbal communication is immense. For effective English Language Teaching, proper instruction in pronunciation, accent and intonation is essential. This can be adequately addressed through an understanding of phonetics and phonology. Nowadays we hear many types of English pronunciation around us. Knowledge of the production process of speech sound along with application of these sounds in verbal communication can help us to learn and teach English better. These fields describe and analyse speech from a different perspective. Of these two fields, phonetics deals with three different areas: the production of speech, the transmission, and the reception. These three sub-disciplines belong to different branches of studies. In ELT, we are primarily concerned with articulatory phonetics that analyses the production of different phonemes or speech sounds by organs of speech, using the respiratory, phonatory and articulatory systems.

For the purpose of English Language Teaching (ELT), Articulatory Phonetics is considered more useful than acoustic phonetics or auditory phonetics. English phoneticians describe the production of speech sound and analyse the use of speech sounds in English language in an objective way. Phonetics mainly focuses on the production of speech sound, classification of speech sound and the segmental or

supra-segmental features of speech sounds. The production of speech sounds or phonemes depends on the organs of speech located in the respiratory, phonatory and articulatory systems. The stream of air is modified by the articulators and in case of English phonemes is pulmonic egressive air stream mechanism. The release of air stream is regulated by the phonatory system that contains a pair of vocal cords. The releasing air stream is then modified by the articulators present in the articulatory system. Phonetics identifies and describes the manner and place of articulation of phonemes, and then classifies the phonemes according to the position of the vocal cords, manner of articulation, place of articulation, and the articulators involved in production of speech sounds.

According to Richard Ogden, phonetics is the "study of the sounds of speech" while phonology is "the study of sound systems". The use of phonetics in effective verbal communication is widespread: in the field of ELT (English Language Teaching), speech therapy, BPO/KPO call centre training, and in spoken English institutes. Basic knowledge of the segmental and supra-segmental features of English phonemes is essential for communication training. English in India is mainly taught as a second language and four basic skills - Listening, Speaking, Reading and Writing - are taught in both formal and informal educational sectors. Knowledge of English phonetics is very important in developing listening and speaking skills of the learners. English language is a highly structured speech-based form of verbal communication. On an average, people who use English language use it mostly in its spoken form. Knowledge of the sound system, classification of sounds and sound structure, helps English language teachers a lot in the teaching / learning process.

Task 1

Go through the following list of countries. Against the name of each country a set of brackets attached. Write 1, 2, and F inside the brackets according to the status of English [1st, 2nd, and Foreign].

i) Ireland ( ) ii) France ( ) iii) Myanmar ( )

iv) New Zealand ( ) v) Egypt ( ) vi) Scotland ( )

vii) West Indies ( ) viii) China ( ) ix) Namibia ( )

x) Nepal ( )

Task 2

Participant, have you ever gone through any such experience that you came to visit a state in India where you can use neither your mother tongue nor Hindi. How

did you communicate with the people there, especially in the market? Can you share that experience with us?

2.4 Articulatory Phonetics

Articulatory phonetics deals with the physical process of production of speech sounds. Phonemes are produced by the flow of air stream and the organs of speech and the production process involves the following:

a) The air stream mechanism

b) The respiratory system

c) The phonatory system

d) The state of velum or the soft palate

e) The articulators

In Articulatory phonetics, according to J. C. Catford, the following phases of speech production are covered:

1) *Neuro-linguistic programming:* the selection, sequencing, and timing of what follows.

2) *Neuromuscular phase:* transmission of outbound (motor) neural impulses and the contraction of individual muscles.

3) *Organic phase:* postures and movements of whole organs.

4) *Aerodynamic phase:* dilation, compression, and flow of air in and through the vocal tract.

This is followed by the transmission of the speech as sound waves that fall under

Acoustic phonetics:

5) *Acoustic phase:* propagation of sound waves from speaker's vocal tract. And, finally the reception of the phonemes by the auditory organs that falls under the phase of Auditory phonetics:

6) *Neuro-receptive phase:* peripheral auditory stimulation and transmission of inbound neural impulses.

7) *Neuro-linguistic identification:* potential or actual identification of incoming signals as specific speech-sounds.

Thus, the speech sounds are produced, transmitted and received.

Articulatory phonetics is a branch of phonetics which studies the way in which speech sounds are produced and 'articulated' by the organs of speech. It deals with the basic anatomy and physiology of speech; the production of different kinds of speech sounds; and characteristic features of these speech sounds. Articulatory phonetics derives much of its descriptive terminology from the fields of biological sciences like anatomy and physiology. Articulatory phonetics is also called physiological phonetics. According to David Crystal:

> "In recent years, there has been much progress in the development of instrumental techniques for observing and measuring such factors as tongue, lip, palate and vocal fold movement; examples include the palatograph, which displays tongue contact with the palate; the electro-aerometer, which measures the relative flow of air from mouth and nose; the articulometer, which tracks simultaneously the movements of several articulators; and electromyography, for the measurement of muscular movement while speaking. Using such techniques, a far more detailed understanding of articulation is possible than using traditional visual and kinaesthetic methods."

English phonemes are classified according to the phonetic features like articulatory process, acoustic qualities and auditory reception. English phonemes are all produced with the help of pulmonic [respiratory] egressive [releasing out] air stream mechanism. The air stream that passes through a pair of vocal cords located in the larynx [Adam's apple, visible in men only] or the phonatory system is regulated by the approximation of the vocal cords. When these vocal cords are loosely held together the air stream can pass freely to produce nine (9) voiceless consonants in English such as /p/, /t/ , /k/, /f/, /tʃ/, /s/, /ʃ/, /θ/, and /h/ When the vocal cords are tightly held together the air stream is accompanied by a buzzing sound and such phonemes are called voiced sounds. All the vowels (20) along with fifteen (15) consonants are voiced phonemes in English. English phonemes are primarily classified into vowels and consonants.

There are twenty (20) vowels in English. These vowels are further classified according to the position of the tongue that acts as active articulator into monophthongs and diphthongs. There are twelve (12) monophthongs in English that are further classified according to their length into two types: short and long. When the tongue takes one particular position seven (7) short vowels are produced and when the sound is elongated five (5) long vowels are produced. These vowels are further classified according to the place of articulation into Front vowels, Central vowels and Back vowels. Apart from these twelve monophthongs there are eight (8) diphthongs in English classified according to the glide of tongue from one place to another place. There are twenty-four (24) consonants in English. that are classified according to the position of the vocal cords, their manner and place of articulation. We will learn more on this in the next module.

Task 3

Suppose you teach in a school where instructions are given in English. You teach English language. Now monitor your own speech in a day and list the situations in which you used spoken language and the situations in which you used the written language.

Spoken Language: _____

_____

_____

_____

_____

_____

Written language: _____

_____

_____

_____

_____

_____

Task 4

If you find yourself using spoken English, can you list your reasons for teaching/ learning English pronunciation?

Teaching :

1. _____
2. _____
3. _____
4. _____

Learning:

1. _____
2. _____
3. _____
4. _____

2.5 Use of Phonetics in Communication

Three functions of speech have been identified by J. D. O' Connor: creative function, forwarding function and hearing function, corresponding to the articulatory, acoustic and auditory process. In oral communication we heavily depend on the articulation of sounds, pauses, the accent pattern, pitch and intonation. The production of speech sounds by the organs of speech and articulators is a complex process. Human speech carries more linguistic information than other forms of written communication. Communication refers to the proper production, transmission and reception of linguistic information as an oral message. This message is exchanged between a speaker and a listener. Proper communication depends on the production, transmission and reception of information by the members of the same speech community. Phonetics plays a pivotal role in human communication. The scientific study of all aspects of communication is sometimes called communication science and the domain includes linguistics and phonetics. Although both verbal and non-verbal communications are important for the exchange of information, linguistic information depends mostly on the production, transmission and reception of sounds or verbal signs. The use of phonetics in this domain is primarily related to the proper production of sounds.

In English alphabetic system there are only twenty-six letters. The entire spelling

system depends on these twenty-six letters. On the other hand, there are forty-four phonemes used by the speakers of English. All these sounds are used in oral communication. Without knowledge of phonetics, it is very difficult to explain the relationship between spelling and pronunciation. A single vowel letter like [a] can produce different sounds in the following words: and/æ/; ago/ə/; arms /a:/. English pronunciation system is based on RP or Received Pronunciation and 5 letters that are designated as vowels are capable of producing 20 distinctive vowel sounds in English. The creative function of speech is primarily based on a proper production of speech sounds by the organs of speech. The pulmonic egressive air-stream is regulated by a pair of vocal cords and then through the pharynx reaches the mouth. The soft palate regulates the movement of the air through the oral or nasal passage. The active articulator moves towards the passive articulator to modify the air stream and produce speech sounds or phonemes. The basis of communication is this process of production of phonemes by the articulators. Phonemes are all distinct, indivisible and minimal units of speech. Phonemes are classified according to the airstream, position of the vocal cords, the position of the velum or soft palate, the manner of articulation, articulators involved and the place of articulation.

Task 5

'Bear' and 'bare' are spelt differently but they are pronounced the same, /be ə/. Make a list of five other pairs of words which are spelt differently but pronounced the same way.

The phonemes of English are joined together to produce, syllables, sound clusters and words. Sounds become meaningful when they replicate meaningful words. The pronunciation of these words depends on both the segmental and supra-segmental features. Knowledge of phonetics helps the English language teacher to identify, instruct, rectify the errors and guide the learner the proper way to use language for oral communication. English words follow a prescribed accent pattern and longer words sometimes receive both primary and secondary accent. The accentual pattern is rule governed and prescriptive in nature and only with the help of phonetics one can explain the morphophonemic changes that often take place in English pronunciation. Connected speech in English follows the accent and stress pattern. English language is Isochronous, i.e., there is an equal time gap between two stress syllables in connected speech. Furthermore, according to the punctuation, the language is spoken with pauses and intonation variations. These supra-segmental features contribute a lot in effective communication.

Task 6

Read out the following words and underline the vowel sounds in the following words:-

important	remember	alphabet	London	correct	English
particular	pronunciation	language	necessary	letter	property
rumour	repertoire	lotus	caravan	father	brother
cattle	between.				

Task 7

Find words to match the following words with a minimum difference only in the vowel sound. One is done for you :-

i) bend/band;	ii) knit _____;	iii) tale _____;
iv) broke _____;	v) force _____;	vi) dawn _____;
vii) sill _____;	viii) win _____;	ix) ten _____;
x) cat _____;	xi) car _____;	xii) back _____ ;

2.6 Phonetics and Spoken English

From the viewpoint of phonetics, speech is seen as the primary medium of transmission for language. The spoken or phonic substance of language is the most important factor of verbal communication. Even speech and hearing science deals with the production, transmission and reception of speech, but phonetics is also related to the performance of language or communication. In any speech community sharing the same linguistic system, the speech act is the main activity meant for human communication. Every speech act depends on speech event or spoken interaction where the members of any speech community engage themselves in discourse of verbal exchanges. Phonetics, sociolinguistics and psycholinguistics provide analytical tools for the assessment of speech production, speech transmission and speech perception. While the speech production involves coding of linguistic items, speech perception involves decoding of speech by the listeners. Linguistic communication is the exchange of such codes and their decoding.

According to Ferdinand de Saussure and Andrea Rocci "verbal communication is arguably the most pervasive form of communication in human societies" (3). The importance of "speech" in verbal communication "played a crucial role in the birth of

the Communication discipline in the United States", according to Craig. "In the early years of the 20th Century teachers of public speaking in American universities broke away from English departments and founded departments of Speech, later to become departments of Speech Communication (ibid 6). Although verbal forms of communication include both the written and the spoken forms, communication primarily depends on the spoken form. Even the visually decoded written communication is decoded on the basis of sound and pronunciation. Communication has its own internal structure or organisation: starting from the smallest unit phonemes to morphemes, syntax, semantics and pragmatics. Even analysis of prosody, rhetoric and discourse is based on the spoken form of the language. Phonetics plays a crucial role in such analysis of verbal communication.

Task 8

Make at least four words with each of the following diphthong sounds:

/eI/ _____ _____ _____

/aI/ _____ _____ _____

/əʊ/ _____ _____ _____

/aʊ/ _____ _____ _____

/ɔI/ _____ _____ _____

2.7 Accent Training

In the Foreword to the second edition of Better English Pronunciation J. D. O' Connor states:

> Millions of foreign students want to learn English as well as they can; for some it is only a matter of reading and writing it, and they will find no help here. But many students want to be able to speak English well, with a pronunciation which can be easily understood both by their fellow-students and by English people, and it is for them that this book is specially intended. (ix)

In the institutions that teach spoken English, greater emphasis is placed on oral communication. Listening and speaking skills are developed through a systematic training that begins with accent neutralisation and proper pronunciation of the English phonemes, syllables, clusters and words. Audio-lingual method of ELT is often employed along with Direct method or Functional Communicative approach for training in spoken English. J. D. O' Connor proposes the following guidelines for better English pronunciation:

a) listen carefully and accurately
b) know what the English words and sentences sound like
c) compare the sounds that come out of your mouth with the sounds that you have in your sound memory
d) try to match your sounds exactly with the sounds that you have listened to
e) make use of a tape-recorder [audio recording]
f) record on the tape-recorder a sentence or a longer passage, then listen to it, closely and carefully
g) match what you say with your sound-memory of English
h) your aim must be to acquire a perfect English pronunciation (4-5)

In order to reduce the interference of mother tongue or first language, accent neutralisation training is given and the learners are required to listen carefully the sound of different phonemes and use these in words and connected speech. As English accentual pattern in connected speech is isochronous or stress-timed, the learners are taught proper way to accent the words. In connected speech the accent pattern is further modified by intonation.

Task 10

Try to pronounce the following words and put the pure vowels or diphthongs in the space provided :-

try - /	/	boil -- /	/
suite -- /	/	Cord -- /	/
put -- /	/	fool -- /	/
town -- /	/	stand -- /	/
clerk -- /	/	budge -- /	/
starch -- /	/	wind -- /	/
court -- /	/	pear -- /	/
point -- /	/	poor -- /	/

2.8 Use of Phonetics in Communicative English for Special Purposes

In several sectors where communication plays an important role, training in communicative English is based on phonetics. For example, in the field of medical

transcription in which the audio files of medical reports and prescriptions are sent to the BPO centres for transcription into typed format, a knowledge of the speech sounds, pronunciation, accent and intonation is necessary. Within the context of multilingual and cross-cultural communication, the job of the transcriptionist is more difficult and may lead to misunderstanding. Audio or video recordings of interaction are used for the training of transcriptionists, in order to familiarise them with variations in pronunciation, accent pattern, use of pauses, intonation and other features of oral communication. In different industrial and service sectors training in communicative English is based on phonetics so that context of speech performance such as hospital, hotel, reception counter, call centre, etc., is appropriated to the form of English. Several types of English have evolved for communicative purpose such as Business English, Technical English, English for Web technologies, English for Persons with Special Needs. Phonetics is broadly used for training purpose in industries and service sectors.

Task 12

Give at least one example of each of the following consonants in initial, medial and final position :-

	Initial	Medial	Final
A]	/t/ _____	_____	_____
B]	/θ / _____	_____	_____
C]	/p/ _____	_____	_____
D]	/tʃ/ _____	_____	_____
E]	/k/ _____	_____	_____
F]	/dʒ/ _____	_____	_____

2.9 Summary

Through this discussion the students are made familiar with the place of phonetics in communication. The analysis of English phonetics, articulatory phonetics, the use of

phonetics in communication, accent training and spoken English were in the discussion. There is usually a standard form of English used across the globe but as far as pronunciation in spoken language is concerned there are variations, even in those countries where English is used as the native language. For example, the accent used by the British people is quite different from that used by the Australians. Similarly in India, where English is spoken as a second language it has developed a variety of its own. For example, the speech of a Bengali speaker of English must differ evidently from that of a Telugu or Marathi or Oriya speaker. To solve these problems, while teaching spoken English, it is necessary to learn as well as teach Phonetics. There is a wide variation in accent. It is necessary to follow a particular standard as necessary for teaching Phonetics as well as spoken English. One native regional accent that has gained social prestige is the Received Pronunciation (RP) of England, as used in the South-East England. It is also a status symbol to use RP for the elite class of the society. It is considered as the correct and acceptable pronunciation of English. In many non-native speaking countries RP has been selected as a model. The teaching-learning of English pronunciation is concerned about the following:-

1. The sound system → segmental features— a) Vowels (Monophthongs, Diphthongs) & b) Consonants
2. Supra-segmental features → i) word accent, ii) rhythm, iii) intonation.

2.10 Review Questions

1. Write a note on the place of phonetics in English communication.
2. What are the different branches of phonetics? Which branch is related to linguistics and ELT? Discuss.
3. Write a note on the relationship between phonetics and spoken English.
4. Discuss the application of phonetics in different areas of communication studies and ESL (English as Second Language).
5. Would you subscribe to the view that phonetics is more important in communication than stylistics or semiotics? Justify.
6. Write short notes on the following:
   a) Use of English for Special purposes.
   b) Uses of phonetics
   c) Pulmonic air stream

d) Physical process of production of speech sound

e) Phases of speech production

f) Instrumental techniques

7. Write words with the following sounds:

i) / h / _____

ii) / l / _____

iii) / m / _____

iv) / k / _____

v) / v / _____

vi) / d / _____

8.

Fill in the blanks with appropriate vowel sounds to make complete words :-

1. r _____ b (rob)	r _____ b (rib)	r _____ b(rub)
2. p _____tʃ(patch)	p _____tʃ (pitch)	p _____tʃ (porch)
3. f _____l (fill)	f _____ l (feel)	f _____ l (fall)
4. s _____ k (sick)	s _____ k (suck)	s _____ k (seek)
5. r _____ d (read)	r _____ d (red)	r _____ d (road)
6. w _____v (weave)	w _____v (wove)	w _____v (wave)
7. ʤ _____ (jar)	ʤ _____ (jaw)	ʤ _____ (jew)
8. b _____ (buy)	b _____ (boy)	b _____(bay)
9.θr _____ (three)	θr _____ (threw)	θr _____ (throw)
10. ð _____ (thy)	ð _____ (they)	ð _____ (though)

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Unit 3 ❑ Variations in Pronunciation

3.1 Introduction

This module is prepared to familiarise the students of Linguistics and English Language Teaching with variations in pronunciation of English. Such variations are mainly at the level of pronunciation and verbal communication. Variations in British English shall be discussed along with variations in pronunciation among the Anglophonic speakers in India, America, and other commonwealth countries. A synchronic study of variations in pronunciation will be done in this unit. The unit concludes with a list of questions, provided at the end along with list of recommended books.

3.2 Objectives

At the end of going through this unit, the learners will be able to:

a. Understand that a language can be spoken in a variety of ways

b. Understand the reasons for variation

c. Develop a tolerance to other varieties of spoken language other than our own.

d. Realise the need for a standardised version for intelligibility

e. Understand that monolingual societies are fewer than the multilingual societies.

3.3 Variations in Pronunciation: An Introduction

Henry Sweet in *A Handbook of Phonetics* (1877), while pleading for reform in the spelling system of English, states:

> It is clear that as soon as spelling ceases to adapt itself to existing varieties of pronunciation - whether 'colloquialisms,' 'vulgarisms,' or 'provincialisms' - ceases to be phonetic. (193)

He refers to the rigid spelling system of English as opposed to a more flexible variation in pronunciation prevalent among the users of English language across the globe. Even during that time, the English language was widely used across England and its colonies and, spoken with innumerable variations in pronunciation. Linguistic variety is a term used in sociolinguistics and stylistics to refer to any system of linguistic expression whose use is governed by situational variables. In some cases, the situational distinctiveness of the language may be easily stated, as in many regional and occupational varieties (e.g. London English, religious English); in other cases, as in studies of social class, the varieties are more difficult to define, involving the intersection of several variables(e.g. sex, age, occupation). (Crystal 509)

In modern linguistics, phonology and sociolinguistics, several classifications of language varieties have been identified. In order to classify such variations in pronunciation, terms like sociolect, dialect, register variations along with the field, mode and medium of discourse are being used. In sociolinguists, the term "variety" is used in a more restricted sense:"as one kind of situational distinctive language or a specialized type of language used within a dialect, e.g. for occupational purposes" (ibid).

In the context of twenty-first century the variations have increased with the expansion of English as a global language and the dominant language of computer, internet and web technologies. All English-speaking people do not speak the same English and such variations in pronunciation are becoming more audible.

Even today such varieties of English are rampant. Any mainstream Hollywood movie made in English is now subtitled in English for the understanding of audience across the globe. According to Henry Sweet:

> When divergences of pronunciation increase to such a degree as to make a faithful phonetic representation of them unintelligible, or nearly so, to those acquainted only with the standard form of speech, it is certain that the spoken pronunciation itself will prove more difficult. (194)

Such variations are more common because of the use of English either as a second language or as a foreign language. The interference of mother tongue especially in pronunciation is so widespread that even among the users of English in India the regional variations in pronunciation are there.

Such variations in pronunciation can be studied taking into account both diachronic and synchronic variations. While through a diachronic or historical analysis one can study the ever-changing nature of spoken English and the evolution of English till the present day, through a synchronic study one can record and analyse such varieties of pronunciation in the present context. Such synchronic variations can be regional, dialectal, social, individual, and may be based on the field of discourse, manner of discourse and mode or medium of discourse. Such variations in pronunciation may also depend on the age and relationship of the users of the same language.

Task 1

Give two words for each of the following words which differ in only one sound segment [one is done for you]:

Chew - few : mew waste : _____ cat : _____ leisure : _____

try : _____ battle: _____ bought: _____ out : _____

gate : _____

Task 2

Write the following combinations as contractions (monosyllable, if possible), using the phonetic symbols (one is done for you) :- Example - she will = /ʃ,ɪ/l.

a. I will
b. You will
c. He will
d. It will
e. We will
f. They will
g. I would
h. You would
i. She would
j. It would
k. We would
l. They would

3.4 Types of Variations in Pronunciation

Different types of pronunciation coexist in any Anglophonic speech community at any particular period of time. Such variations are analysed by both phoneticians and sociolinguists. According to writers *of Practical phonetics and Phonology: a resource*

book for students:

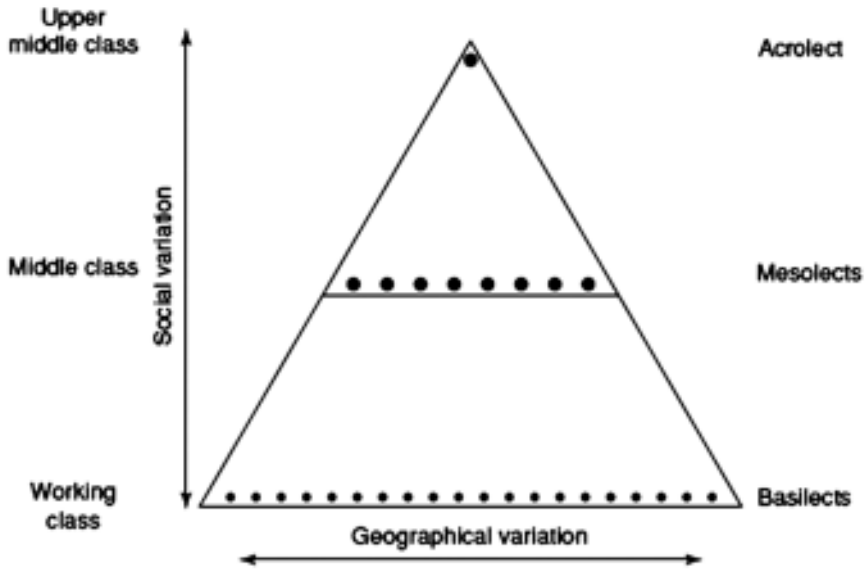
> All languages typically exist in a number of different forms. For example, there may be several ways in which the language can be pronounced; these are termed accents.(3)

Two major forms of linguistic variety, called by sociolinguists as "lect" are on phonological level. These variations in pronunciation are stated below:

a) **Regional variation,** which involves differences that exist in pronunciation based on the geographical location of the speakers. These variations in pronunciation can be dialectal and based on words, syntax, accent and intonation. For example, English pronunciation of the people of south England along the river Thames is markedly different from that of the speakers in Liverpool, Bristol, or Edinburgh. Similarly, there are marked variation in pronunciation among speakers of New Orleans and New York, or Sydney and Johannesburg. In India, every state has a separate language and mother tongue interference produces a variety of English spoken in India. In England, there are great regional variations among the urban and rural population.

b) **Social variation,** which refers to differences in the use of language between one social group and another. Sociolect, as opposed to regional variations, is a term used by some sociolinguists to refer to a linguistic variety defined on social grounds. Sociolect is associated with a particular social class or occupational group. Such variations in pronunciation called sociolects can be based on differences in gender, ethnicity, religion, age and, social class. Both accent and dialect are related to social position and profession. Local accents are termed basilects which are associated with the working-class and provincially educated persons. Variations like acrolects are found among wealthy, educated and elite people. Mesolects are varieties that come in between the elite and the proletariat classes.

The following sociolinguistic pyramid of variations in pronunciation has been provided by the authors of *Practical Phonetics and Phonology: a resource book for students* (3):



The sociolinguistic pyramid

Some of these phonological variations are called registers by M. A. K. Halliday. Linguistics by Halliday, used extensively in stylistics and sociolinguistics, register refers to a variety of language defined according to its use in a social situation. The registeral variations are based on field, mode and manner of discourse. Registers are different than sociolects or regional variations and are not classified according to the characteristics of the users. Such variations in pronunciation can be seen in the registers used in literary, scientific, religious, and formal English. According to Halliday, these register variations in English language are based on these three areas:

a) **Field of discourse** refers to a classification of registers in terms of subject-matter. These fields such as literature, theatre, media communications, and scientific subjects, etc., use phonological variations.

b) **Mode of discourse** refers to the medium of the language activity which determines the role played by the language in a situation. These variations are based on the choice of mode or medium such as speech, writing, typing, telephonic conversation, chat, email, messaging, announcement, news reading, commentary, poetry. Such variations are phonological, lexical and syntactical.

c) **Manner or Style or Tenor of discourse** refers to the relations among the participants in a language activity, especially the level of formality they adopt. Such variations in pronunciation depend on the speech act that is either

formal or informal (colloquial). Variations in pronunciation are due to the loudness, pitch, tone, and pace of oral communication that depends on the relationship between the users of the language. For example, in formal classroom interaction there may be variations in pronunciation according to the age group of the learners. In informal communication such variations are more common.

Task 3

Describe each of the following speech sound symbols using articulatory features :

i) /n/ ii) /a/

iii) / ʊ / iv) /e/

v) /s/ vi) /h/

vii) /z/ viii) /g /

ix) /m/ x) / ^ /

Task 4

Examine the following data and state whether there can be variation in their utterance:-

1. Health = _____
2. Comfort = _____
3. Keep going = _____
4. happen = _____

3.5 Variations in British English

One variety of English pronunciation has traditionally been dominant and popular among the privileged section of the population in Great Britain. Phoneticians have called it RP or Received Pronunciation. This variety of English has been regarded with high esteem by the users as well as by those who do not speak it. This prestige accent has long been associated with the educated, elite and urban population of England.This type of English is variously referred to as "Oxford English," "BBC English" and even "the Queen's English." During the Victorian period, this historically "received" pronunciation was socially acceptable even in both formal and informal discourse. The BBC originally adopted RP for its announcers because it was thought that the RP form of pronunciation would be nationally understood. It was also supposed

that the language of the elite class would attract less criticism from the other regions of England. However, nowadays, the educated speech at large, throughout the Anglophonic world displays considerable regional variations.

The term non-regional pronunciation or NRP with a large range of variations is used to represent pronunciation which cannot be pinned down to a specific area. Phoneticians do not prefer any form of graded inequality with reference to pronunciation and instead of RP they use the term "Standard Southern British English" or SSBE. There is an enormous variety of accents of English in addition to those of RP or "British English." Such variations in pronunciation are sometimes put under the label of "colloquialisms," "vulgarisms," or "provincialisms." Such variations in pronunciation among the people of England are found among users based on their dialects that are "local," "territorial," "rural" and "urban," on the micro level and "regional," on the macro level.

The first question that comes to the mind of a person who wishes to learn an acceptable pronunciation of English: which of the various forms of pronunciation should we learn?

No two persons belonging to same nationality pronounce their own language exactly alike. The difference may be due to the locality in which they live; social surroundings or early influences, and there may be individual peculiarities for which it is difficult or impossible to account. It is often noticed that the pronunciation of English among people brought up in Manchester is different from those from Exeter and both differ from the pronunciation of those brought up in Edinburgh or in London.

Let's take an example. Differences of English pronunciation according to locality may be found in the treatment of letter 'r' in such word as 'part'. In Scotland it is pronounced as slightly flapped /r/ while /r/ is not pronounced until it is followed by vowel sound. So the pronunciation of 'part' is /pa:t/. According to their rule /r/ is not pronounced when it is in the final position of the word or when it is followed by a consonant sound. So the pronounce as /pa:t/ or /ka:/ (for 'car) but /ver I/ or sor I/ . In many parts of North and West of England /r/ appears as Retroflex.

In southern England the vowel sounds in 'boot' and 'book' are different where as in Scotland a short closed /u/ is used for both the words.

Pronunciation is also influenced by the differences in education. People with limited education in different parts of England omit /h/ and pronounce / elp / for the word 'help'. In London (Cockney) words like 'name' is pronounced with the diphthong, /a I/ or / æ I / instead of /e I/ and words like 'house' or 'about' are pronounced with

/ æ u /, or sometimes / əbæut / or / əbæət /. In uneducated Yorkshire speech the vowels of 'put' /u/ and cut / ʌ / are labelled to a vowel intermediate between these two.

Because of the so many variations it is really very difficult for the foreign learners to know which type of pronunciation should be learnt and which one should be accepted as the standard variety. But certainly the most useful type is the one which is based on the speech that is used in the southern England [where city of London is situated]. It is generally used by the people, educated at Public Schools and Preparatory Boarding Schools. It is easily intelligible in all parts of English - speaking countries. It is more widely understood than any other variety. The term Received Pronunciation (RP) is often used to designate this variety of pronunciation. Among several different styles of pronunciation notable ones are the rapid familiar style, the slower colloquial style, the natural style used while addressing an audience, the acquired style of the stage while acting and the acquired styles used in singing. Of these the slower colloquial style is perhaps the most suitable for beginners.

Task 5

Write the speech sound symbol for the first sound in each of the following words:

i) psychology
ii) use
iii) thought
iv) cow
v) knowledge
vi) though
vii) pneumonia
viii) cyberneticsa
ix) physics
x) memory

Task 6

Write the speech sound symbol for the last sound in each of the following words:-

a) cats
b) dogs
c) bushes
d) sighed
e) bleached
f) judge
g) rough
h) tongue
i) garage
j) climb

3.6 Variations of Indian English

The Indian subcontinent witnessed linguistic imperialism by the English traders and colonists since the arrival of the East India Company in the early seventeenth century. Beginning from the coastal towns of Gujarat, the Anglophonic traders and invaders gradually set their colonies on the Coromandel Coast, the Western Ghats and Bengal. Primarily used as a language for trade and commerce, English language became the language of judiciary, administration and education in India. Wherever the English colonists settled they created communicative functional English for serving their business and imperial purposes by mixing the local languages with English phonology, lexis and syntax. New variations in pronunciation developed through a process of pidginization and in later stage, creolisation. In the eighteenth century some prominent variations in English pronunciation were found among the uses in the three presidencies of Bombay, Madras and Bengal.

The effect of prolonged linguistic hybridity and assimilation of different languages promoted newer forms of spoken English in these presidencies. Even with the introduction of English as a subject and later as a medium of instruction in the formal grant-in-aid schools, the parity in pronunciation could not be achieved because of the mother tongue interference and superior phonological power of regional languages like Marathi, Gujarati, Urdu, Hindi, Tamil and Bengali. Languages with more than fifty (50) phonemes each could not be appropriated to English language with just forty-four (44) RP phonemes. The variations in pronunciation that are still audible even after three centuries have created a phenomenon called General Indian English (GIE) and various hybrid forms of spoken English like Tamilish, Hinglish, Benglish, etc.

According to T. Balasubramanian, "most educated Indians who speak English did not learn it from an RP speaker… that most Indians who learn English learn their own Indian language before they are exposed to English" (123). The variations are common among the users of English in all multilingual metropolitan cities. With the expansion of internet access and development of online app-based activities, there has been a tendency towards standardisation of Indian English. Regional variations are gradually being absorbed by the dominant urban English in India.

Task 7

Write the following words using the phonetic symbols:-

i) Water ii) splat iii) lit iv) tin

v) eaten v) beading vi) pull vi) beating

vii) craft viii) online

Task 8

Write the speech sound symbol for vowel sounds in each of the words. One is done for you:

For the word 'fish' it is / ɪ / and for 'fear' it is /ɪə/.

i) mood ii) caught, iii) cot, iv) and, v) tree, vi) five, vii) bait, viii) toy, ix) said, x) soot

3.7 American English

Apart from the United Kingdom or Great Britain, English is used as a first language in North America (USA and Canada) and Australasia (Australia and New Zealand) along with several commonwealth states all over the world. The European colonisation of North America left linguistic imprints of major European languages in the United States. Over the course of over three hundred years, a different variety of pronunciation of English developed through the entire continent which in nowadays referred to as General American (GA) English. The variations in pronunciation can be seen as an amalgamation of speech patterns of the north-eastern USA. The spoken forms of English of the Midwest of America, southern states of USA and East Coast cities such as New York and Boston are not similar. There are regional variations in pronunciation among the users of American English, Furthermore, the differences are also marked according to the dialects, sociolects, and regional variations in the use of English. Similarly, Canadian English that bears a strong resemblance to General American English has some differences in pronunciation that set it firmly apart from GA. Even the accent patterns of the southern states of America are different from mainstream GA English. In media culture, however, GA English is also called "Network American" and in the academic world the same General American is used by millions of students learning English as a second language. Even in Mexico and Latin American countries, GA is taught in both formal and informal educational sectors.

Task 9

Nicholas, a 6-year old child used a creative spelling 'thingck' to spell the word 'think'. What assumptions on his part produced this spelling?

In American English, /r/ is often one of the most difficult features of pronunciation for speakers of other languages to learn. Sometimes it is even difficult for the native

speakers themselves, being one of the last sounds the children acquire when they learn American English. It is also one of the sources of extreme dialectical variation, for example, it was evident in the pronunciation of the word 'fire' by Ted Kennedy, the US senator from Massachusetts or in that of a country music singer George Jones and Tom Brokaw /far/. Even when beginning students of Linguistics often transcribe the word fear, they often use the tense vowel /i/: --. /fir/. Here the vowel sounds higher than the lax vowel/ ɪ / as in 'bid'. In reality the vowel in 'fear' lies between / ɪ / and / i:/. Even though they admit that the /ɪ/ sound here it does not seem quite as high as the tense vowel /i/ as in 'bead' as in /bɪd/. Same thing can be seen in pronunciation of word like 'sir' as /sɪr/. These vowels are basically called r-coloured vowel that refers to English vocalic sounds that have an r-like quality.

I hope, by this time you have understood, to some extent, the variation of pronunciation with respect to American variety of English. Now it is necessary to check to what extent you have perceived this variation. Let us engage ourselves in a relevant activity—

Task 10

Transcribe the following words exhibiting vowels before /r/:-

i) boor ii) bore iii) poor iv) care v) car

vi) dear vii) fir viii) mire ix) sewer, x) mirror

3.8 International English

The students of English as a Second Language (ESL) throughout the world usually use the British or English RP (Received Pronunciation). In Latin America, Japan, China and Philippines there is a trend towards General American (GA) English. In Ireland, Scotland or Wales, the number of RP speakers is relatively less. The RP accent, however, is held in high esteem throughout the world. In the commonwealth countries like Canada, Australia, New Zealand and South Africa, the traditional RP English is used in media culture and public telecast.Although the British RP is regarded as prestigious accent even in the United States, there is a general trend towards a more inclusive International English.

In the Hollywood cinema of the 1980s the characters are heard speaking in a more stylised and accented manner, developing an artificial American type of pronunciation. The same accent pattern was copied in the Anglophonic cinema across the globe, especially in Hong Kong. In the twenty-first century the pure form of British or English RP is a minority form. Most English today is spoken outside the

British Isles. In the USA, more than 220 million people use English as their first language. It is also used as the first language or an official language in countries like Canada, Australia, New Zealand, South Africa and Caribbean islands. Furthermore, English is used widely as a second language for communicative, academic and official purposes by millions of speakers, in Southern Asia, e.g. India, Pakistan, Sri Lanka, and in many countries across Africa. There are large second-language English speaking populations in Hong Kong, Malaysia, Indonesia, Thailand and Singapore. Along with nearly 330 million native speakers of English and an even greater number using English as a second language, International English has emerged the lingua franca of the entire world.

The English language has two types of /l/ ---- dark l (/ɬ/) and clear or normal l (/l/). The /ɬ/ occurs in words like 'lark' and 'tail' and has a lower sound than /l/which occurs in the words like 'lead' or 'light'. Even dark /l/ or clear-l occurs in a word when it is preceded by bilabial sound like /p, b/. In English dark-l is basic. Its dark quality is due to a co-articulation effect caused by an accompanying raised and retracted tongue body. Clear-l is a positional variant occurring before front vowels such as / ɪ / and / i: /. Before front vowels /l/ is not produced with a retracted tongue body and the body is more forward and thus the light variant is produced. An English speaker, learning French, Spanish or Germanmust learn to produce all of the 'l's in these languages as clear since none of them has /ɬ/.

Task 11

In some of the following words the /l/s and /r/s are voiceless. Identify these words and try to establish the conditions under which /l/ and /r/ lose their voicing:-

a) Alpo
b) archive
c) black
d) play
e) dream
f) try
g) splat
h) spread
i) leap
j) read.

3.9 Use of English in Multilingual Speech Communities

As discussed earlier, the common variations in pronunciation can be seen in the following among others:

a) American English

b) Australian English

c) Indian English

d) Singaporean English

e) Caribbean English

f) Russian English

g) Chinese English

With the expansive networking and globalisation, the form of electronic verbal communication has also been affected. Several varieties of English which are now of global significance are those used in different platforms of web technologies. Within this context of multi-lingual speech communities using English as lingua franca, the growth of more flexible functional communicative English is visible. Even in localities like New Zealand, English has distinct types of pronunciation such as 'South Island' English and 'Broad Australian' English, 'General Australian' English and 'Cultivated Australian English.' With so many different world varieties of English used by speakers it is now convenient to use the form of English for international communication. This common ground has to be accepted especially, in multilingual societies like India that uses English as a second or other language.

3.10 Summary

Through this discussion the students are made familiar with the varieties of English. The students of Linguistics and English Language Teaching are familiarized with variations in pronunciation of English. Variations in British English have been discussed along with variations in pronunciation among the Anglophonic speakers in India, America, and other commonwealth countries. The sample questions are provided below along with a list of recommended books.

3.11 Review Questions

1. Write a note on the variations in English pronunciation.
2. What are the different varieties of English? Select any two varieties and show the variations in pronunciation.
3. Write a note on the regional and social variations in English pronunciation.
4. Which variety of English pronunciation should be taught to the students of English as Second Language and why?

5. Write a note on American English.
6. Write a note on variations in pronunciation in English used in India.
7. Write short notes on the following:
   a) Dialectal variations
   b) Register variations
   c) GIE
   d) Use of English in multilingual speech communities
   e) International English
   f) Variations in pronunciation in British English.

3.12 Recommended reading

1. Linguistics - An Introduction to Language and Communication : Adrian Akmajian et al
2. A Course in Modern Linguistics : Hockett, C.F.
3. A Textbook of English Phonetics for Indian Students : Balasubramanian
4. An Introduction to Phonology : Katamba, Francis
5. English Phonetics and Phonology : Roach, P.
6. Modern Linguistics : An Introduction : Verma, S.K.

Unit 4 ❑ Features of RP (Received Pronunciation)

4.1 Introduction

This module is prepared to familiarise the students of Linguistics and English Language Teaching with RP or Received Pronunciation. After a short introduction there is a discussion on BBC English and how BBC promoted the use of RP. The Queen's English and some other varieties of RP used in media and mass communication are also covered in this unit. Speculations on the future of RP in Britain and other countries are also discussed. Listening and speaking skills taught both in formal and informal language school across the globe mainly uses RP. English phonemic transcription is also done on the basis of RP.

4.2 Objectives

At the end of this unit the learners will be able to:

a. Understand the importance of RP
b. Identify the distinct features of RP
c. Compare their own speech with RP and adopt ways to improve
d. Understand the importance of phonemic transcription for learning English
e. Appreciate the role played by RP is standardising English.

4.3 RP or Received Pronunciation: An Introduction

English is a modern language that has evolved through a close contact with native and European languages. Through a process of evolution through assimilation, hybridity, word-formation, etc., English has assumed various forms, especially in pronunciation. Variations in English pronunciation are dialectal, morphological, syntactical, accentual and intonation. The English spoken by the people of south England along the river Thames is markedly different from that of the speakers in Liverpool, Bristol, or Edinburgh. Similarly, there are marked variations in pronunciation among speakers of New Orleans and New York, or Sydney and Johannesburg. Even English spoken in India is not homogeneous. Variations are also based on differences in gender, ethnicity, religion, age and, social class. M.A.K. Halliday refers to a variety of language based on field, mode and manner of discourse.

Among these, one variety of English pronunciation has traditionally been dominant and popular among the privileged section of the population in Great Britain.Daniel Jones in the second edition of *English Pronouncing Dictionary* (1926) revised the previous term "Public School Pronunciation" used by him in the 1917 edition of the book with "Received Pronunciation." According to Daniel Jones:

> The pronunciation represented in this book is that which I believe to be most usually heard in everyday speech in the families of Southern English people who have been educated at the public schools. (ix)

Daniel Jones has stated that "[i]n day schools local pronunciations do not disappear nearly as readily as in the boarding-schools, because the pupils continually hear the local pronunciation used around them" (x). Since then phoneticians have used RP or Received Pronunciation as the equivalent for Standard Southern British accent. This variety of English has been regarded with high esteem by the users as well as by those who do not speak it. This prestige accent has long been associated with the educated, elite and urban population of England. In the public schools and colleges like Eton, Harrow, Winchester, Leeds, Oxford and Cambridge, RP is used normally. This type of English is variously referred to as "Oxford English," "BBC English" and even "the Queen's English." During the Victorian period, this historically "received" pronunciation was socially acceptable even in both formal and informal discourse. Thus, Received Pronunciation (RP) has emerged as the name applied to the regionally neutral accent in British English.

4.4 RP and BBC English

RP is sometimes referred to as "BBC Pronunciation." British Broadcasting Company Ltd., established in 1922 with an aim to "inform, educate and entertain," later became British Broadcasting Corporation in 1927, emphasised public service for a national audience. The BBC originally adopted RP for its announcers because it was thought that the RP form of pronunciation would be nationally understood. It was also supposed that the language of the elite class would attract less criticism from the other regions of England. However, nowadays, the educated speech at large, throughout the Anglophonic world displays considerable regional variations. The English RP has also lost its traditional prestigious social position. The younger generations of metropolitan users of the language prefer to pronounce English according to their local accentual patterns. Such regional variations are no longer considered as down market even by the academic or elite class. Originally, RP was not a regional but a social accent. However, many modified forms of RP exist (modified RP). As an official variety of pronunciation, it was to be heard all over England, though only a minority of English speakers used this for informal conversation. In and around London, however, the accent has remained popular. RP became popular in mass media and entertainment industry and was much used in the films, theatre and television.

4.5 RP and its Universality

For Daniel Jones, "RP means merely 'widely understood pronunciation'" (x). It was not meant "as a standard which everyone is recommended to adopt" (x). The source of RP is of course the prestige speech used in the Parliament, the Court and the public schools of England. Although the prestige attributed to RP is the result of social factors, not linguistic ones, it has become the prescribed set of accents. Though RP is in no sense linguistically superior or inferior to other accents, it has become associated with formal education is often cited as a norm for the description of British English. RP has emerged as the standard form for teaching of English as a second or foreign language across the globe.

Among the varieties of English in use worldwide, RP is perhaps the most widely understood variety. RP is "easily understood in South Africa, Australia, and New Zealand, and by English-speaking Canadians" according to Jones. While different varieties of English are spoken in the United States, Received Pronunciation "is fairly

universally understood without difficulty" (Jones x). Even for pedagogic purposes RP is used as a suitable standard for teaching English both as a first language and second language throughout the Anglophonic world, especially in the schools of the erstwhile British colonies.

4.6 Use of RP in English Language Teaching

The common problem faced by the educators of English language is related to the selection of the variety of English to teach the students in public schools. The debate in most technical and business schools is whether to employ British variety (RP) or American English in the classroom. Using audio-lingual method of ELT, audio recordings of different dialects of English are being played in the classroom, but the problem is related to selection of any particular variety of pronunciation. Nevertheless, both these varieties are regarded monolithic though neither the British nor the American variety of pronunciation is monolithic.

Nowadays, however, other global varieties of pronunciation are commonly heard in academic and business platforms across the globe. The term non-regional pronunciation or NRP with a large range of variations is used to represent pronunciation which cannot be pinned down to a specific area. Phoneticians do not prefer any form of graded inequality with reference to pronunciation and instead of RP they use the term "Standard Southern British English" or SSBE.

There is an enormous variety of accents of English in addition to those of RP or "British English." Bernard Shaw in *Pygmalion* (1912) refers to the variations in pronunciation of English through the characters drawn from London. Variations in spoken English used by Professor Higgins and Eliza, the flower seller, are remarkable. The play analyses the importance of pronunciation and language in social and personal relationship. Such variations in pronunciation are sometimes put under the label of "colloquialisms," "vulgarisms," or "provincialisms."

The differences are mostly phonological. For example, in some English dialects, such as Cockney, the English RP alveolar plosives like /t/ and /d/ are pronounced as affricate plosives /tˢ/ and /dᶻ/. In Irish English the alveolar plosives /t/ and /d/ are pronounced as dental plosives /t̪/ and /d̪/. Such variations in pronunciation among the people of England are found among users based on their dialects that are "local," "territorial," "rural" and "urban," on the micro level and "regional," on the macro level.

In English Language Teaching there has always been an attempt to make the standardised version of spoken English more useful. RP has proved to be of more help because of its widespread use in the English medium public schools across the globe. Furthermore, the availability of study materials, such as pronunciation dictionaries, audio clips, and phonetic handbook, etc., have allowed RP to retain an important place among young learners and teachers of English language.

Teachers, in countries where English is not the first language, face the problem of selecting the variety to teach English. Usually, the debate revolves around the use of British RP or American English in the classroom. But the fact remains that much of the instruction is likely to be imparted in the accent used by the teacher. However, materials are now readily available that can help in teaching pronunciation. According to the local linguistic profile of the teachers ELT is carried on. The curricula framework is mainly shaped on RP and the teaching materials are well-suited to impart RP than other varieties of English.

4.7 RP and English Phonemic Transcription

For the convenience of the learners of English language, Daniel Jones compiled *English Pronouncing Dictionary* in 1917 for practical linguistic teaching. The phonemic transcription provided in the dictionary is meant for general users of English, the users of RP, the users of English as Second or Foreign language, and even for non-users of RP. Jones has used 44 English phonemes to give phonemic transcription of English words. The following symbols have been used by Daniel Jones:

Vowels

Phoneme	Type	Word	Phonemic Transcription
/ɪ/	Short Pure Front Vowel	ink	/ɪŋk/
/æ/	Short Pure FrontVowel	and	/ænd/
/ʌ/	Short Pure Central Vowel	up	/ʌp/
/ə/	Short Pure Central Vowel	about	/əbaʊt
/ɔ/	Short Pure Back Vowel	ox	/ɔks/
/ʊ/	Short Pure Back Vowel	pull	/pʊl/
/i:/	Long Pure Front Centralised Vowel	eel	/i:l/

/əː/	Long Pure Central Vowel	earl	/əːl/
/aː/	Long Pure Back Vowel	arms	/ʻaːmz/
/ɔː/	Long Pure Back Centralised Vowel	awe	/ɔː/
/uː/	Long Pure Back Vowel	ooze	/uːz/
/eɪ/	Diphthong	aim	/eɪm/
/aɪ/	Diphthong	ice	/aɪs/
/ɔɪ/	Diphthong	oyster	/ɔɪstə/
/əʊ/	Diphthong	oath	/əʊθ/
/aʊ/	Diphthong	ouch	/aʊtʃ/
/eə/	Diphthong	air	/eə/
/ɪə/	Diphthong	ear	/ɪə/
/ʊə/	Diphthong	rural	/rʊərəl/

Task 1: Write the RP Vowels from the following words:

a) Putt

b) Part

c) soul

d) file

e) tear

Your answer:

Consonants

Phoneme	**Word**	**Phonemic Transcription**	**Three-term label**		
			Vocal Cords	**Place**	**Manner**
/m/	more	/mɔː/	Voiced	Bilabial	Nasal
/n/	not	/nɔt/	Voiced	Alveolar	Nasal
/ŋ/	ring	/rɪŋ/	Voiced	Velar	Nasal

/p/	pie	/paɪ/	voiceless	Bilabial	Plosive
/b/	by	/baɪ/	Voiced	Bilabial	Plosive
/t/	tie	/taɪ/	voiceless	Alveolar	Plosive
/d/	dye	/daɪ/	Voiced	Alveolar	Plosive
/k/	coo	/ku:/	voiceless	Velar	Plosive
/g/	goo	/gu:/	Voiced	Velar	Plosive
/t/	chew	/ʃu:/	voiceless	Palato-alveolar	Africate
/dʒ/	jaw	/dʒɔ/	Voiced	Palato-alveolar	Africate
/f/	few	/fju:/	Voiced	Labio-dental	Fricative
/v/	view	/vju:/	Voiced	Labio-dental	Fricative
/θ/	thigh	/θaɪ/	voiceless	Dental	Fricative
/ð/	thy	/ðaɪ/	Voiced	Dental	Fricative
/s/	sue	/su:/	voiceless	Alveolar	Fricative
/z/	zoo	/zu:/	Voiced	Alveolar	Fricative
/ʃ/	fission	/‘fɪʃən/	voiceless	Palato-alveolar	Fricative
/ʒ/	vision	/‘vɪʒən/	Voiced	Palato-alveolar	Fricative
/h/	who	/hu:/	Voiced	Glottal	Fricative
/l/	law	/lɔ:/	Voiced	Alveolar	Lateral
/r/	rye	/raɪ/	Voiced	Post-alveolar	Approximant
/w/	well	/wel/	Voiced	Bilabial	Approximant
/j/	union	/‘ju:njən/	Voiced	Palatal	Approximant

Task 2: Write the RP consonants from the following words:

a) Poppy

b) Kick

c) Judge

d) They

e) Nine

f) Loyal

Your answer:

Nowadays instead of RP, Standard British English and Standard American English are the most widely taught varieties of English in second language teaching across the globe. The term standard refers to the variety of English that has the highest prestige in a country. In case of the British Isles, the standard is variously called Received Pronunciation (RP), BBC English, Oxford English or Southern British Standard. Only about 5% of the population of Great Britain speak RP and the majority of RP speakers live in the south-east of England. The phonemes listed above are used by the speakers of RP and other varieties of English worldwide.

4.8 RP and International English

Through a process of creolization and pidginization, English language across the globe has taken various forms. Major changes are on the phonological level due to mother tongue interference. For example, in South Asian countries like India, Nepal, Bhutan, Bangladesh, Pakistan, Sri Lanka, a large section of people uses English as a second language and speak in various ways. Even in countries like Hong Kong, Thailand, Malaysia, Indonesia and Singapore, people use English for business communication and tourism. Around 330 million speakers of English use the language as first language and even these speakers do not use English RP for informal conversation according to David Crystal.

In the twenty-first century two major family trees of British and American varieties of English have developed. These are, however, gradually merging into a more universally acceptable International English that retain regional variations in pronunciation. However, along with English RP, different types of English, with their variations in pronunciation can be seen in these forms of English language: Indian, African American, American, Australian, Caribbean, Belfast, Cockney, New Zealand, Scottish, South African, among others.

The students of English as a Second Language (ESL) throughout the world usually use the British or English RP (Received Pronunciation). Even in Ireland, Scotland or Wales, where the number of RP speakers is relatively less, the accent is held in high esteem. The commonwealth countries like Australia, New Zealand, Canada and South Africa use traditional RP in mass media and public announcements. In the

USA, however, a special artificial type of English evolved out of English RP. The British RP is regarded as prestigious accent in the United States. In the Hollywood cinema of the 1980s the characters spoke in a more stylised and accented manner thereby developing an artificial American type of pronunciation. English RP is nowadays widely used in media and communication and in international conferences and seminars. Most of the public broadcast in the Anglophonic world uses the standards of pronunciation, accent and intonation set by RP.

4.9 Summary

Through this discussion the students are made familiar with RP or Received Pronunciation. The contribution of Daniel Jones in the field of English pronunciation has been discussed. RP is now widely used in teaching of English as a first or second language throughout the world. English listening and speaking skills are mainly taught in language schools across the globe using RP. The symbols of English RP phonemes has been given with examples in phonemic transcription.

While Indian English is historically derived from British English, recent influences from American English can be found to have created its own idiosyncrasies. For instance, it is common to both spellings "program" and "programme" being used in both formal and informal communications.

<Here> is sometimes pronounced [heə(r)] (like in <hair> and <hare>) instead of [hɪə(r)].

4.10 Review Questions

1. Write a note on the place of RP in English Language Teaching (ELT).
2. What is Received Pronunciation (RP)? Discuss the evolution and usage of this term.
3. Write a note on the relationship between RP and BBC English.
4. What is the role of RP in English Language Teaching in countries where English is not used by the majority.
5. How many phonemes are there in English RP? Give a broad classification of these phonemes.
6. Write short notes on the following:

   a) ESL and use of RP.

b) Phonemes in English RP

c) Phonemic transcription and RP

d) Use of RP in public schools

7. Write the word initial vowels for the following :

   a) elite b) across c) one d) other

8. What should be the objectives of pronunciation teaching? Suggest objectives from your own experiences and for your needs.

9. Suggest the ways of achieving the objectives you have mentioned in the answer to the question no. 4.

10. Give the three term label for the word initial consonants according to their utterances:

    a) methods

    b) cognitive

    c) teaching

    d) star

    e) psychology

    f) vision

Module 2 : English Phonology

Unit 5 ❑ Speech Production

5.1 Introduction

Generation of Speech or Speech Production is the prime means of communication which is an innate and inborn biological capability of man. This has made human as a distinct species from all other animals. Native speakers of each language community have this ability at birth and acquire the first language at a very early age in the post natal period unconsciously. But when a second language is assigned to them for learning after having acquired the competence in their mother tongue or first language, a conscious effort becomes necessary.

5.2 Objectives

At the end of this unit, the learners will be able to:

a. understand the mechanism of human speech production

b. identify various speech organs and know their functions

c. manipulate the speech organs for the production of new speech sounds

5.3 The Sound System

The linguistic system of a language is composed of different structural levels or areas like sounds, generation and comprehension of sounds (phonetics), use of sounds and its functional behavior (phonology), words and its formation (morphology), use of words i.e. their order and intra-word relations (syntax), the meaning of words and sentence (semantics) etc. A speaker has to explore and practice all these knowledge areas for their linguistic competence in second language.

The sound system constitutes the building block of a language. As a result the initial requirement in learning a language is the knowledge on the sound system. Each language has their own set of sounds with different patterns of articulation, combination as well as some exceptions and uniqueness. Therefore speech production invites certain areas of sound system like set sounds, method of generation of sounds, graphic representation of sounds and writing system etc.

The learner should also remember that as a building block the sound units passes some extra information about the speaker, in built within the sound unit like age, sex, social status, state of mind, etc. i.e. physical, social and psychological aspect of the speaker. These are secondary properties in speech. Besides during speech, the speaker may also produce some gesture and posture by moving their head, body and eye etc. These are non-vocal behavior of speech, but are associated with it. The whole procedure becomes the part of 'speech production' in a wider sense. Of course inbuilt information and the non-vocal behavior are secondary matter in second language learning. The proper understanding of the verbal behavior of speech is the basic requirement and includes the movement of **Organs of Speech**. The relation between the movement of the speech organs and their corresponding generated sound units are the introductory part of second language learning. Phonetics deals with that. One point should be noted here that not all sounds produced by organs speech are the speech sounds of a language. The sounds which are used in a language are speech sounds of that language.

A speaker produces a stream of sounds continuously. The hearer perceives effortlessly. It is only possible when both, the speaker and hearer, have the power of perceiving the whole string of sounds as the combination of segmented units. For example when anyone says 'come here' /k^mhiə/, it is nothing but a stream of segmented

sound units. This small sentence can be the part of a long 'speech'. This is an analogous stream of sounds to the hearer as it is produced continuously. But this string of sounds comprises of separate segmented units /k-^-m h-i-ə/'. Each one of this string is a unique sound unit. Each one has different articulatory pattern, complex physical properties like pitch or frequency, duration, loudness or intensity etc. Both the speaker and hearer have competence on these aspects of sound units. For learning any second language the knowledge on these areas is inevitable. Remember when we put the words in / / it indicates what a speaker produces exactly in speech. This type of transcription is known as narrow transcription. The scripts which have been used here to produce exact sounds are known as 'International Phonetic Alphabet' (IPA) which will be discussed latter. A few new symbols like '-^-, -ə- …' will be used there.

'Phonetics' by definition is a part of language study, already introduced to you. It describes the speech sounds scientifically analyzing the method of production, classification and transcription in respect of the properties said above. It has three broad areas related to the generation of speech - *Articulatory*, *Acoustic* and *Auditory Phonetics* i.e. how the segmented sound units are produced by the speakers, what type of physical properties travels from speaker to hearer and how, and finally how the speaker perceives these physical properties or acoustic signals by receiving through the auditory organs. Out of these three areas, the Articulatory Phonetics is the primary need to any language learner as it gives a detail outline of speech articulation.

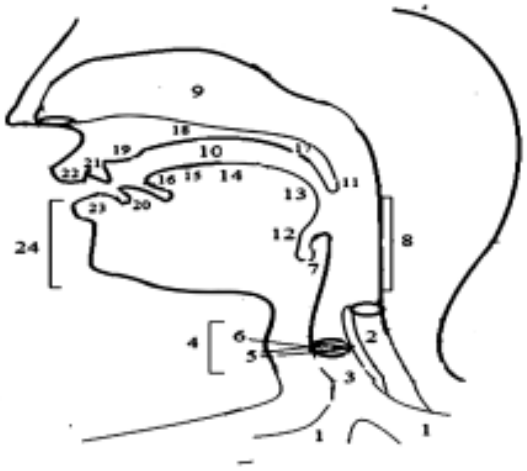
5.4 Organs of Speech production

The organs of speech or vocal apparatus are the part of physiological structure and common to all human. The structural and functional knowledge on the **Organs of Speech** is the primary concern for articulatory description. The organs involved in speech are biologically gifted to the human limbic system. But in the early phase of evolution most of these organs were involved to maintain the physical activities only. Gradually during the course of evolution, according to the need for communication, the same organs started to be utilized for the generation of speech sounds. As a result these organs have two types of function - *Primary* and *secondary functions*. The primary functions maintain the functioning of physiological system of the body. But when any organ is used for other purposes beyond the primary function, it is known as secondary function. The function or speech of vocal apparatus is secondary function. These have been shaped as speech organs during the course of evolution to fulfill different external needs. For example **the tongue** was used to taste and move the food items within the oral cavity. That was the primary function of it. Gradually the sounds produced by the tongue was started to be used for communication at night or

in the dark forest or from a distance etc. This is secondary function of it. The tongue creates the obstruction in the path of air flow of the respiratory system or changes the shape of oral cavity and assists to generate the sound. Similarly the vocal cords (larynx) are responsible mainly to control the respiratory system but these have been also used for generating the voicing features of speech by vibrating the vocal cords as a secondary function.

5.4.1 Description of speech organs

The speech organs, also known also as 'vocal apparatus', are organized in a systematic manner as part of our limbic system. The organic existence, arrangement and coordination are the key factors for the creation of different speech sounds. The speaker manipulates these organs in different phases of speech production i.e. how these are used to initiate a speech, vibrate vocal cords, and controls the air passage to give a shape of sound unit. A small sketch of organs of speech is drawn below.



1. lungs
2. food pipe / esophagus
3. wind pipe / trachea
4. larynx
5. vocal cords
6. glottis
7. epiglottis
8. pharynx
9. nasal cavity
10. oral cavity
11. uvula
12. root of the tongue
13. back of the tongue
14. front of the tongue
15. blade
16. tip of the tongue
17. soft palate
18. hard palate
19. alveolar
20. lower teeth
21. upper teeth
22. upper lip
23. lower lip
24. lower jaw

Lungs (1): Lung is the source of air to flow. In our respiratory system, human breathing is directly related to the lung. We breathe the air that goes directly to the lung from the atmosphere and then we breathe out. The air from the lungs passes outward. Both the dimension of airstream is manipulated by other vocal apparatus in the oral cavity to generate the sounds. Lung is physically arranged under the trachea or wind pipe (3) in two parts inside our chest.

Esophagus (2): The Esophagus (2) or food pipe is placed beside the trachea which runs to the stomach for food. When we eat food it goes to the stomach through this directly.

Epiglottis: And there is another organ to close the path of wind pipe and that is the epiglottis, above the larynx and below the root of the tongue.

Larynx (4): Larynx is the part of respiratory system and placed above the wind pipe. It is a comprise of two cords known as vocal cords (5) and a few cartilages adjacent to these two cords. The function of these cords is to control the air flow from the lungs. Simultaneously it manipulates the speed of air flow to be vibrated to produce the audible sounds.

Glottis (6): The gap between these two vocal cords is known as Glottis (6). The adjacent cartilages manipulate this gap. The air passes smoothly through this gap when both cords remain widely apart from each other. It happens during normal breathings. But for the generation of sounds these cords are abducted to reduce the space of glottis. Then the air flows with high speed and these two cords start to vibrate. The audible noise is produced then. The wave of that audible sounds or resonant moves towards the oral cavity and is shaped further there by the other apparatus before releasing to the atmosphere. The vibration of these two cords varies due to the variation in the space within the glottis. The different sounds are produced. Phonation in phonetics describes the voicing and voicelessness of speech sounds.

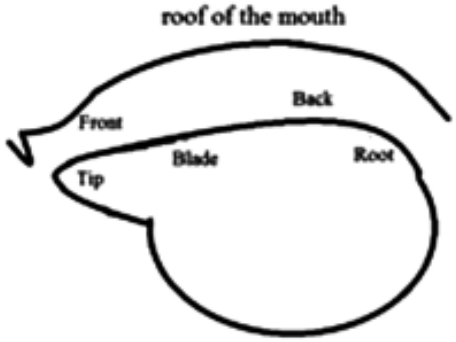
Pharynx (8): Pharynx is a long tube just above the larynx and esophagus from which two cavities i.e. **nasal cavity** (9) and **oral cavity** (10) are formed separately. The region of pharynx is externally the throat region in human body.

Nasal cavity (9): Nasal cavity is placed above the roof of the mouth and in between nostrils and the pharyngeal tube. During the production of nasal vowels or consonants, this cavity acts as resonating chamber to produce a nasal murmur along with the oral sounds.

Uvula (11): Uvula or velum is uniquely placed above the pharyngeal tube dividing the path of oral and nasal cavity and remains in ganging position during normal

breathing. It is the extreme end of soft palate. When the airflow passes towards oral cavity it touches the pharyngeal wall and blocks the airflow to the nasal cavity. The non-nasal sounds are produced. But it opens the path of nasal cavity during the speech it assists to produce the nasal sound.

Tongue (12-16): Tongue is the most important articulator in the generation of speech. Structurally it is not flat though in the surface it seems like that. The inside shape is round like a ball and the flat portion is on the upper part of the ball. The major division of tongue relevant in speech production is 'root' (12), 'back (13)' and 'front (14)'. The 'blade'(15) and the 'tip' (16) of the tongue are two parts in the front. The tongue plays the major role to create an obstruction in the air path or change the shape of oral cavity. The airstream, either from the lungs or from outside to the oral cavity is functionally affected by this movement of tongue. The sounds are classified by considering this tongue movement in most of the languages.



Palate (17-18): The roof of the oral cavity is known as the palate divided into two; soft palate (17) and hard palate (18). Different parts of the tongue touch different points on the palate and create obstruction in the air passage. The soft palate is at the end towards the pharyngeal tube. The back of the tongue against the soft palate produces sound like /k/, when these two closes the path of air passage. The area of the palate towards upper teeth is divided into hard palate and the alveolar (19). When the blade of tongue touches the front of hard palate, it produces palatal sounds and when the twisted tongue touches the hard plate, produces retroflex sounds.

Alveolar (19): A raised sloppy reason at end of hard palate towards the upper teeth is known as alveolar. The tip of the tongue touches against the alveolar for another set of sounds known as alveolar like /t/.

Teeth (20-21): Structurally teeth are arranged in two sets - lower teeth (20) and upper teeth (21). The root of the upper teeth is important when the tip of the tongue

touches against it, produces a set of sounds known as dental, available in Bengali and other Indo Aryan Languages. Simultaneously the lower lip has a role when it touches the upper teeth, /f/ like sound is produced and known as labiodentals.

A set of consonants is also produced when the tip of the tongue touches against the middle of the closed position of upper and lower teeth as it happens in the production of /ð/ in 'this'. These are known as inter-dental.

Lips (22-23): The upper lip (22) is fixed in front of the upper teeth and used as the place of articulation against the lower lip (23) for bilabial sounds like /p/, and lower teeth for /f/ etc. It is the front gate of oral cavity. Lower lip is the external part of the front jaw used for the same set of sounds.

Lower Jaw (24): Lower jaw is the lower part of mouth. The flexibility in the movement of this part is useful for opening and closing the oral cavity. Without this movement no vowel and most of the consonants with multiple characters cannot be produced for communication.

Active and Passive articulator: According to the David Crystal 'Any specific part of the vocal apparatus involved in the production of a sound is called an articulator.' (Crystal, 2000, 27). The list of organs, mentioned above are the articulators used for the generation of speech sounds. Out of these articulators some organs move actively during the generation of speech like, tongue, lower lip, lower jaw etc. These are known as active articulators. Tongue is the most active among these articulators. The lower lip, two vocal cords, velum etc may be added in this list of active articulators as these organs also remain active during speech.

In respect of the movement of the articulators like upper teeth and the roof of the mouth i.e alveolar, front and back parts of the palate remain relatively fixed. These are considered as passive articulators.

5.5 Some concepts related to speech production

i) Airstream Mechanism

ii) Phonation

5.6 Airstream Mechanism

Initiation characterizes the types of airstream used in speech. In the respiratory system the air moves from the lungs towards the oral or nasal cavity or both and vice versa. But some exceptions are also there. According to David Crystal 'initiation' in

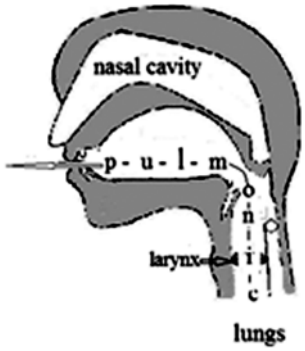
phonetics determines the source of airstream in motion and the direction of airflow. The airstream mechanism describes the source of air in speech. In human speech there are two main types of the airstream mechanism:

(i) Pulmonic Airstream Mechanism

(ii) Non-Pulmonic Airstream Mechanism

5.7 Pulmonic Airstream Mechanism

The initiator in this process makes clear the path of airflow from the lungs on the basis of respiratory system. The airstream available within the space between the lungs to lips is manipulated for the generation of speech sounds. Lung is the source of air and due to that it is known as pulmonic airstream mechanism.



The whole region from below the larynx to the lips in the above figure indicates the source of air is lungs.

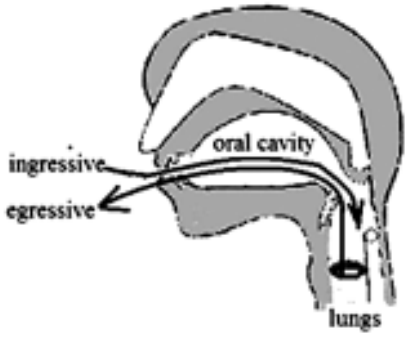
5.8 Non-Pulmonic Airstream mechanism

Other than the pulmonic mechanism, two more types of mechanisms for the airstream manipulation are set by the process of initiation. In these cases, the source of air stream is not generated from the lungs. These are known as Non-Pulmonic Airstream mechanism. In both these cases the path of airflow from the lungs is blocked by the initiating process. New spaces are created to hold the air to flow. These two are Velaric and Glottal Airstream Mechanism. English has no speech sounds using these two mechanisms. However, some British (who speak Cockney) use glottal stops which are a result of Glottal air stream mechanism.

5.9 Direction of the Air flow

The direction of air flow characterizes the sound units. Two types of airflow - ingressive and egressive are noted in human speech. When the air pressure is high within the oral cavity than the atmosphere the air moves towards the outside. This is known as **egressive airstream**. The egressive pulmonic air stream mechanism is used by English speakers and most speech communities of the world.

The **ingressive airstream** is the reverse process of egressive mechanism. When the air pressure is reduced by the movement of speech organs within the cavity, the atmospheric air flows into the empty space in the cavity, and with any available constriction point, the air gets released. This is known as the ingressive airstream. During this time the speech sounds are produced.



Implosive and click sounds are produced by this process and are commonly found in many African languages.

5.10 Phonation

Phonation has also the same common role for the generation of all vowels and some consonants which refer to the function of larynx in speech. It is the secondary function of larynx. In speech the function of larynx is relatively independent in respect of other vocal organs. When two vocal cords are put together the space of glottis is narrowed down in such a manner, both the cords start to vibrate when the air passes through it. This vibration produces audible noise and passes out through the pharyngeal and oral cavity. This activity of the larynx for the speech is known as phonation. The voiced, voiceless or unvoiced sound and whispering are also produced by this process. For the generation of vowels phonation is the main source of acoustic energy, but it has a role to characterize the consonants also known as voiced consonants. Phonation has two main types - **Voicing** and **Voicelessness** with some subtypes will be discussed as manner of articulation feature (see Unit 7).

5.11 Summary

We have discussed how speech is a distinctive feature of the human beings separating them from the rest of animal world. Speech which is a natural phenomenon is acquired at a younger age and is restricted to the mother tongue or the language of frequent exposure. However, learning to speak a second or a foreign language involves conscious effort. Such speech production demands producing certain unfamiliar sounds to do which knowledge of speech organs and their functions is essential. The speech production also depends on factors such as the type of airstream mechanism and voicing or devoicing the speech sounds. This knowledge helps you further to analyse the errors made during speaking (by your learners) and help them with possible remedies.

5.12 Review Questions

1. How is speech unique to human beings?
2. What is the primary function of speech organs?
3. How many types of air stream mechanisms do we have, and how are they useful?
4. How is a speech sound voiced? Describe in detail.
5. Which part of the tongue is used for the utterance of the following in speech sounds:

   /t/, /k/, /f/, /r/, /l/
6. Which of the speech organs do not move? Name them and describe their function.
7. What does the term phonation mean? What is its significance?
8. What function do the lungs play in the production of speech?
9. What are ingressive sounds? Does English have any of them?
10. What role does the nasal cavity play in speech production? How many consonants are produced nasally? Name them and describe them.

Unit 6 ❑ English Vowels

6.1 Introduction

All languages are made of speech sounds, and English has 44 basic sound units which are known as phonemes. These are distributed in two broad categories vowels and consonants.

a) Vowel series: i: /I, ɛ, æ, a, ɔ:, ɒ,ʌ, ə, ɜ:, ʊ, u:, ei, aɪ, ɔi, aʊ, əʊ, ɪə, ʊə, eə./ (20)

b) Consonant Series: / p, b, t, d, k, g, tʃ, dʒ, m, n, ŋ, f v, θ, ð, s,ʃ z,ʒ, h, l, r, j, w/. (24)

Phonetically each of these sound units has not only an articulatory pattern, each one has specific phonological behavior in the language. English sounds are not exception to such rules. The scientific classification of these units needs the detail phonetic

pattern based on the source of air, direction of air flow, role of articulators, shape of the cavity, nature of constriction on the air path etc. In this unit we will specifically focus on the vowel sounds, their production and description.

6.2 Objectives

After going through this unit, the learners will be able to:

a. Distinguish a vowel sound from a consonant sound

b. Identify various vowel sounds which are absolute in nature

c. Identify and describe vowel sounds in English language

d. Classify the vowel sounds based on their quality and production

e. Help learners who need remedy in the production of vowels

6.3 Common features of vowels and consonants

In respect of articulation both these series have some common features in spite of unique aspect which have made these two series with separate identity. The generation of any speech sound has the source of airstream whether it is consonant or vowel does not differ much. Direction of the airflow or the state of glottis that is phonation etc are also common and present. Generally English sounds are produced by the pulmonic airstream mechanism which flows from Larynx to atmosphere, the egressive one.

6.4 Vowels

By definition vowels are a set of speech units, which are produced by passing the pulmonic airstream freely and continuously without any constriction after shaping the oral cavity using the movement of tongue and lips. During this flow of air, the glottis is narrowed down. Both the vocal cords vibrate by generating audible noise. That audible noise is known as vowel. The different shape of the oral cavity makes the sound wave to resonate differently that produces vowels with different quality.

From the above definition it is clear that the production of vowels have the following features of articulation.

(i) Use of airstream mechanism, here pulmonic airstream mechanism based on the respiratory system.

(ii) Direction of airflow from the lungs to the atmosphere, i.e. egressive.

(iii) No Constriction in the oral cavity or in the air path way from the larynx to lip.

(iv) Shape of the glottis for vibrating the vocal cords producing systematic audible noise of voicing. (Vowels are voiced in general).

(v) Changing the shape of oral cavity by placing the tongue and lip in different positions.

(vi) Option to pass the airstream through both the cavities i.e. oral and nasal to produce the nasal vowels.

(vii) Duration of the articulation.

Task 1: State whether the following statements are true or false:

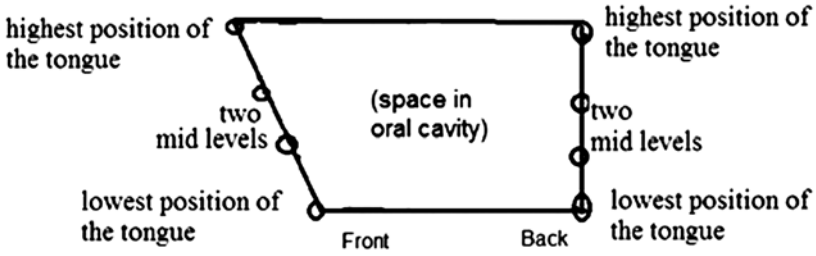
1. English vowels are produced with pulmonic eggressive air stream mechanism.
2. The shape of oral cavity during vowel articulation is controlled by the tongue only.
3. Vowels can be voiced or voiceless.
4. Vowels can be oral or nasal in English.
5. Vowels are usually uttered after consonants.

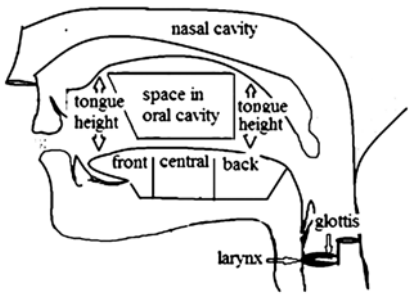
6.4.1 Cardinal Vowels

The description of a vowel is difficult in respect of consonant. Place of articulation of consonant is observable. But the vowel has no such particular concrete reference point to place the articulators. For the production of a vowel a speaker has to imitate the sound only. It has a pattern of articulation. The problem is more complex during the second language teaching and learning. The articulators are placed in a particular pattern within the space of oral cavity. That has to be imitated. The concept of cardinal vowels was introduced for that. The idea of cardinal vowel is to define a model pattern of movement articulators as the standard reference irrespective of any particular language. "A set of standard reference points devised by the British Phonetician Daniel Jones to provide a precise means of identifying the vowel sounds of a language." (Crystal, 1980). Before the description of English vowels a preliminary idea of cardinal vowels was relevant here.

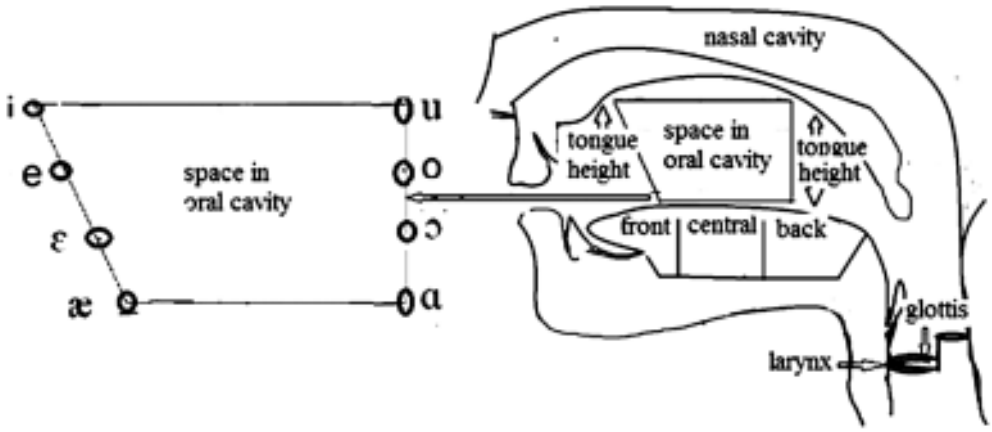
When English vowels were taught to the foreign students, the need of such attempt was felt badly. The tongue position in the generation of vowels varies from language to language. The learners try to acquire the technique by hearing the sound

only. Besides, another matter was also taken into consideration that how this vowel difference can be placed in writing. Jones noted that for the generation of vowels involves two types tongue movement which plays the major roles. He defines that different section of the tongue moves up to that extreme point in the cavity for the vowel after which it would produce the noise of friction. Similarly the lowest position of the tongue is another extreme point after which no vowel can be produced. If the front and back part of the tongue is placed in the cavity the following vowel quadrilateral may be shaped. The following diagram is nothing but the space within the oral cavity.

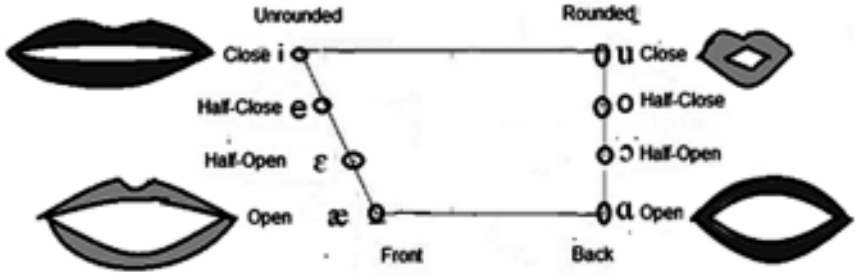




Between two extreme points of the tongue movement he further devised two more reference points in the mid-level. When the tongue attains the highest position towards the roof of the mouth the shape of the cavity is supposed to be closed. The vowel produced in that shape will be known as close or high vowel. On the other hand a low or open vowel may be produced when the tongue is in the lowest position. Relatively two other positions in the mid-level have been suggested which are half-close or mid-high, little below the close or high position and a half-open vowel or open-mid above the lowest position. These four reference points are made considering the movement of the front of the tongue. He marked corresponding another four 'reference points' observing of the upward movement of back of the tongue. The vowels, produced in these eight points are treated as primary cardinal vowels or primary reference points for the description of vowels of any language. Jones had represented these eight primary vowels using the International Phonetic Alphabet like /i, e , ɛ, a, ɑ, ɔ, o, u/.



He also added the rounded and unrounded features on these vowels. When the vowels in the back are produced, the shape of lips converts generally into the round shape. The vowels in the front are round in character which is unrounded or spread during the production of front vowels. These reference points, made by Jones here are irrespective of any language and will be treated as a scale for describing the vowels of any other language. See the distribution of cardinal vowels in the following diagram.



The tentative lip positions in the four extreme point of the tongue movement is mentioned here, which gives an idea that the roundedness and the closing-opening related with the primary cardinal vowels, as listed in the description. Jones later has given ten more secondary reference points for the cardinal vowels which are known as secondary cardinal vowels

Task 2: Complete the sentences.

a) The various parts of the tongue are:

b) The rounded vowels of English are:

c) The high vowels of English are:

d) The back unrounded vowel is:

e) The front vowels are:

6.4.2 English Vowels

Phonologically the English phonemes have been identified two broad sound categories - vowels and consonants. Each category has a set of fixed number of phonemes, mentioned in previous sections. From the traditional grammar conventionally it is known that English has five vowel scripts like 'a, e, i, o, u'. According to the English sound system the vowel sounds are more in number. There is no one-to-one mapping between the sound unit and the corresponding alphabet. Same alphabet is articulated differently. The letter 'a' in English is produced as /æ/ in bat /bæt/, /a:/ in far /fa:/, /ɔ/ in away /ɔweɪ/, /ɔɒ/ in watch /wɔtʃ/ or/ɔ:/in talk /tɔ:k/. /ɛ/in many /mɛnɪ/, /ɪ/in village /vɪlɪdz/etc. Besides some consonant letters are also are pronounced as vowel in certain contexts. For example 'y' in syndicate /sɪndɪkət/ is articulated as /ɪ/. Orthography has such inconsistency in respect of sound. It is noted in most of living natural language which has writing system. Therefore the classification as well as characterization of vowel sounds is relevant to the language learners.

After an exhaustive study, a phonetician described the English language with twenty vowel like sounds. Out of these, 12 are marked as pure vowels or monophthongs. These are i:, /ɪ, ɛ, æ, ɑ, ɔ:, ɒ, ʌ, ˛ə, ɛ:, ʊ/ and /u/:. Besides these, /eɪ, aɪ, ɔɪ, aʊ, əʊ, ɪɔ, əʊ/ and /eə/ are eight more vowel like units which are compounded in structure and are known as diphthongs.

6.4.3 Description of Vowels qualitatively

The vowels can be characterized qualitatively and quantitatively. The qualitative difference of vowel depends on the shape of the oral cavity, which varies by the movement of active articulator tongue with the coordination of the shape of lips. The change of the cavity shape modifies the flow of sound frequencies from the larynx and produces different vowels of unique quality. The vowel /ɪ/ is different one from the /ʊ/ due to the variation in the position of articulators i.e. tongue and lip. Therefore vowels can be classified or grouped qualitatively according to the role of these articulators. The roles of the articulators have been attributed by providing names like front-back, high-low, open-closed, rounded-unrounded etc. As a result the vowels can be classified or studied on the basis of following parameter in general.

1) Movement of the part of the tongue like **front, back** and **central**.

2) Upward and downward Movement of the tongue like high or mid-high or

mid-low or low which are related to the **closing** and **opening** character as another quality.

3) Movement of the lips like **spread** or **unrounded** and **rounded** features.

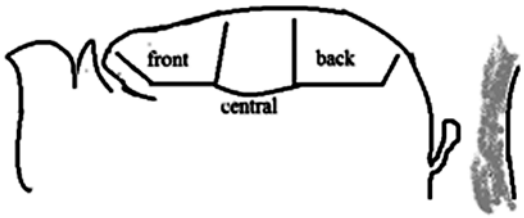
Other than three important features a vowel sound is related to two more aspects of articulation. These are:

4) Opening of the jaw which influences the most of the active articulators during the articulation of vowels.

5) Opening the path of **nasal cavity** for the nasal vowels. This is an optional part as nasal vowels are not available in all language.

a) Tongue Movement : Front, Back and Central :

Broadly the tongue is divided as front, back and central which moves from its neutral position towards the roof of the mouth, the passive articulator.



The cavity space is changed by this movement of three different sections of tongue. Each of this broad division has sub sections. The 'front' has three sub sections like tip, center of the front and back or hinder part of the front. Like this central and back have also different sub sections within the broad area as mentioned. The impact of these subparts adds unique vowel quality.

i) Sound produced by the movement of the front part of the tongue

ii) Sound produced by the movement of the back of the tongue

iii) Sound produced by the central part of the tongue

(i) Sounds produced by the movement of the front part of the tongue:

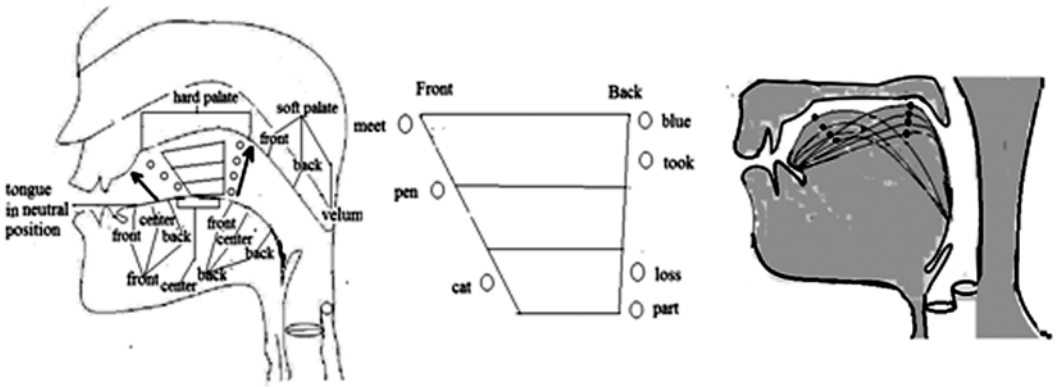
1) Tongue moves in different directions within the oral cavity. From the neutral or rest position when the center of the front part of the tongue starts to move towards the front of the hard palate or alveo-palatal region a passage is created to pass the airstream with audible noise. A sound like /i:/ (1) is produced. The words like see /si:/, tree /tri:/, seen /si:n/, east /i:st/, meat /mi:t/, people /pi:pl/, complete /kɔmpli:t, need /ni:d/ etc have such sound.

2) When the **back of the front** part of the tongue is raised against the front part of palate creating a space to flow the air with the audible noise but producing English /ɪ/ (2) as in sit /sɪt/. Form the qualitative point of view these two i.e. /i:/ and /ɪ/ are very close according the role of the articulators. But the duration of this sound is less than the word seat /si:t/. The duration is the cause of the difference in meaning. Such words are available in English like bill /bɪl/, give /gɪv/, milk /mɪlk/, city /sɪtɪ/, exhibit /ɪgzɪbɪt/ etc.

3) The whole of the front part moves upwards and little back towards the hard palate by creating a space to produce the /ɛ/ (3) sound, it is little back from the above two. The words get /gɛt/, pen /pɛn/, seven /sɛvn/, text /tɛkst/ etc have this vowel sound.

4) By the use of the extended part of the whole front against the hard palate, the /æ/ (4) is produced when the airflow moves towards outside. The words like back /bæk/, mad /mæd/, cap /khæp/ damp /dæmp/, lamp /læmp/, glad /glæd/ etc are the carrier words of this sound.

Front and Back of the tongue which was mentioned in the figure*.



ii) Sounds produced by the movement of the front part of the tongue:

The position of the back part is noted in the above picture. It is towards the velum at the end part of the oral cavity. The vowels produced by the back region are known as back vowels.

5) When the center of the back of the tongue moves towards the front part of the soft palate, a space between these two articulators helps to produce the sound /ɑ:/ (4) as in far /ɑ:/. The similar words are part /pɑ:t/, class /klɑ:s/, task /tɑ:sk/ etc.

6) The back of the tongue moves towards soft-palate and the airflow passes through that. The tip of the tongue during this articulation moves down from the level of lower teeth. The /ɒ/ (6) is produced. The words like dog/dɒg/, cotton /kɒtn/, hot /hɒt/ etc preserve this sound. The duration of this sound is short. For the same sound Jones has used /ɔ/ script.

7) The sound /ɔ:/ (7) is produced by the back part of the tongue when it moves towards the soft palate which has long duration. The soft palate is also raised little high. The words caught /kɔ:t/, talk /tɔ:k/, door /dɔ:/ etc carry this sound.

8) The /ʊ/ (8) is produced by placing the fore part of the back of the tongue in very high position and make free to move the airstream by producing the audible noise. The word full /fʊl/, good /gʊd/, could /kʊd/ etc carry this vowel during articulation. The duration of this vowel is short.

9) The vowel /u:/ (9) is produced by placing the back of the vowels in the highest position against the soft palate. The words cool /ku:l/, blue /blu:/ route /ru:t/, soup /su:p/ etc have this vowel, which takes little long duration than the /ʊ/.

   i) **Central part of the tongue:** In neutral position of the tongue the central part of the tongue is raised a little and brings a change in the shape of cavity.

10) The audible noise of the larynx passes freely through this unit and vowel /ə/ (10) is produced. There is no particular corresponding alphabet for this sound. When an English speaker produces the words like attempt /ətempt/, melody /melədɪ/, protect /prətekt/, collar /kɔlə/, over /əʊvə/, centre /sentə/, manner /mænð/ etc /ə/ is generated. The duration of this vowel is very short. As this vowel is produced by the central part of the tongue it is known as the central vowel. Certain type of this sound is also known as schwa or neutral vowel.

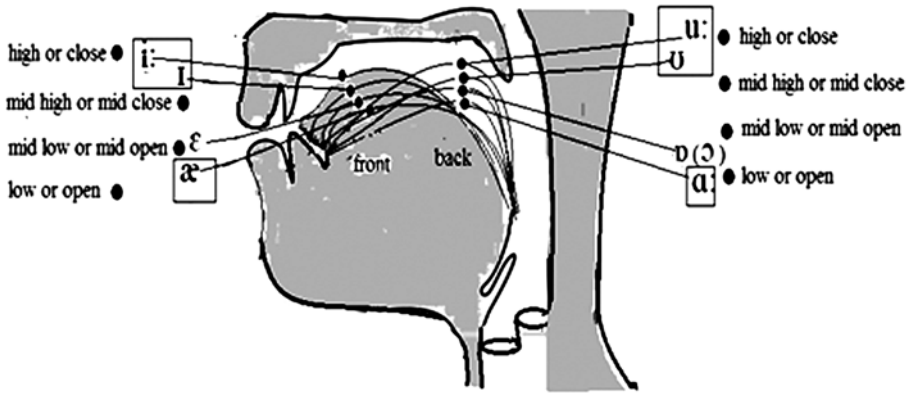
11) The vowel /ɜ:/ is another sound produced by the same shape of the cavity formed for /ə/ with the variation in the duration. The words like bird /bɜ:d, her /hɜ:/, turn /tɜ:n/ etc have this vowel . Jones has used /ə:/ to represent this sound.

12) In the central region another vowel /ʌ/ (12) is produced when the front part of the back of the tongue by keeping in the highest position creates a space against the roof in between hard and soft palate to flow the airstream. Such sounds are audible when the words like cut /kʌt/, love /lʌv/, done /dʌn/,

come /kʌm/, none /nʌn/, Monday /mʌndɪ/, among /əmʌŋ/, butter /bʌtə/ etc.

b) Upward and downward Movement or High/close and Low/open vowels:

The above description shows that the front, back or central parts of the tongue movement include the upward and downward movement. Such movement has also impact on the vowel quality. Both, the front and back part, have upward and downward movement. During the production of front vowels, the front part raises towards the roof of the mouth approximately by closing the cavity space. When the word see /si:/ is uttered, the vowel /i:/ is in the highest position in English. The cavity position is about to close. Then /ɪ/ as in pit /pɪt/ is in high range but little below the highest /i:/. Gradually the tongue moves downwards by producing /ɛ/ /æ/ etc in a particular state. According to that the /ɛ/ is in middle position where /æ/ is in close to the lowest position of the tongue.



The back part of tongue has similar role. From the above figure it is noted that /ɑ:/ in the word cart /kɑ:t/ bears the lowest vowel using the back part. Then gradually the backpart moves upwards by producing /ɔ/ as in got, /ɔ:/ in saw in the mid level and then /ʊ/ in pull and /u:/ in pool are produced one after another towards the high position.

In the mid low or mid high region /ə/ /ɜ: (ə:)/, /ə/, and /ɔ:/ are produced where the height of the central part of the tongue is important. These are produced either mid-high or mid-low position.

Task 3: Match the words with the vowels:

a) City /ə/

b) Went /ʊ/

c) Put /ɪ/

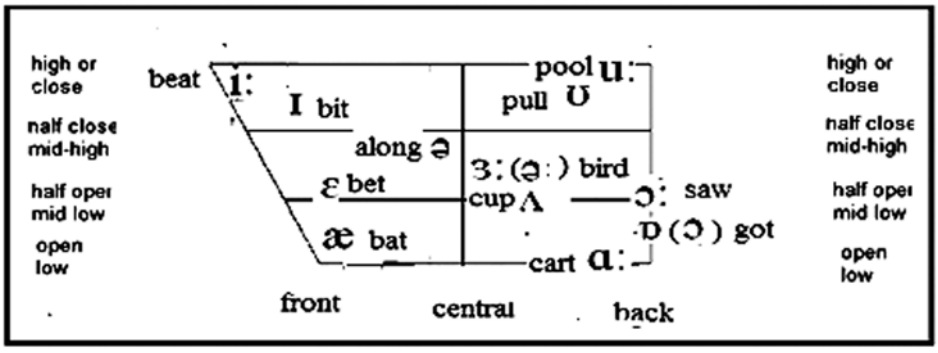
d) Above /e/

e) Fur /ɜ/

6.5 Close and open vowels

By comparing the tongue height and the opening of the cavity it is noted that these two are inversely related with the closing and opening of the cavity space. When the height increases, either the front of back the cavity space is reduced and shaped as closed. The vowels produced in this phase are known as high or close vowels and near to the roof of the mouth. Vowels /i:/& /ɪ/ in the front, /ʊ/ & /u:/ come under this group. But in particular /i:/ /u:/ is nearly close and /i/ and /u/ are near to the half close.

The /æ/ and /ɑ:/ are low or open vowels in general and these are at a long distance from the roof of the cavity. But /æ/ is in between half open and open i.e. in the lower level.



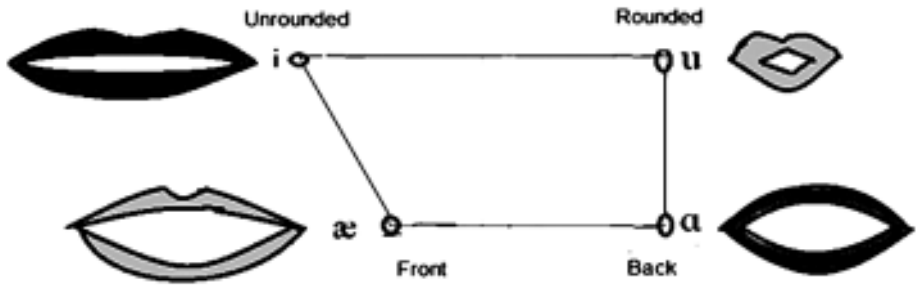
Out of 12 pure vowels in English six vowels are produced either in mid high region and known as half close vowels. Similarly those are close to the lowest zone, known as mid low or half open vowels. The /ɛ/ of the front is half close and half open. /ɒ (ɔ)/ is above the open. /ʌ/ɔ:/ are two speech units are produced in the half open shaped by the back part of the tongue. Rest of the two that is /ə/ and ə: are in between half-close and half-open position.

6.6 Lip movement: Rounded and unrounded vowels

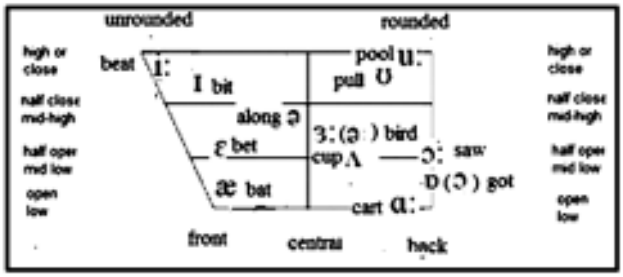
Lip movement: The movements of vocal apparatus for vowels, described above, includes the lip movement also. It has impact on the vowel quality. Relatively physical

organs are independent. But it is noted that when the back of the tongue starts to rise from its neutral position, the shape of lips starts to be rounded. That process gradually changes more according to the height of the tongue. When the back of the tongue reaches in the highest position to generate the vowel /u:/, the high closed vowel the shape of the lips is changed in round shape. Due to this, during the generation of back vowels the lips are round in shape.

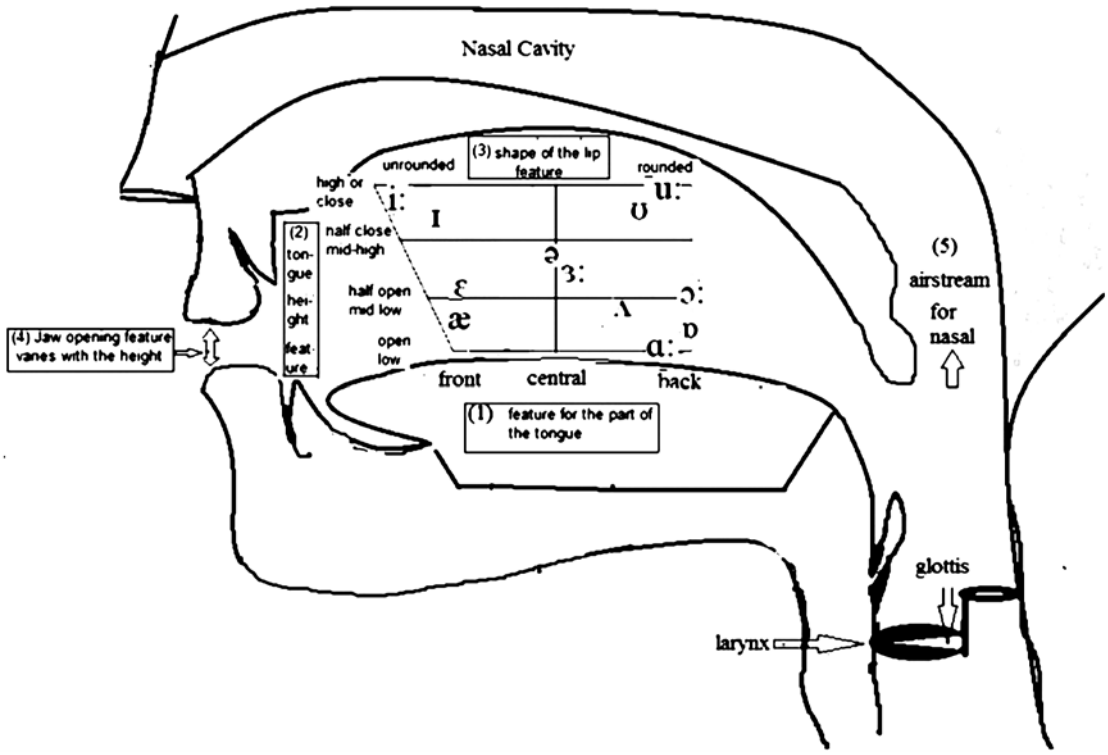
On the other hand when the front part starts to increase the height from the neutral position, the lips starts to spread. In the generation of English high vowel /i:/ the lips are in spreaded position. As a result the front vowels are unrounded in general in respect to the back. Look at the following diagram to have an approximate idea for the roundness of the English Vowels.



The relationship between back and roundness is not deterministic. In some languages the reverse system of lip shape is noted i.e. the speaker can produce the back vowels with unrounded shape of the lips. For example Germanic /ü/ is produced by the back of the tongue but the lips are unrounded. English has no such basic sounds units,

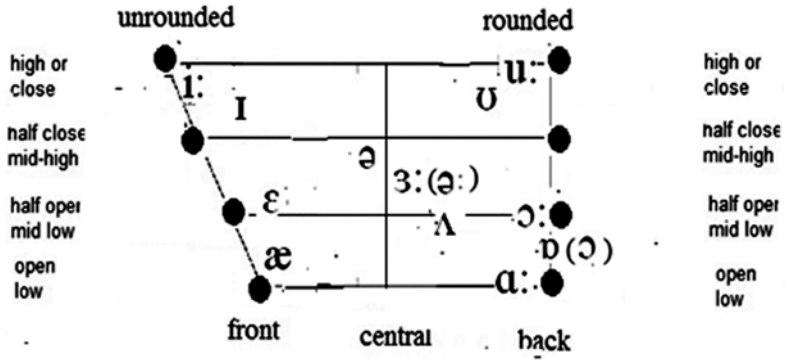


Vowels in the frame of the vowel quadrilateral



Vowel quadrilateral within the cavity

English Vowels in the vowel quadrilateral is framed according to the shape of the cavity. In the quadrilateral the scripts are not put in the line in some cases. The reason is that the frame of the quadrilateral refers the points for the cardinal vowels as described above. The standard shape of the tongue movement was considered as reference point. The vowels of each language can be measured based on these standard points of the quadrilateral in paper. For example the English /i:/ is little below of the standard point of high vowels. The position of English vowels as mentioned by the Daniel Jones in respect of the cardinal vowels.



The black dots are eight cardinal points to measure the tongue position of the vowels of the languages of the world. An approximate position of articulators for English vowels is mentioned here.

4) Jaw movement is related with the opening and closing of the cavity. It controls the movement of active articulators, lowering down the organs. For the high, the jaw is close to the normal position but gradually lowers down towards the open vowels.

(5) **Duration of articulation i.e. quantitative feature of a vowel:** The Duration of a vowel is the quantitative property which characterizes some vowels as separate phonemic units. When the production of a vowel takes long time in respect of the production of other vowels it is known as long. Some are short in respect of that having approximately similar quality as in /i:/ and /ɪ/, or /u:/ and /ʊ/. The heed and hid are two different words which are quantitatively different.. Qualitatively these are produced in same manner i.e. the articulatory properties and pattern are same but /i:/ of head /hi:d/ takes more time than in hid /hɪd/. The first one is long and the second one is short. By hearing these two words one can identify these two as separate from each other and have different meaning. The use of /:/ after a vowel script is added to indicate that vowel as long. Like this one may get /u/ in look /lʊk/ and lose /lu:z/ as short and long respectively. The word garden is uttered as /gɑ:dn/ where /ɑ/ is a long one in duration. Similarly the difference between /ɔ/ in not /nɔt/ and talk /tɔ:k/ are different in duration. The word protect /prɔtekt/ and girl /gə:l/ shows the availability /ə/ carries one more variation of time. English has five long vowels i.e. /i:,ɑ:,ɔ:, u:, ɔ:/ due to their long duration in articulation.

Task 4: Label the following vowels:

1. /ə:/
2. /u/
3. /ɑ/
4. /ə/
5. /æ/

6.7 English Diphthongs

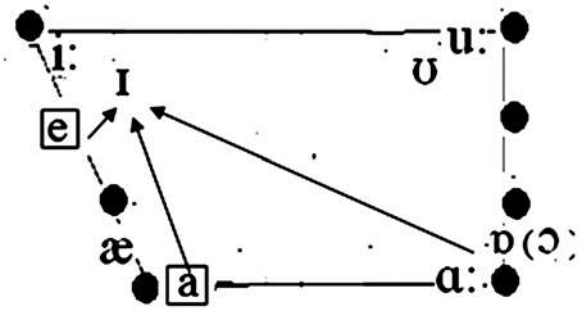
In English the words like gun /g^n/, push /pʊʃ/, not /nɔt/ etc shows the presence of pure vowels /ɔ/, /ʊ/, /ə/ etc, but /aɪ/, /aʊ/, /ʊə/, /ɪə/ etc are available in high /aɪ/

now /naʊ/, fear /fiə/, time /t^im/ etc. The first set of vowels are simple and form a peak with single quality in articulation and also form a syllable but the second groups are complex in structure. In spite of similar functional quality by forming a single peak and a syllable, the manner of articulation differs from the pure vowels. From the articulatory point of view the first set has single noticeable vowel quality, whereas the other set is formed having more than one quality. The first set of vowels is known as monophthnong or pure vowels, which have already been discussed above. But the vowels which are composed of more than one vowel qualities are known as diphthongs. To generate the diphthongs the speech organs, especially the tongue, moves swiftly from its first position for first vowel to another continuously forming a single prominent structure. Such movement of the tongue is also known as gliding. Diphthong is nothing but a 'gliding vowel'. For the word loud, the tongue moves swiftly from the position of lowest level /a/ towards /ʊ/ in the highest level. That movement produces /aʊ/ in /laʊd/. The /a/ and /ʊ/ having two different qualities form a single unit and functions as a center or nucleus of a syllable. By character these vowels are also known as complex vowels, or vowel glides.

6.7.1 Classification of English diphthongs

English has eight (8) diphthongs. These are eɪ, aɪ, ɔɪ, aʊ, əʊ, ɪɔ, ʊə, and eə which can be described in terms of the vowel quadrilateral in the following manner. These are made in terms of final element of the complex unit.

i) Diphthongs /eɪ/, /aɪ/, /ɔɪ/ have the terminating high vowel /ɪ/.



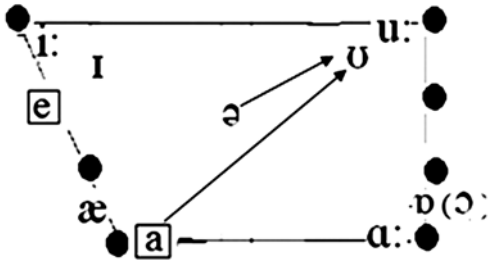
The words game /geɪm/, face /feɪs/, late /leɪt/, neighbor /neɪbɔ/, table /teɪbl/ etc have this sound. /e/ is the variety of /ɛ/ and not mentioned in the pure vowel list. It has no role as an independent vowel to form a syllable in English.

For the generation of /aɪ/, the tongue height for the initial vowel remains in low level but front part of the tongue is raised little. Then it moves towards the short high front unrounded vowel /ɪ/. The shape of the lip is normal position. Words like guide

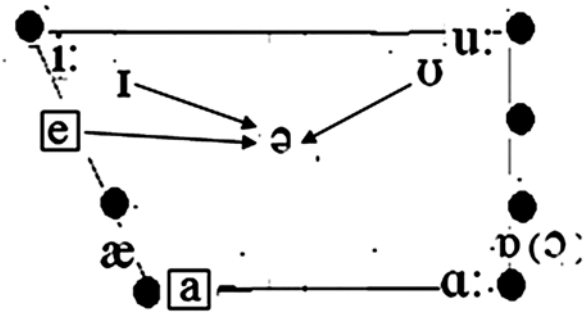
/gaɪd/ child /tʃaɪld/, write /raɪt/ etc have this vowel. Sometimes the second language learner use /a/ which is near to the back low vowel instead of /a/.

The /ɔɪ/ is produced by placing the tongue near to the low position and raising the hinder part of the back and then placing the hinder or back part of the front swiftly. The words like point /pɔɪnt/ choice, /tʃɔɪs/ loyal /lɔɪl/ etc have this diphthong.

ii) Another set of diphthongs is available in English which has two units /əʊ/, /aʊ/. The final elements of which are short back high vowel /ʊ/. For /əʊ/ the tongue is nearer to half-close than half-open. The front part of the back is raised. The final element shows the presence of roundness. The words cold /kəʊld/, know /nəʊ/, hope /həʊp/ etc have this sound. The /aʊ/ is formed initiating the height of the tongue in low position and rising the hinder part of the front ending with short back round vowel. The words town /taʊn/, doubt /daʊt/, noun /naʊn/ etc have this sound unit.



iii) The third group of diphthongs is formed in respect of the movement of the tongue from high to the central vowels as mentioned below. These are /ɪɔ/, /ʊə/, and /eə/



The /iə/ is produced when the front of the tongue is moved from the front high to the mid-level and central part of the tongue remains close to the neutral position with half-close position. The final vowel is in falling position in respect of the tongue movement. The words like dear /dɪə/ hear /hɪə/, cheer /tʃiə/ etc have such sound.

The /ʊə/ is also a falling diphthong as the front part of the back of the tongue moves down and the center part is placed close to the neutral position this was produced. The words poor /pʊə/, tour /tʊə/, doer /dʊə/ etc have such sound.

When the front part of the tongue is raised and tongue height is half-open the initial /e/ is produced and then the central part of the tongue like other falling diphthongs described above move towards the neutral position. The /eə, (ɛə)/ is formed. The words like care /kɛə/ tear /tɛə/ dare /dɛə/ etc carry this speech sound.

Diphthongs are also named according to the final or ending vowels. The diphthongs ended with noted in central vowel /ə/ are known as central diphthongs which are three in number. ɪə, eə and ʊə are central diphthongs The number of closing diphthongs is five as these are ended with high closing vowels like /ɪ/ and /ʊ/. These are eɪ, aɪ, ɔɪ, əʊ and aʊ.

Task 5 : Write the diphthongs in the following words:

a) Came, make, pay

b) Noble, blow, road

c) Noise, voice, point

d) Fair, air, share

e) Tour, during, sure

Answers: a) /eɪ/, b) / əʊ/ c) /ɔɪ/ d) /eə/ e) /ʊə/

6.7.2 Triphthongs in English

English has also some words which bear the three vowels in the place of a diphthongs as it is noted in the word like hour which should be produced as /aʊə/ or lower / ləʊə/ etc. These have particular pattern adding /ə/ i.e. the central vowel after all closing diphthongs. English has five closing diphthongs eɪ, aɪ, ɔɪ, əʊ and aʊ. Now after adding the final /ə/to all these diphthongs English has eɪə, aɪə, ɔɪə, əʊə and aʊə. Eg.eɪə: mare /meɪə/, aɪə: fire /faiə/; ɔɪə: royal /rɔɪəl/; əʊə: grower /graəʊə/ ; aʊə: power /paʊə/ etc. In articulation especially in running speech the situation of tongue movements makes these units are produced as the glide as the active articulator changes the cavity frequently.

6.7.3 What is to be remembered?

The foreign speaker faces difficulties to identify the difference between the vowel qualities of some English vowels during pronunciation. Sometimes mother tongue of

the speaker also functions as constraint. In Bengali the short /ɪ/ and long /i/ difference is not available, the difference between two high front vowel is also absent. Similarly the difference between /ɑ:/ and /ʌ/ is also another area of cause of ambiguity in articulation. One has to take care of these differences carefully. Besides the phonetic scripts, are used differently by different authors. Scripts used by Daniel Jones have been modified by later phoneticians. The learner should not be confused due to this. The consistency should be maintained. Use the later version, or a mixed presentation made here may be used. The technical term used for describing the vowels according to the articulatory pattern are defined below.

i) Front: Front Part of the tongue.

ii) Back: Back part of the tongue.

iii) Central: Central part of the tongue.

iv) High: Height of the tongue from its normal position.

v) Mid-High: This attribute is imposed in respect of the High and mid-low.

vi) Low: Lowest position of the tongue in respect of the neutral position.

vii) Mid-Low: This attribute is imposed low and mid-high.

viii) Rounded: Round Position of lips.

ix) Unrounded: Lips are spread in respect of the neutral position.

x) Close: Position of the tongue near to the roof of the mouth.

xi) Half-close: Position of the tongue between close and half-open.

xii) Open: Opening is the highest distant position of the tongue from the roof of the mouth.

xiii) Half-Open: Opening position between half-close and opening position.

xiv) Narrow, medium, narrow to medium, medium to wide and wide: These are based on the opening of the Jaw.

xv) Short: Short duration of time.

xvi) Long: Long duration of time.

Description of Vowel Sounds	Phonetic alphabet used by Daniel Jones	Phonetic alphabet used by Gimpson	**Script used in this article**	English Word	**word in phonetic Alphabet in this article**
1. Front, unrounded (spread), high, close , narrow-to-medium **long** vowel	i:	i	**i:**	beat	/bi:t/
2. Front , unrounded, high, close, narrow-to-medium **short** vowel	I	ɪ	ɪ	bit	/bɪt/
3. Front, half-close, unrounded, medium vowel	e	e	**e**	get	/get/
4. Front, half-open, unrounded , medium-to-wide vowel	æ	æ	**æ**	gas	/gæs/
5. Back, open, neutral, medium-to-wide, long vowel	ɑ:	a	**ɑ:**	hard	/hɑ:d/
6. Back, open, rounded, medium-to-wide vowel	ɔ	ɒ	ɔ	dog	/dɔg/
7. Back , half-open, rounded, medium-to-fairly-wide vowel	ɔ:		**ɔ:**	talk	/tɔ:k/
8. Back (fore part of Back), half open, spread, wide vowel	*ʌ	ʌ	ʌ	gun	/gʌ n/
9. Central, half-open and half close, spread, narrow vowel	ʊ:	ə:	**ʊ:**	turn	[tʊ:n/
10. Central, neutral, narrow, **short** vowel	u	ʊ	ʊ	doctor	/dɔktə/
11. Back (fore part of the back), just above half-close, close lip rounded, medium **short** vowels	u	ʊ	ʊ	look	/lʊk/
12. Back, nearly close, close rounded, narrow-to-medium long vowels	u:	u	**u:**	noon	/nu:n/

* Note : During the 'ʌ' articulation the student should know that it is the short sounds of 'u' and 'o'. Foreign students replace this sound by /a / or /ɑ/. In the diagram it is between /ə: / and /ɑ:/.

6.8 Summary

In this unit, you have learnt in detail all about vowel sounds in English. To help you understand this concept, we have defined a vowel sound and contrasted it with a consonant sound. Subsequently, we have provided a diagram which clearly demarcates the extreme positions the tongue can take to produce what we call the ideal or Cardinal vowels. This helps you move your tongue appropriately to produce the required vowel sound. We have provided a classification of the vowels into two categories - the pure vowels and the diphthongs. We have given examples for each vowel sound as it occurs in different words to help you become aware of the pronunciation easily. Where possible, we have represented all these factors with pictorial illustrations.

6.9 Review Questions

1. How are vowel sounds different from consonant sounds?
2. How many vowel sounds are there in English? Name them and give an example for each one.
3. How are vowels classified? Does Bangla have a similar distinction? Give some examples.
4. What does a Triphthong mean? Are these commonly found in English? Give one or two examples?
5. What are some of the difficult vowel sounds for Bangla speakers of English? How can you rectify these errors?
6. How is a pure vowel different from a diphthong?
7. How many diphthongs are there in English? Give examples for each.
8. How are vowels classified based on the position of the tongue?
9. What are some of the characteristics of all vowels? Mention all the characteristics.
10. Can we have voiceless vowels? Why or why not?

6.10 References and Reading List

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*The diagrams are from earlier materials prepared by NSOU.

Unit 7 ❑ English Consonants

7.1 Introduction

We have learnt about the speech mechanism and production of Vowels in previous units of this module. In this unit we will look at the production of consonant in English. Consonants are another set of speech sounds produced by the organs of speech. The respiratory system is also part of it. By definition consonants sounds are "made by a closure or narrowing in the vocal tract so that the airflow is either completely blocked or so restricted that an audible friction is produced" (Crystal, 2000). Traditionally it is known that consonants cannot be produced without the assistance of a vowel. Each language has its own set of consonants. But the number

of consonants varies from language to language. Native speakers learn to use this set of sounds unconsciously by listening to them from the fellow members of the family or other neighbouring members of their speech community within a particular age of childhood. It happens due to their inherent power of learning a language endowed in every child. A second language learner has to learn the language consciously.

7.2 Objectives

In this unit, you will get familiar with

a) Articulation of consonants

b) Different Places of Articulation

c) Manner of articulation for consonant phonemes

d) English Consonant Phonemes

7.3 Consonant Phonemes

Phonetic distinctiveness of each consonant unit depends on the movement of vocal apparatus / speech organs, respiratory resistance, air stream mechanism etc. English has 24 consonants. These are/p/,/ b/, /t/, /d/, /k/, /g/, /tʃ/, /dʒ/, /θ/, /ð/, /m/, /n/,/ŋ /, /f/, /v/, /s/, /z/, /ʃ/, /ʒ/ /h/, /l/, /r/, /j/, /w/ (24). Learners know that English has 26 letters of the alphabet including vowels, out of which 21 are consonant, but they represent more speech sounds. This is because, in an alphabetic system as English, there is no one-to-one coordination between the letter of the alphabet and the speech sound it represents. A set of special symbols are used to represent the speech sounds and are formulated by the International Phonetic Association or IPA. For this unit all sounds are represented using this script only.

The distinctiveness of each consonantal segment depends on the pattern of articulation and this is discussed in three sub-sections **-Initiation**, **Phonation** and **Articulation**.

7.4 Initiation

The process of initiation consists of two important components. These are:

i. Type of airstream mechanism: **Pulmonic airstream** or **Non-Pulmonic airstream** and

ii. Direction of air flow: **Ingressive** or **Egressive**.

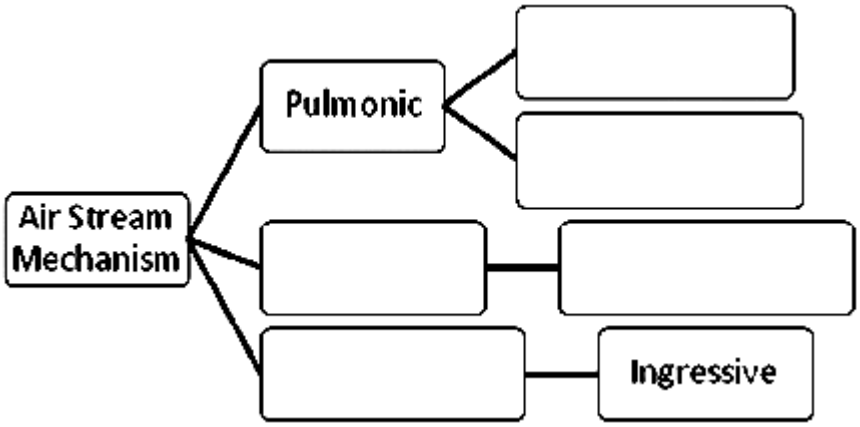
We have leant about them in the Unit 5. Let's try out some tasks on them.

Task 1: Match the columns

a)	Pulmonic Air Stream	i) Air flow is blocked by initiating process
b)	Velaric Air Stream	ii) Lung is the source of air
c)	Glottal Air Stream	iii) English has no sounds with the mechanism

Initiation is initial mode of speech production and was introduced in the previous module. It deals with the selection of airstream mechanism and direction of airflow within the cavity. Native speakers of English use the Pulmonic airstream mechanism in general and the direction of airflow is Egressive, i.e. from the lungs toward the outside through oral or nasal cavity (Unit-5 also). All consonants have this feature. Both Pulmonic and Velaric airstream have the direction of air flow as ingressive. That is from outside towards the lungs. Glottal airstream is usually egressive.

Task 2: Complete the following flow diagram:



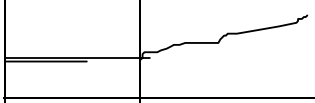
7.5 Phonation

Phonation tells about the state of glottis and vocal cords during the generation of a speech unit. Phonation deals with the voicing character of a unit. The presence and absence of voicing in English enrich the set of segmented units and the following types of consonants are available due to the role of phonation.

7.5.1 Voiced consonants

All vowels are voiced by receiving the impact of phonation, but this is not true of all consonants. A group of consonants have this feature. Before the consonantal

constriction or closing or when two vocal folds are held tight forming a particular narrowing state of glottis, the airflow causes both the cords to vibrate. The vibration is added in the onset position before the medial phase of constriction. Let us have a look. In general every consonant has three stages when it is articulated: onset phase, medial phase and offset phase. The voiced consonant has the audible vibration in the onset phase.

Rest Position	Onset phase	Medial phase	Offset phase	Onset phase	Medial phase	Offset phase
						
Silence	Movement of active articulator for constriction	Phase of constriction	Phase of releasing	Movement for next unit vowel	Opening state	Phase of closing
	Voicing feature	b			ə	

Probable sketch for the production of consonant /b/ is given above. On the onset phase i.e. at the beginning of constriction or mute, phase of mute in middle position and then releasing phase are common to all consonants if it is produced in isolation. Vowel has also these three phases. The voicing vibration with an audible frequency is added at the onset position of a consonant. The consonants become voiced. This is the character of modal voicing. The articulation of /b/ is distinct one from /p/ due to presence of this voicing only in English. /b, d, g, dʒ, ð, z, ʒ, j, r, l, m, n, ŋ, v, w/ etc. receive this distinctness of modal voicing in English.

Besides this modal voicing Creaky and Falsetto Phonation are two more types of voicing available in speech as paralinguistic or extra linguistic features. English speaker produces the creaky voice being bored and Falsetto voicing is used as a style of pop singing. But these are not relevant for describing basic units or like consonants and vowel phonemes in English.

7.5.2 Voiceless or unvoiced consonants

Phonation becomes also the reason for voicelessness or unvoiced. It is the reverse process of voicing. During the production of unvoiced consonants a constriction will

be generated, the airflow will be released after increasing the air pressure, but this flow of air comes from the lungs through the normal gap of glottis. In some description it is a type of nil phonation. No audible vibration is produced. Sounds like /p/ /tʃ/ /t/ /k/ /f/ /θ/ /s/ /ʃ/ etc. are the resulted segmented units in English and these are voiceless or unvoiced.

7.5.3 Voicelessness or Absence of Vibration

Besides the above voicelessness, another type of voicelessness is the absence of vibration is available if the glottis is closed completely. On the release of a short term glottal closure in a low input of glottal vibration is available. This is known as the 'glottal stop', represented by IPA /?/.

Jones mentioned that "In forming the sound /?/ the glottis is closed completely by bringing the vocal cords into contact, the air is compressed by pressure from the lungs, and then the glottis is opened so that the air escapes suddenly. It is neither breathed nor voiced." An audible input is there to vocal tract. For example English bottle/bə?tl/ or fortnight /fɔ:?tnaɪt/ has such a unit which was produced by the sudden closer of glottis, though it is not an essential one.

7.5.4 Voicelessness due to Breath phonation

The audible noise is created even when the vocal folds are widely kept apart. This phonation is breath phonation. A very gentle rustling sound is produced in this type of phonation in a particular state of glottis. According to Daniel Jones 'when the mouth is held in a vowel-position and air is emitted through the wide open glottis' the sound is produced. English /h/ in hat /hæt/or behind /bɪhaɪnd/ has this type of noise. It is produced keeping mouth opening like a vowel by the higher speed of airflow. This is the situation of breath phonation and this consonant is known as breathed glottal fricative, generated by breath phonation. Laver says that the voicelessness is present in nil phonation and breath phonation.

7.5.5 Whispering

Whispering is another type of voicelessness. It is not involved with the production of particular speech unit only, but an imposed paralinguistic feature on the running speech to express certain mode of speaker like, secrecy. During such imposition two cords are put together in such a state of glottis that those two will vibrate in a specific range of frequency creating an audible hissing noise. Whispering is generated. This is not the primary feature of English phoneme. To express the hissing in writing a dot is put under the voiced sounds as in bill [b̤i̤] for/bil/.

7.6 Articulation

Articulation or the role of other speech organs for English consonants: Articulation describes the role of active articulators along with corresponding passive counterpart. Beside the larynx, the functions of these vocal organs characterize consonants which can be classified into two sections. A) **Place of articulation,** and B) **Manner of articulation**. Place of articulation is identification of the point or place on passive articulators where the active articulator creates a constriction on the path of airflow. Ten places of articulation are discussed in section 7.9. Manner of articulation includes the following:

Manner of articulation:

a) Degrees and pattern of stricture or constriction and configuration of air path for the generation of different sounds like plosive, fricative, affricates, continuants etc.

b) The state of air passage, which can be Central or lateral channel of oral cavity as well as Oral and nasal cavity shaped by the use of soft palate. The Velaric Air Stream Sounds emerge from the constriction of lowered velum.

c) The state of the surface of movement of the tongue related for trilling flapping and tapping. This is not much important for English other than trilling.

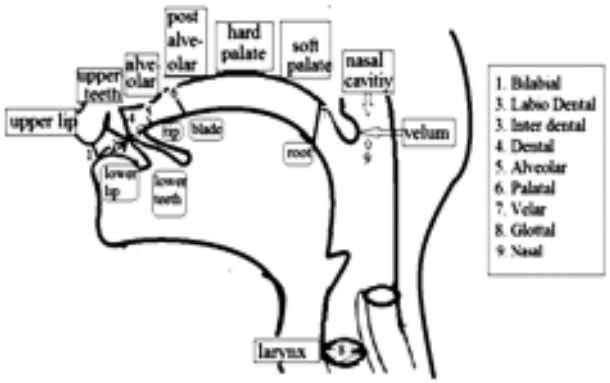
7.7 Place of articulation

The sounds used in speech are produced in two ways - by opening and closing the oral cavity. Vowel is produced without any closure in the air passage. A few vocal organs like tongue, lip or velum are used to shape oral and nasal cavities for different vowel qualities. But consonants are produced by closer or about to closing. When any of the active articulators come in contact with a stationary point or a passive articulator, the air passage is either completely shut or obstructed. The air pressure is created within the cavity in case of complete closure and this stricture is for the production of plosives. As soon as the constriction or closing is released the air passes with high speed through narrow space; an audible noise is produced which is useful in producing fricative sounds. The distinctiveness of the sound unit, due to this is defined by the name of stationary points on the passive articulator. It is noted that the quality of sounds varies when the point/place of articulation is changed. One of the major differences between /k/ and /t/ is due to the variation in the place of articulation. According to Crystal "the place of articulation means 'one of the main parameters,

used in the phonetic classification of speech sounds, referring to where in the vocal apparatus a sound is produced."

7.8 Points or place on the passive articulators

From lips to larynx is the articulatory zone of the passive articulators. Upper lip, upper teeth, alveolar, palate or hard palate, soft palate, uvula, pharynx and epiglottis are the various points of articulators. Besides the space between teeth and alveolar, alveolar and palate, known as denti-alveolar, post-alveolar or pre-palate respectively, are used according to the availability of language data. The movement of active articulator creates the constriction at these points. These are language specific and vary from language to language. Following diagram below will give a brief idea on the meeting point of active articulator on the roof of mouth.



7.9 Description of English consonants based on the place of articulation

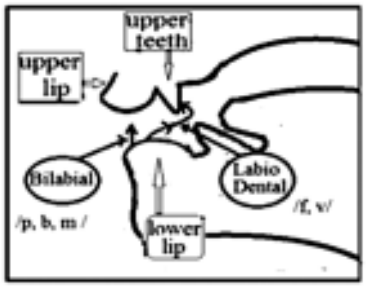
Like other languages consonants of English are characterized according to these places of articulation. Bilabial, Dental, inter-dental, alveolar, post-alveolar, palato-alveolar, velar, labiovelar, glottal are the main labels in use.

i) Bilabial: Bilabial means sounds produced by two lips. The lower lip as active articulator touches the upper lip, a constriction is created. The sounds, produced after the release of constriction are bilabial. These are two types - voiceless and voiced. When the glottis is narrowed down, a voice murmur is added to the sound for a voiced bilabial.

English Bilabials:/p,b,m/

ii) Labio-Dental: For this sound lip and dental part have key role. When the lower lip touches the upper teeth producing a constriction, a labio-dental sound is produced after the release of it. If voicing is added a voiced labio-dental will be generated.

English Labio-Dentals: /f,v/.



Sounds using Tongue: Tongue is the most active organ in the speech production. Different parts of the tongue produce constriction at different points of passive articulator especially on the roof of the mouth. According to the practice of articulation, tongue is marked as 'tip', 'blade or lamina', 'root', 'front or dorsum', and 'back or radix' etc.

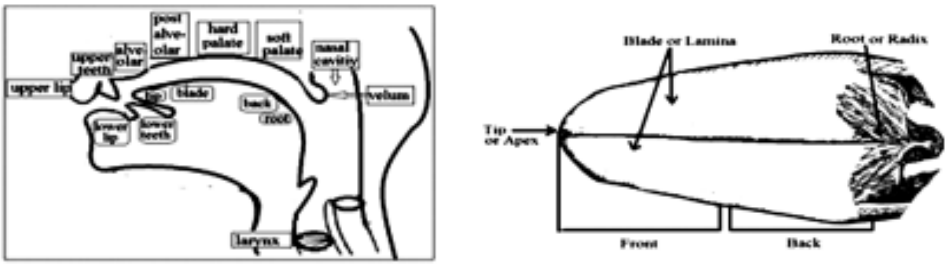


Fig: Different parts of the tongue in speech articulation

iii) Dental or Inter-Dental: Tongue and tooth play the key role. The tip of the tongue touches against the space between the upper and lower teeth and blocks the air passage and thereby produces speech units by releasing the air pressure after a short constriction. It is noted in English thin [θin]. Filipino and Nigerian languages have such sound units. These are also referred to as Dentals in some books. Voicing is also added in some cases.

English Inter-dentals are /θ/ in//thin and / ð/ in /ðis/ this.

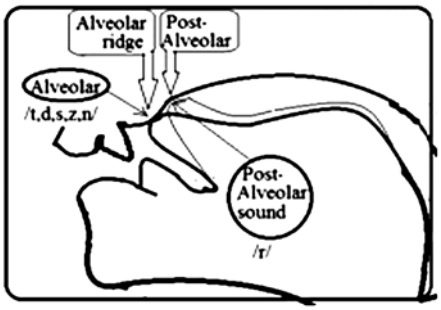
In most of the modern Indo-Aryan languages have dental sounds like / t̪, t̪^{h}, d̪, …./ etc which are different from English inter-dental.

iv) Alveolar: The sound produced in alveolar region is known as alveolar. It is just behind the upper teeth, the sloppy raising region in the front part of palate. Tip of the tongue touches this point and both the blades block the sides by attaching two sets of teeth in both sides. As soon as the air pressure is released /t/ in English is produced.

In English /t/, /d/, /s/, /z/, and /n/ are Alveolar sounds.

Other than English, Italian, Spanish and Vietnamese have this type of sounds. In Bengali /n/ is an alveolar sound.

v) Post-Alveolar: The post-alveolar point is just behind the teeth-ridge i.e. the downward sloppy part towards palate. When the tip of tongue taps more than one time against the said region this sound is produced. In English the /r/ is a voiced post alveolar fricative consonant. But according to Daniel Jones this sound has also a frictionless form. He wrote that 'Many English speakers pronounce 'r' as frictionless continuant instead of as a fricative'.



vi) Palato-Alveolar: The space between alveolar and hard palate is palate alveolar region in passive articulator. For a palato-alveolar sound, the blade of the tongue makes a constriction on the sloppy region of teeth-ridge and the air pressure is formed. In English, the /ʃ/ of shine /ʃʌɪn/ is produced by releasing the constriction slowly. /ʃʒ/, /tʃ/, and /dʒ/ are palato- alveolar fricative consonant in English. Modern Indian languages also have such sounds.

Task 3

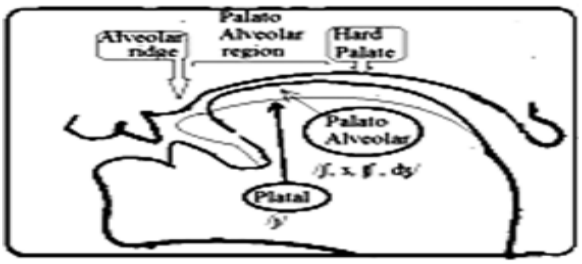
What are the upper articulators for the following phonemes?

/m/_____ /f/_____

/t/_____ /ʒ/_____

vii) Palatal: The blade or lamina or front of the tongue creates different types of constriction against the hard palate and then audible sounds are produced. All these

sounds are known as palatal sound. For the generation of English palatal, the front of tongue is raised towards the hard palate and lips are in spread position. The air passage is narrowed down but not fully closed. When the air moves outside through this, an audible noise is produced. During the generation of this sound vocal cords vibrates and the path of nasal cavity remains closed. English /j/,is articulated in this way and known as unrounded palatal semivowel or frictionless continuant or approximant. Eg. yes /jes/.



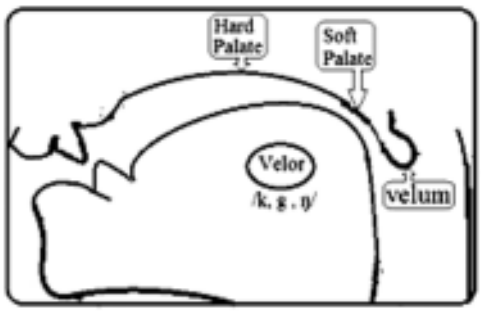
viii) Velar: Velar sound is produced in the back of the tongue. The root of the tongue creates a constriction against soft palate, the passive articulator. The velar sounds are produced after the release of airflow. /k/ /g/ and /ŋ/ belong to the English velar series. Indian languages also have this series.

Task 4: Mention the speech sounds produced by:

i) Tip of the tongue _____

ii) Blade of the tongue _____

iii) Back of the tongue _____



ix) Labio-Velar or labial velar: Sometimes in the generation of sounds two constriction act as generation mechanism. Labio-Velar comes under this group. During the articulation labial and velar region are points of constriction. Back of the tongue and lower lip play the active role against soft palate and upper lip respectively. The sound, produced by this process is known as Labio-Velar. English /w/ as in wet is a

labio-velar sound. Laver mentioned this sound is an example of double articulation, as constriction in two places.

x) Glottal: This sound is produced in the larynx by the sudden closer of the two cords suddenly. /h/ of hen is a glottal sound discussed above. The glottal stop /?/ is a variation of /h/.

Task 5 : State the place of articulation for the following consonant phonemes

/s/ _____

/k/ _____

/g/_____

/ch/_____

/v/_____

/y/_____

Task 6

What is the lower articulator for the following:

/w/_____ /j/_____

/g/_____ /n/ _____

7.10 Manner of articulation

Manner means a way the thing is done. Therefore Manner of articulation tells about the way sounds are produced in a particular place. The type of movement of speech organs adds some more features to shape the sounds with some other distinct character. The native speakers manipulate the degrees of constriction on the path of airflow, type of its release, shape of the space in the oral cavity, selection of air channel, pattern of the movement of the tongue etc. Each of these inputs produces new phonetic properties. These features come under three broader categories: Degrees of stricture, selection of air passage and the use of surface of the tongue.

1. Degrees of Stricture: In general consonants are produced by generating the stricture on the air path. The process of stricture like complete stricture or closing, process of closing and the opening process etc. are the major reasons to characterize the sound unit. The following features are available in English consonants.

i) Plosive or stop: Both the articulators close completely the air path and then release by producing audible noise. This is known as Plosive/Mute sounds like /p/

which is produced by the release of air after a complete closure using two lips. Similarly the other sounds /k/ /t/ are also treated as mute due to the complete closure. The role of model voicing is available with /b//d/ and /g/ producing voiced consonants.

English stop: /p b t d k g/ etc.

ii) Affricate: Affricate sound is produced by the complete closure followed by opening the stricture slowly which produces an audible friction by releasing air as it happens to 'ch' /tʃ/ in English choose. Initial closure is released by a friction /ʃ/. The path of nasal passage remains closed. The tip of the tongue with the assistance of both sides of tongue blade closed the air passage first and then releases the air slowly. The similar phenomenon is available in other Indian languages also. The corresponding unit by adding the voicing the /dʒ/ is produced as in judge /ʤʃʤ/. English has two affricates.

English Affricate: /tʃ/ /ʤ/

iii) Fricatives: In respect of affricates, fricatives are different as the initial complete stricture or muteness remains absent here. The stricture is organized in such a manner that both articulators i.e. active and passive come very close approximation to each other but not touched. The nasal cavity is blocked. A friction is generated and that characterizes the unit. /θ/ in thin and /f/ in fan are such sounds and known as fricatives. For the generation of /θ/, the tip of the tongue comes close to dental or inter-dental region and the blades touch the teeth. The passing air produces friction. Same process is followed when the lower teeth comes closure to the upper lip for a constriction but not closed. The air passes by producing audible noises. In the same articulatory process /ð/ and /v/ are produced by adding voicing as separate phonemes. The /ð/ in this /ðɪs/ and /v/ in van /væn/ have the same feature of voicing.

Sibilants: This is another type of fricative. The friction is produced here with higher amplitudes. In some descriptions these are known as sibilants due to more audible hissing sound. This sound is produced by the tip and blade combined of the tongue against the teeth-ridge and the tongue front is raised towards hard palate. The active and passive articulators come close together in such a way, through which the airstream passes with high speed producing a type of audible hissing frictions and continues some more time. The vocal cords remain open. English /s/ is produced in close to the alveolar region and known as voiceless alveolar fricatives. The /ʃ/ is produced in little back towards palate or palate-alveolar region of the passive articulator. These two are voiceless segments available in sea /sɪ:/ and she /ʃɪ:/respectively. /ʃ/ is known as voiceless palate-alveolar fricative.

The above articulatory movement for /s/ and /ʃ/ produced two more sounds /z/ and /ʒ/ respectively by adding voicing. These are voiced alveolar and palate-alveolar fricatives. /z/ is available in zeal/zɪ:l/, against its voiceless counter part of /s/ in seal /sɪ:l/where as /ʒ/ in boys /bɔɪʒ/ or vision /viʒən/.

English fricatives: /f/, /v/ ,/θ/ and /ð/; /s/, /ʃ/, /z/ and /ʒ/

iv) Frictionless continuant: This is also known as approximants. The distinctiveness of these sounds remains in between fricatives and vowels. These are non-syllabic. The other technical terms semivowels and glides also come under this for those sounds which are like vowel in articulation but cannot form a syllable. In English /r/ /j/ and /w/ come under this group. In British English /r/ has several allophones out of which one has this feature of approximants. During the production of this sound the nasal passage is closed and the tip of the tongue reaches near the teeth-ridge through which air passes without generating any friction. The presence of this sound is noted in the word red/red/. Its allophonic representation is [ɹed]. This /r/ is voiced post alveolar approximant. All the frictionless continuants are voiced.

For the articulation of /j/ in yes /jɛs/ the position of the front part of the tongue is placed narrowing down the air passage like the generation of a vowel. The air passes freely without any obstacle. As the pattern of articulation is like vowel this sound is called as voiced palatal approximant or voiced palatal semi-vowel. The other frictionless continuant is /w/. The back of the tongue moves towards the soft palate like the back close vowel generation and the lips remain in round shape as in what /wɒt]. During the generation of this sound the vocal cords vibrate. Phonetically this is voiced labio-velar approximant or **semivowels**.

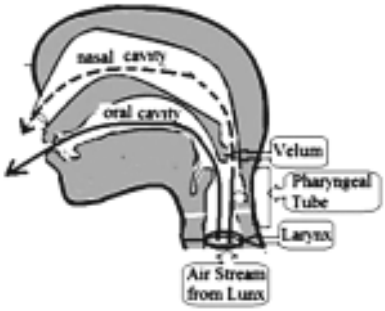
2. Other aspect of manner of articulation: The aspects of articulation indicate the involvement of the airflow channels during the production of sounds. These are two types— Central and Lateral, Oral and Nasal.

v) Lateral: The sounds discussed above are mostly central as the air passes through the central part of the oral channel within the cavity. But a few are there which are produced by releasing the airflow blocking the central part of air channel. The airflow is released through both the sides or a single side of the blade when the tip of the tongue blocked below the teeth-ridge. The sound /l/ in leaf /li:f/, label /leɪb(ə)l/ is the example of lateral. English has this sound.

In use, this /l/ produces two types of allophone, known as clear [l] an dark [l]. It happens due to the phonetic environment of the word. When /l/ occurs before vowel and /j/ the clear [l] is produced but in all other cases the /l/ is a dark one. Eg.

Clear [l] in along [əlɔŋ] and dark [l] in field [fɪ:ld].

vi) Nasal Oral and Nasal: The air-flow from the larynx has an option to move towards the outside of cavities in three ways - through oral cavity, nasal cavity or both the cavities. It is already discussed that the air passes for non-nasal vowels through oral cavity only and in case of nasal vowels through both the cavities. But for nasal consonants the air passes through nasal cavity only. To produce such sounds the soft palate is lowered the passage for the nasal cavity opens the path for airflow by which an audible nasal murmur is produced as part of the consonant when the oral cavity is blocked.



English has three such nasal sounds: /m/ /n/ and /ŋ/. For the production of / m/ mother, the oral cavity is blocked by the two lips. The air pressure comes from the lungs through glottis moves towards the nasal cavity and is released through nose, producing nasal sound. The sound includes vocal cord vibration. This is voiced bilabial nasal consonant.

For the generation of /n/ the tip of the tongue touches the alveolar and blades block both sides of teeth. The air passes through the nasal cavity the vocal cord vibration is added to this air flow. The /n/ in nine /nain/, not /nɔt/ etc is the example of such voiced alveolar nasal consonants.

The voiced velar nasal /ŋ/ is produced by raising the back of tongue against the soft palate. The oral cavity is completely blocked. The airflow by adding the vocal cord vibration passes through nasal cavity and moves out through nostril. This is available in several words like sing /sɪŋ/ hanger /hæŋgə/ etc.

3. Other aspects of manner of articulation: Manner of articulation includes a few more aspectual phonetic features like tapping, flapping, trilling etc. These are formed by the role of active articulator tongue and its particular type of movement. English has trill sound only.

vii) Trill or rolled: Trill is not the phonemic feature of English, but a type of 'r' is available which is produced as trill. When tip of the tongue taps one time against the roof of the mouth rapidly, this sound is produced. This is like an allophone [r] of phoneme /r/ mentioned in the discussion of frictionless continuant. The word crowd [kraʊd/ has this trill sound.

viii) Flap: Flap sounds are different from trill. In the production of such sound the active articulator tongue hits the alveolar region and moves to the front rapidly. English has no such sound but in Bengali has this sound /ɽ/as in /baɽi/ 'house'.

ix) Aspiration: Aspiration is an audible breath sometimes accompanies with the articulation of sound. In the list of basic units English has no aspirated sound. But the presence of aspiration can be noted in the production of some units. The mark of aspiration is [h]. For example the word pin is written with '/p/'. But the native speaker produces as [phɪn] where /p/ has received the aspiration mark. This is important in consonant articulation. The cat is not /kæt/ but [khæt] in articulation. In some other languages like modern Indo Aryan languages the aspiration is phonemic.

Task 7

Give the manner of articulation for the following consonants:

/p/_____ /l/_____ /s/_____

/k/_____ /j/_____ /r/_____

7.11 Distribution of consonant phoneme

English Phonemes according to place and manner of articulation and voicing properties.

Distribution of consonants

Place of Articulation → / Manner of articulation ↓	Bilabial	Labio - Dental	Dental	Alveolar	Post Alveolar	Palato Alveolar	Palatal	Velar	Glottal
	-v+v	-v +v	-v +v	-v +v	-v +v	-v +v	-v +v	-v +v	-v +v
Plosive	pb			td				kg	
Affricate						ʧʤ			
Fricative		fv	θð	sz		ʃʒ			h
Nasal	m			n				ŋ	
Lateral /(approximant)				l					
Trill / (approximants)			r						
Semivowel (approximant)	w						j		

[-v for voiceless or unvoiced and +v voiced consonant]

Task 8

Give the symbols for the unvoiced consonants:

Pen ____, cat ____ , chain_____, thin_____ see _____

Shoe ___, hat ____, reach_____, fan_____, park ____

7.12 Phonetic description of English consonants

Based on the above discussion and phonetic table the phonetic characters of English consonants can be placed in brief. Each one has initial feature 'Pulmonic egressive'.

List of consonants	Articulatory Description of sounds	Example
/p/	Voiceless bilabial stop or plosive	pocket /pɔkɪt,
/b/	Voiced bilabial stop or plosive.	bark /bɑ:k/
/t/	Voiceless alveolar stop or plosive	taken /teɪkn/

/d/	Voiced alveolar plosive or stop	dark /dɑ:k/
/k/	Voiceless velar stop or plosive	come /khʌm/
/g/	Voiced velar stop or plosive	geese /gɪ:s/
/ʧ/	Voiceless palate-alveolar affricate	child /ʧaɪld/
/ʤ/	Voiced palate-alveolar affricate	jealous /ʤeləs/
/f/	Voiceless labio-dental fricative	fold /foʊld/
/v/	Voiced labio-dental fricative	volume /vɔljum/
/θ/	Voiceless breathed inter-dental / dental fricative	thought /θɔ:t/
/ð/	Voiced inter-dental / dental fricative	thus /ðʌs/
/m/	Voiced bi-labial nasal	meter /mi:tə/
/ŋ/	Voiced velar nasal	longing /1ɔŋɪŋ/
/n/	Voiced alveolar nasal	nine /nʌɪn/
/s/	Breathed dental voiceless sibilant (fricative).	certain /‘sə:tn/
/z/	Egressive voiced alveolar fricative.	zeal /zi:l/
/ʃ/	Voiceless breathed palato-alveolar sibilant (fricative)	shine /ʃʌɪn/
/ʒ/	Voiced palate-alveolar fricative.	leisure /‘liʒə/
/h/	Breathed / voiceless glottal fricative. Purely breathed sound.	holy /‘hɔʊlɪ/
/r/	Voiced post-alveolar approximant / fricative / trill .	write /raɪt/
/l/	Voiced alveolar lateral (approximant)	laundry /lɔ:ndrɪ/
/j/	Voiced unrounded palatal semivowel (approximant, frictionless continuant)	yes /jes/
/w/	Voiced labio-velar semivowels (approximant, frictionless continuant)	warn /wɔ:n/

7.13 Summary

In this unit you have looked in great detail how the consonant sounds are produced in English. The speech organs responsible for production of consonant sounds have been clearly identified and labeled. Besides, a method of classifying the consonant sounds based on the place and manner of articulation is clearly described. The system used for labeling consonants takes into account the two factors mentioned above along with phonation which lends voice to some consonants and a few are breath sounds. The most important aspect of this unit is to help you not only produce consonants, but also describe them using three term labels.

7.14 Review Questions

1. How are consonants different from vowels?
2. How many consonants are there in English and how do you classify them?
3. Name the active and passive articulators.
4. What is the difference between passive and active articulators?
5. How many types of air-stream mechanism do we have? What are they?
6. Does English have any ingressive sounds? How are ingressive sounds articulated?
7. Discuss the air-stream mechanism for English sounds.
8. What do you understand by the terms Initiation, Phonation, and Articulation? How do these affect speech production?
9. State the place of articulation for: /f, d, n, z, ʤ, w/.
10. Discuss English semi-vowels.

7.15 Reading List

Laver, John. (1994). *Principles of Phonetics*. Cambridge: Cambridge University Press.

Unit 8 ❑ International Phonetic Alphabet and Transcription

8.1 Introduction

The International Phonetic Alphabet or IPA is a planned alphabetic system, developed by the European Phonetician to provide the scripts for representing different segmental non-segmental or supra-segmental sounds available in natural language. The same IPA also represents the International Phonetic Association, which has developed and at present maintains this phonetic table.

8.2 Objectives

At the end of this unit, the learners will be able to:

a. Understand what is IPA

b. Use IPA chart for transcription

c. Differentiate between phonetic and phonemic transcription

d. Use transcription for representing the correct pronunciation of a word

e. Refer to dictionaries and other sources where IPA is used.

8.3 Development of IPA

Initially IPA was prepared to reform the English spelling; that was different from French using Romanic Alphabet. For instance, the letter 'c' of English was corresponding to the French 'ch', the sound of which was /ʃ/ as in 'shame' /ʃeɪm/. The scripts ʃ, ɪ etc. are not available in the English alphabet. These were coined by the phoneticians. This initial attempt for Western Europe was gradually shifted for one to one grapheme-phoneme mapping for any language. One symbol will represent only one sound. There will be no ambiguity between script and sound. The method is now used as a general principle for script-sound mapping for all natural languages throughout the globe. Even for the languages without any writing system the use of IPA method will assure to represent their sounds in writing systematically. This captures all possible speech sounds that can be produced by a human being.

In 1877 Henry Sweet pointed out the variation of sound change in his *Handbook of Phonetics*. The pronunciation of a sound unit and its variation in different contexts were analytically defined by him. In most of the languages of the world which have orthography, i.e. the writing system the discrimination in articulation is a common factor. In most of the Indian Languages such discrimination is available. Later in 1886 an association was formed in France by the name of 'The Phonetic Teachers' Association. Paul Passy took initiative first, to publish such scripts. Then Otto Jespersen proposed the system for all world languages. In 1888 an alphabetic system for the languages of the world was published.

In 1889 the organization was named as 'The phonetic Association of the Professors of Living Languages'. The importance of such system is increased and becoming more useful especially to the second language teaching and learning also. In 1897 the organization was renamed as **International Phonetic Association** and the association adopted certain principles for developing the new alphabetic system to produce one script against one sound applicable for all the languages of the world.

This alphabetic system is modified from time to time by adding the phonetic inventories of the languages of the globe. The Association makes it acceptable for the International users. It is an ongoing process. Since the inception of this program the modification was done several times. In the year 1900, 1932, 1989, and 2005 the system was updated. The work of lexicographer, second language learners, philologists, speech scientists, dialectologists have become easy for these phonetic scripts. Recently the use IPA in the speech technology for automatic speech recognition (ASR) or text-to-speech (TTS) system has extended the inevitability of it.

8.4 Some Principles for the development of IPA

The developer has followed some principles during the preparation of this alphabetical system. According to them:

a) One unique script for each distinctive sound unit, which can change the meaning of a word, i.e. the script should be phonemic.

b) When a particular sound is used in several languages, the same sign should be assigned. The unit also can be used with similar shades of sound.

c) The ordinary letters of the Roman alphabet should be used. A few new letters from other sources can be used if necessary.

d) The assigning of values to the Roman letters should be recognized by their usage internationally.

e) When new letters are suggested for the modification of the sounds they will bear a resemblance to the old one.

(From *The Principles of the International Phonetic Alphabet* by Abramson Arthur S)

8.5 The Phonetic Alphabet used in the table

At present the total number of symbol in IPA used in the table (which is given at the end of this section) 157. Out of this number 107 letters are for segmental sounds i.e. for consonants and vowels, 31 are diacritics and 19 signs are for supra-segmental qualities. No language of the world requires all these symbols and diacritics, but all the spoken units used in languages can be represented using these symbols successfully.

How do we get all these characters? In IPA generally the lower case characters of Roman Alphabet are used, but English has only 26 lower cases. For the completion of the chart some other processes were adopted. The use of Latin scripts is one of them. The reverse use of Roman lower cases'c, e, v, r' are used like /ɔ/ /ə/ /ʌ/ and /ɻ/ respectively. A few Greek letters are also used θ, β, ɛ, χ etc. Besides by changing the shape of conventional letters some new symbols were formed. The scripts like ɦ, ɪ, ʤ, ɱ, ɳ, Ω, ɾ, ʃ, t, are the result of such work . For the non-pulmonic and ingressive sounds a set of symbols also have been devised and used.

Diacritics are different from the said scripts. These are used as the secondary symbol along with the main symbols to express specific phonetic feature of sound unit. The use of diacritics like [˚],[˜],[ʰ], or [ʲ] are for marking devoicing, nasalization,

aspiration, palatalization respectively. If the vowel '/a/' is nasalized, the mark for nasalization to be added like [a˜]. Similarly to mark the supra-segmental like stress, accent, intonation, or duration another set of diacritics are used. The use of such diacritics is not only relevant for the sound, it has grammatical role also.The word 'present' can be produced with stress mark in two different syllabic positions like / 'prezent/ and /pre'zent/. If the stress falls on in the initial syllable /'pre-zent/, it will be noun but when the word is used as verb the stress is on the second syllable like /pre-'zent/.

8.6 Broad Transcription and Narrow Transcription and the Use of // and [ ] in IPA

In the discussion on consonant and vowels, it is noted that a phoneme may have more than one allophone. All these various forms are the members a particular phoneme.The phonemes are the basic sound units and bring a change in meaning producing a new word. For example the meaning variation of 'king'/kɪŋ/ and 'sing'/sɪŋ/ depends only on the initial sound for /k/ and /s/. These two are different basic sound units of English or phonemes. But when the words like keep /ki:p/, cool /ku:l/, call/kɔ:l/ are produced, the initial /k/ is presented not only by different letters, by different sounds also. If phonetically each of the /k/ is analyzed critically, the /k/ followed by '-ee-' /i:/, -oo- /u:/ and -a- /ɔ:/ changes its phonetic character. A minute change is there but phonetically each one is different from other. If anyone produces the first /k/ position of the tongue constriction will be in the hard palate, when call is produced the back of the tongue will touch the front part of the soft palate. This variation in the place of articulation shapes the /k/ differently in three ways, which are the member of /k/ family. One cannot be produced in the place of other. These variations are known as allophones of /k/ sounds. Even when the word back is produced the final -/k/ is different from the initial /k/- of a word as in the final /k/ the constriction is not released. Phonetically this one is also different.

The IPA was basically developed for representing phonemes or basic units and due to that IPA is phonemic. For the phonemic representation the sound unit is placed within two parallel slant lines'//' as the /k/, /i:/ are written in the examples given. When a word, phrase or sentence is transcribed considering this approach it is known as **Phonemic Transcription** or the **Broad Transcription**. Initially it was like this, but in course of time, the allophonic presentation was also considered as another method of transcription, which is known as **Narrow Transcription** or **phonetic transcriptions**. For allophonic transcription the strings of sounds are placed within

'[]' using IPA as done above. For specific phonetic characters different diacritics are also used for palatalization, nasalization, devoicing, whispering etc. According to Daniel Jones, "A Transcription based on the principle 'one symbol per phoneme' is called a 'phonemic' or 'linguistically broad' transcription. A transcription which provides special sign for allophones is called 'allophonic' or 'linguistically narrow' transcription." The IPA users should be careful to present these two conventions for presenting the sound units, to avoid the overlapping.

A word of any language, which has the script can be presented in different ways following the above principles:

i) According to spelling using English alphabet : *keel*

ii) Presentation using phonemes : /ki:l/

iii) Presentation using allophones [j] for palatalization: /kji:l/

iv) Besides when /p/, /t/, /k/ occur initially, the sound receives more aspiration [h]. The narrow transcription considers it as in cat [khæt]. But the word sky has no such feature of aspiration for its conjunct presentation.

v) Likewise the final /k/, where the releasing feature is absent a specific diacritic [¬] is used in narrow transcription as in lake [leɪk].

Several other diacritics are also used to represent the allophonic transcription from other languages.

8.7 Use of IPA in English

The examples in different sections are given from English. Still for a clear understanding of the use of English alphabet in respect of IPA, some elaborations are relevant. It is already said like other languages the orthography and articulatory description of English vowels, diphthongs, consonants are not arranged in 'one to one grapheme-phoneme' principle, i.e. the scripts and sounds are not mapped one to one here. English has 44 basic sound units, out of which 12 are pure vowels, 8 diphthongs and 24 consonants whereas the language has 26 letters. The probability of mismatch is obvious here from this numeric mismatch.

Several historical reasons are behind this discrimination. One of the reasons is the static nature of writing system in respect of the spoken form, which changes gradually in course of time. The impact of phonetic environment within a word, the process of borrowing and the nativisation of borrowed sounds might have played the crucial role. These are the common phenomena among natural language users, especially who

have a defined alphabetical system.

English alphabetical system is not out of it. The sound-script diversities of English alphabets, described below will make it clear that how an alphabet is produced in different phonotactic contexts by producing different sound units.

a) The 'a/ɑ' used in conventional spelling, produces number of different phonemic situations or allophones. Look at the presentation of 'a' in spelling and their corresponding sound units put in the // :

/æ/ in bat /bæt/ /ɑ:/ in far /fɑ:/, part /pɑ:t//ə/ in away /əweɪ/

/ɒ/ in watch /wɒʧ/ /ɔ:/ in talk /tɔ:k/ /e/ in many /menɪ/

/ɪ/ in village /vɪlɪdz/ /ei/ in baby /beɪbɪ/ .

b) When 'a/ɑ' used within an environment of more than one vowel scripts:

ai> /eɪ/ bailey /beɪlɪ/, au> /ɔ:/ bauxite /bɔ:ksaɪt/,

eau>/əʊ/ beau /bəʊ/, e-au> /u: /beauty /bju:tɪ/,

ea> /ɪə/ bear /beə/,

c) Similarly 'e' is produced as:

/e/ in extra /ekstrə/ /ɪ/ in explicit /ɪksplɪsɪt/
/i:/ in seas /si:z/

/ɜ:/ in expert /eksp3:t/ /ɪə/ in era /erə/
/ɒ/ in entrée /ɒntreɪ/

d) Like this the consonants have also such variations. In the following use of /p/, the speaker produces different allophonic forms like [p], [ph] or silent etc.

/p/	in speak	/spi:k/	uttered as	[spi:k],
/pʰ/	in pin	/pɪn/	uttered as	[pʰɪn]
/p/	in top	/tɔ:p/	uttered as	[thɔp˥]
/p/>0	in psychic	/saɪkɪk/	uttered as	[saɪkɪk]

Finally at the end of a word /p/ takes [˥] as in top/tɔ:p/ [tʰɔp˥]. Even if this is available in coda position of a syllable, the same mark is used. The word optical [ɒp˥ tɪkl] has this type of mark, but /p/ is different from word capacity [kə'pæsətɪ] etc.

8.8 Examples of broad and narrow transcriptions of English words using IPA

The table below will give a brief idea about the script-sound mapping of English following the IPA alphabets. A few example of phoneme and their corresponding alphabet(s) have been listed in the second column. Both the transcriptions are used here. For the allophonic representation or Narrow Transcription, a few features have been added for example.

i) The initial voiced plosive with the mark of devoicing [´].

ii) The initial unvoiced unaspirated plosives take the diacritic of aspiration [ʰ].

iii) The final plosives does not have releasing quality which has been marked by the [¬].

iv) The stress[´] is added when the word is not mono-syllabic.

IPA Phoneme	Alphabets	Words	Broad/phonemic Transcription	Narrow/allophonic transcription
/i:/	-e- -ea- -ie- -eo- -ee- -i-	*these* *sea* *field* *people* *geese* *machine*	/ðiːz/ /siː/ /fiːld/ /piːpl/ /giːz/ /məʃiːn/	[ðˊiːz] [siː] [fiːld¬] [ˈpʰiːpl] [gˊiːz] [məʃiːn]
/i/	-i- -y- -a- -ei-	*give* *city* *village* *foreign*	/gɪv/ /sɪtɪ/ /vɪlɪʤ/ /fɔrɪn/	[gˊɪv] [sɪtɪ] [ˈvɪlɪʤ] [ˈfɔrɪn]
/e/	-e- -a- -ea-	pen seven many head	/pen/ /sevn/ /menɪ/ /hed/	[pʰen] [ˈmenɪ] [ˈsevn] [hed¬]
/æ/ /ʔ:/	-a- -a- -uar-	*glad* *exact* *bath* *far* *guard*	/glæd/ /ɪgzækt/ /bɑːθ/ /fɑː/ /gɑːd/	[glæd¬] [ɪgˈzækt¬] [bˊɑːθ] [fɑː] [gˊɑːdʔ]

/ɔ/	-o-	*not*	/nɔt/	[nɔt¬]
		methodical	/mɪθɔdɪkl/	[mɪ'θɔdɪkl]
	-a-	*quality*	/kwɔlɪtɪ/	['kwɔlɪtɪ]
		what	/wɔt/	[wɔt¬¬]
	-au-	*fault*	/fɔlt/	[fɔlt¬]
/ɔ:/	-aw-	*lawn*	/lɔ:n/	[lɔ:n]
	-a-	*watch*	/wɔ:ʧ/	[wɔ:ʧ]
	-ar-	*warn*	/wɔ:n/	[wɔ:n]
	-ou-	*thought*	/θɔ:t/	[θɔ:t¬]
		source	/sɔ:s/, /sɔəs/	[sɔ:s, sɔəs]
/ʊ/	-u-	*Put*	/pʊt/	[pʰʊt¬]
	-ou-	*could*	/kʊd/	[kʰʊd¬]
	-oo-	*room*	/rʊm/	[rʊm]
	-o-	*woman*	/wʊmən/	['wʊmən]
/u:/	-ou-	*wound*	/wu:nd/	[wu:nd¬]
	-oo-	*cool*	/ku:l/	[kʰu:l]
	-u-	*music*	/mju:zɪk/	['mju:zɪk¬]
	-ew-	*new*	/nju:/	[nju:]
	-eau-	*beauty*	/bju:tɪ/	[bju:tɪ]
	-o-	*move*	/mu:v/	[mu:v]
/ʌ/	-o-	*come*	/kʌm/	[kʰʌm]
	-u-	*butter*	/bʌtə/	['b´ʌtə]
	-ou-	*trouble*	/trʌbl/	['trʌbl]
	-w-	*one*	/wʌn/	[wʌn]
	-o-	*money*	/mʌnɪ/	['mʌnɪ]
/ə:/	-or-	*work*	/wə:k/	[wə:k¬]
	-ir-	*bird*	/bə:d/	[b´ə:d¬]
		sir	/sə:/	[sə:]
	-ur-	*turn*	/tə:n/	[tʰə:n]
	-our-	*journey*	/ʤə:nɪ/	['ʤə:nɪ]
/ə/	a-	*along*	/əlɔŋ/	[ə'lɔŋ]
	-a-	*salad*	/sæləd/	['sæləd¬]
	-e-	*concert*	/kɔnsət/	['kʰɔnsət¬]
	-o-	*protect*	/prətekt/	[prə'tekt¬]
	-our	*honour*	/ɔnə/	['ɔnə]
	-re-	*centre*	/sentə/	['sentə]
	-er-	*father*	/fɑ:ðə/	['fɑ:ðə]

/p/	p- -p -pp-	*pencil* *top* *happi* *capable* *public*	/pensl/ /tɔp/ /hæpɪ/ /keipəbl/ /pʌblik/	['p^{h}ensl] [t^{h}ɔp˥] [hæp^{h}ɪ] ['k^{h}eipəbl] ['p^{h}ʌblik˥]
/b/	b- -b- -b	*bed* *October* *bulb*	/bed/ /əktəʊbə/ /bʌlb/	[b´ed˥] [ək'təʊbə] [b´ʌlb˥]
/t/	t-, -t-, -tt-,- -bt, -d	*tell* *potato* *attain* *doubt* *packed* *stand*	/tɛl/ /pəteitou/ /əteɪn/ /daut/ /pækt/ /stand/	[t^{h}ɛl] [p^{h}ə'teitou] [ə't^{h}eɪn] [d´aut˥] [p^{h}ækt˥] [stand˥]
/d/	d- -dd- -rd-	*dust* *sudden* *garden* *wood*	/dʌst/ /sʌdn/ /gʌdn/ /wʊd/	[d´ʌst˥] ['sʌdn] ['g´ʌdn] [wʊd˥]
/k/	c- -k- -k	*cut* *cooking* *cake*	/kʌt/ /kʊkiŋ/ /keik/	[k^{h}ʌt˥] ['k^{h}ʊkiŋ] [k^{h}eik˥]
/g/	g- -x- -g-	*get* *game* *examination* *eager* *organ*	/get/ /geɪm/ /ɪgzæmɪneiʃn/ /i:gə/ /ɔ:gən/	[g´et˥] [g´eɪm] [ɪgzæmɪ'neiʃn] ['i:gə] ['ɔ:gən]
/ʔ/		*fortnight* *bottle*	/fɔ:ʔnaɪt/ /bɔ:ʔtl/	['fɔ:ʔnaɪt˥] [b´ɔ:ʔtl]
/ʧ/	ch- -ch -t-	*cheap* *ditch* *picture*	/ʧi:p/ /dɪʧ/ /pɪkʧə/	[ʧi:p˥] [d´ɪʧ] [p$'^{h}$kʧə]
/ʤ/	j-, -j- -ge-	*jump* *injure* *large*	/ʤʌmp/ /ɪnʤə/ /lɑ:ʤ/	[ʤʌmp˥] ['ɪnʤə] [lɑ:ʤ]

/m/	-m- m-	*comfort* *mnemonic* *mine*	/kʌmfət/ /ni:mɔnik/ /mʌɪn/	['kʰʌmfət¬] [ni:'mɔnik¬] [mʌɪn]
/n/	N	*nine* *soon*	/nain/ /su:n/	[nain] [su:n]
/ŋ/	-ng-, -nk, -n-(k) -n-(g) -nd-(k)	*long* *longest* *trunk* *anger* *handkerchief*	/lɔŋ/ /lɔŋgist/ /trʌŋk/ /æŋgə/ /hæŋkətʃɪf/	[lɔŋ] ['lɔŋgist¬] [trʌŋk¬] [æŋgə] ['hæŋkətʃɪf]
/l/	l- -l-	*little* *partial* *health*	/lɪtl/ /pɑ:sl/ /helθ/	['lɪtl] ['pɑ:sl] [helθ]
/f/	f- -f	*fail* *loaf* *fear*	/feil/ /louf/ /fɪə/	[feil] [louf] [fɪə]
/v/	v-, -v	*vain* *voice* *prove*	/ѵein/ /vɔis/ /pru:v/	[ѵein] [vɔis] [pru:v]
/θ/	th- -th-	*thank* *mouth* *sympathy*	/θæŋk/ /maʊθ/ /sɪmpəθɪ/	[θæŋk¬] [maʊθ] ['sɪmpəθɪ]
/ð/	th- -th-	*thy* *gather*	/ðai/ /gæðə/	[ð´ai] ['g´æðə]
/s/	s- -s-	*set* *base* *release* *precious*	/set/ /beis/ /rɪli:s/ /preʃəs/	[set¬] [b´eis] [rɪ'li:s] ['preʃəs]
/z/	z-, -s-	*zeal* *scissors*	/zi:l/ /sɪzəz/	[zi:l] [sɪzəz]

/ʃ/	sh- -sh	*shy* *shake* *ash*	/ʃai/ /ʃeik/ /æʃ/	[ʃai] [ʃeik¬] [æʃ]
/ʒ/	-asu-, -ge	*pleasure* *massage*	/pleʒə/ /mæsɑ:ʒ/	['pleʒə] ['mæsɑ:ʒ]
/r/	r- -r- -r(k)-	*red* *rope* *literary* *mark* *world*	/red / /roʊp/ /lɪtərærɪ/ /mɑ:k/ wə:ld	[red¬] [roʊp¬] ['lɪtərærɪ] [mɑ:k¬] [wə:ld¬]
/h/	H	*home* *behave*	/həʊm/ /bi'heiv/	[həʊm] [b´i'heiv]
/w/	W	*want* *wise*	/wɔnt/ /wʌɪz/	[wɔnt¬] [wʌɪz]
/j/	y, i	*year* *beyond* *india*	/jɪə/ /bijɔnd/ /ɪndɪjə/	[jɪə] [b´i'jɔnd¬] [ɪndɪjə]
/ei/	-a- -aye- -ea-	*game* *player* *great* *railway*	/geɪm/ /pleɪə/ /greɪt/ /reɪlweɪ/	[g´eɪm] ['pleɪə] [greɪt¬] ['reɪlweɪ]
/aɪ/	-ui-, -i-	*guide* *resign* *kind*	/gaɪd/ /rɪzain/ /kaɪnd/	[g´aɪd¬] [rɪ'zain] [kʰaind¬]
/ɔɪ/	-oi-	*point* *choice*	/pɔɪnt/ /ʧɔɪs/	[pʰɔɪnt¬ [ʧɔɪs]
/əʊ/	-o- -ow-	*cold* *know*	/kəʊld/ /nəʊ/	[kʰəʊld¬] [nəʊ]
/aʊ/	-ow- -ou-	*town* *how* *shout*	/taʊn/ /haʊ/ /ʃaʊt/	[tʰaʊn] [haʊ] [ʃaʊt¬]

/ɪə/	-ea-	*dear*	/dɪə/	[d´ɪə]
		theatre	/θɪətə/	['θɪətɪə]
	-e-	*here*	/hɪə/	[hɪə]
/ɛə/	-ai-	*pair*	/pɛə/	[pʰɛə]
	-a-	*care*	/kɛə/	[kʰɛə]
		vary	/vɛərɪ/	['vɛərɪ]
	-ea(r)-	*tear*	/tɛə/	[tʰɛə]
/ʊə/	-ou-	*tour*	/tʊə/	[tʰʊə]
	-oo-	*poor*	/pʊə/	[pʰʊə]
	-u-	*pure*	/pjʊə/	[pʰjʊə]
	-wer-	*fewer*	/fjʊə/	[fjʊə
/ɔə/	-ou-	*course*	/kɔəs/	[kʰɔəs]
		your	/jɔə/	[jɔə]
	-oa-	*roar*	/rɔə/	[rɔə]
/aɪə/	-io-	*violent*	/vaiələnt/	[vaiələnt┐]
	-iro-	*iron*	/aiən/	['aiən]
/ɔɪə/	-oya-	*royal*	/rɔɪəl/	[rɔɪəl]
/aʊə/	-ower	*flower*	/flaʊə/	[flaʊə]
	-ow-	*dowry*	/daʊərɪ/	[d´aʊərɪ]

[The information is gathered from *An Outline of English Phonetics, Oxford dictionary* and some are from the internet].

8.9 Summary

In this unit you have been introduced to a very important aspect of phonetics. We have given you adequate information on the formation of IPA (International Phonetic Association) as well as the forming of the script for transcription. Besides providing you with a table of 157 symbols we have also discussed how these are distributed across all the languages of the world. We have also attempted to familiarize you with the use of diacritics to represent narrow transcription. This captures the speech of a person as uttered by him or her. We have concluded the unit with a chart of different speech sounds in English and how they vary in their pronunciation depending on the environment in which they appear.

8.10 Review Questions

1. What made the linguists to form the International Phonetic Association?
2. What is the major difference between narrow and broad transcription?
3. How many symbols are there in the IPA chart? Are all these symbols useful to us?
4. What are diacritics? What difference do they make to the transcription?
5. When you look up a dictionary, what type of transcription do you find? Give reasons.
6. Give the IPA symbols for the vowel sounds in the following words: /neighbour, champion, task, Sunday, heater, market/
7. State the IPA symbols for the diphthongs in the following words: / leisure, maintain, rainy, day, tour/
8. Mention the IPA symbols for the consonant sounds in the following words: /royal, mayor, chief, treasure, flower, handy/
9. Transcribe the following words: / may, city, relation, park, verb, ark/
10. Transcribe phonetically the sentences:
    a. The language of trade and commerce.
    b. The difference between narrow and broad transcriptions.
    c. Are you home?
    d. He would come in the mid-day.
    e. Take the receipt.

8.11 Reading List

Gimson, A.C. (2014). *Pronunciation of English.* 8th edn. New York: Routledge.

https://www.google.co.in/books/edition/Gimson_s_Pronunciation_of_English/

Jesperson, Otto. (1933). *Essentials of English Grammar.* Chapter II 'Sounds'. London: Routledge.

https://www.google.co.in/books/edition/Essentials_of_English_Grammar/

THE INTERNATIONAL PHONETIC ALPHABET (revised to 2015)

CONSONANTS (PULMONIC)

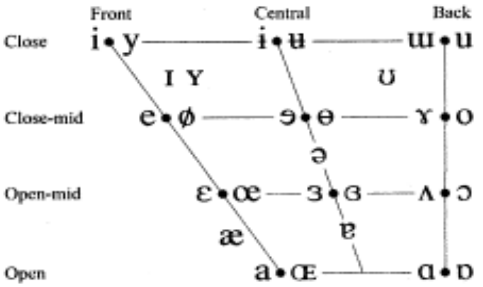
	Bilabial	Labiodental	Dental	Alveolar	Postalveolar	Retroflex	Palatal	Velar	Uvular	Pharyngeal	Glottal
Plosive	p b			t d		ʈ ɖ	c ɟ	k g	q ɢ		ʔ
Nasal	m	ɱ		n		ɳ	ɲ	ŋ	N		
Trill	ʙ			r					ʀ		
Tap or Flap		ⱱ		ɾ		ɽ					
Fricative	ɸ β	f v	θ ð	s z	ʃ ʒ	ʂ ʐ	ç ʝ	x ɣ	χ ʁ	ħ ʕ	h ɦ
Lateral fricative				ɬ ɮ							
Approximant		ʋ		ɹ		ɻ	j	ɰ			
Lateral approximant				l		ɭ	ʎ	ʟ			

Symbols to the right in a cell are voiced, to the left are voiceless. Shaded areas denote articulations judged impossible.

CONSONANTS (NON-PULMONIC)

Clicks	Voiced implosives	Ejectives
ʘ Bilabial	ɓ Bilabial	’ Examples:
| Dental	ɗ Dental/alveolar	pʼ Bilabial
! (Post)alveolar	ʄ Palatal	tʼ Dental/alveolar
ǂ Palatoalveolar	ɠ Velar	kʼ Velar
ǁ Alveolar lateral	ʛ Uvular	sʼ Alveolar fricative

VOWELS



Where symbols appear in pairs, the one to the right represents a rounded vowel.

OTHER SYMBOLS

- ʍ Voiceless labial-velar fricative
- w Voiced labial-velar approximant
- ɥ Voiced labial-palatal approximant
- ʜ Voiceless epiglottal fricative
- ʢ Voiced epiglottal fricative
- ʡ Epiglottal plosive
- ʗ ʖ Alveolo-palatal fricatives
- ɺ Voiced alveolar lateral flap
- ʧ Simultaneous ʃ and x

Affricates and double articulations can be represented by two symbols joined by a tie bar if necessary.

t͡s k͡p

SUPRASEGMENTALS

- ˈ Primary stress ˌfoʊnəˈtɪʃən
- ˌ Secondary stress
- ː Long eː
- ˑ Half-long eˑ
- ˘ Extra-short ĕ
- | Minor (foot) group
- ‖ Major (intonation) group
- . Syllable break ɹi.ækt
- ‿ Linking (absence of a break)

TONES AND WORD ACCENTS

LEVEL		CONTOUR	
˥ or ˩	Extra high / Extra low	˦ or ˨	Rising
˦	High	˩˥	Falling
˧	Mid	˧˥	High rising
˩	Low	˩˧	Low rising
		˥˩	Rising-falling
↓	Downstep	↗	Global rise
↑	Upstep	↘	Global fall

DIACRITICS

Some diacritics may be placed above a symbol with a descender, e.g. n̊ŋ̊

◌̥ Voiceless	n̥ d̥	◌̤ Breathy voiced	b̤ a̤	◌̪ Dental	t̪ d̪
◌̬ Voiced	s̬ t̬	◌̰ Creaky voiced	b̰ a̰	◌̺ Apical	t̺ d̺
◌ʰ Aspirated	tʰ dʰ	◌̼ Linguolabial	t̼ d̼	◌̻ Laminal	t̻ d̻
◌̹ More rounded	ɔ̹	◌ʷ Labialized	tʷ dʷ	◌̃ Nasalized	ẽ
◌̜ Less rounded	ɔ̜	◌ʲ Palatalized	tʲ dʲ	◌ⁿ Nasal release	dⁿ
◌̟ Advanced	u̟	◌ˠ Velarized	tˠ dˠ	◌ˡ Lateral release	dˡ
◌̠ Retracted	e̠	◌ˤ Pharyngealized	tˤ dˤ	◌̚ No audible release	d̚
◌̈ Centralized	ë	~ Velarized or pharyngealized		ɫ	
◌̽ Mid-centralized	e̽	◌̝ Raised	e̝	(ɪ̝ = voiced alveolar fricative)	
◌̩ Syllabic	n̩	◌̞ Lowered	e̞	(β̞ = voiced bilabial approximant)	
◌̯ Non-syllabic	e̯	◌̘ Advanced Tongue Root	e̘		
◌˞ Rhoticity	ɚ a˞	◌̙ Retracted Tongue Root	e̙		

Module 3 : Supra-segmental Features-1

Unit 9 ❑ Syllable structure and Word Stress

9.1 Introduction

In Module 2 of this course you have learnt about speech production and the different speech sounds of English language. You have learnt in detail the classification of speech sounds, their production and description. It is important to remember these for a good understanding of this unit.

9.2 Objectives

At the end of reading this unit, the learners will be able to:

a. Understand the scope of studying phonetics

b. Distinguish between the terms phonetics and phonology

c. Understand the structure of a syllable and describe it

d. Understand the system of placing stress on words

e. Describe the structure of a word based on the number of syllables it has.

9.3 Revision of Module 2

Let us quickly recap the module before proceeding to the new one. Answer these questions:

Task 1

1. What is the type of air stream mechanism used for speech production in English?

   (clue: there are two types of air streams - eggressive - air issuing out of lungs and escaping through mouth: and ingressive- air from outside being drawn into the system through mouth for producing speech.)

Your answer:

2. How many speech sounds are there in English?

   (clue: it is not the same as the number of letters in English. It is much more)

Your answer:

3. What are the two divisions into which these sounds are divided?

   (clue: this is a simple answer, and is not different from the division you find in the letters of the alphabet. It is also common to all languages)

Your answer:

4. If there are more sounds than letters, how are they represented?

   (clue: read Unit 8 of the previous module carefully)

   Your answer:

(Correct answers:

1. Eggressive air stream mechanism;

2. 44 - forty four speech sounds
3. Vowels and consonants (20 vowels and 24 consonant)
4. International Phonetic Alphabet has special symbols to represent all speech sounds produced by human beings.)

This module discusses four topics which are related to the previous module. They deal with syllable and its structure, types of syllables, and word stress along with some nuances associated with syllable structure. We shall go about it in an interactive way. Please make sure to answer the questions asked before checking the answers provided elsewhere in the unit. Be honest about this.

9.4 Phonetics

Let us begin with the title of the Course 'Phonetics and Phonology in English'. There are two operational words here - 'Phonetics' and 'Phonology'. Are these synonyms or do they differ in their meaning. Look up a dictionary and find out the differences and write them down here in the space below.

Your answer:

The dictionary is a good source of reference, and we will keep revisiting this topic often in this module. The meanings as given in the book, how helpful were these? You must appreciate the space constraints a dictionary has, so all the details could not be spelt out. Let us take a look at the meanings of these two words and see what they stand for with a few illustrations.

Let us first understand that we are not talking about two words, but about two systems. Phonetics is a system that discusses the production and description of speech sounds. These sounds may belong to any language. Phonetics should be able to describe a speech sound and also help someone produce that sound. A system that is not specific to one language, but can describe any or all languages is called a 'Language Universal Phenomenon'. Phonetics should be able to describe the speech sounds in Bangla as well as Swahili spoken in East Africa, or Tagalog spoken in Philippines, or Bahasa spoken in Indonesia and Malaysia or any other language you can think of. To capture all these sounds and represent them graphically, a system has been created by phoneticians and this is called IPA - the International Phonetic Alphabet.

How does a language choose its speech sounds? The best answer to this can be,

the choice is arbitrary. An answer like this is not very helpful. To help us understand this, let us look at an anecdote from present day life.

All of you have visited a supermarket which stocks all the items of grocery and essentials you need at home. You and your neighbour visit this store with your specific shopping lists, and go round the shop and buy things you need. Let us hypothetically say, the store has about 250 items on its shelves. On your list you have about 35 items that you require, and your friend has a list of 38 items that he/she requires. The two lists are not the same though they may have a few items (e.g. rice, oil, sugar, dal, wheat flour etc) which are common to both of you. Both of you buy things according to your needs and the needs of your family.

From this supermarket let us get to the store that stocks speech sounds. All the speech sounds human beings can produce (read Unit 5) are stocked here in this store. There are about 150 sounds that a human being can produce with the given apparatus of speech organs. Into this store, the customers are languages. They pick and choose the sounds they need for their purpose and the environment they live in. (like the needs of your family). Similarly, no two languages may have the same set of speech sounds though all of them may have some common speech sounds (e.g. vowels, some bilabials etc.).

A study of speech sounds that a language has is called phonetics. Phonetics also helps in describing these sounds and helping someone produce them as well. In English we have 44 speech sounds that are divided into 20 vowel sounds and 24 consonant sounds. You have studied this in Module 2.

9.5 Phonology

Now, let us move on to Phonology. Phonetics talks about the sounds. This is a discrete study. This means, I know how to pronounce the sound /p/ and describe it as a voiceless, bilabial plosive. This description is true for any language that has /p/ sound in it. Phonology goes a little further than talking about individual speech sounds. Speech sounds cannot exist in isolation. They need to combine to form syllables and words. The speech sounds cannot combine randomly. They need to follow a set of rules. For example when you form a syllable in English, if the first sound is /p/ voiceless, bilabial plosive, the second sound cannot be /b/ or /d/ or /t/ or /s/ or /k/ or /g/ etc. In fact, /p/ as the initial sound will not have any plosive or fricative or an affricate as the second sound. Such combinations may be possible in other languages. Let us take a concrete example. In English the initial two sounds in a word can be /sp/ or /st/ or /sl/ in words like spirit, special, spoon, or street; straight,

stand, or slant, sling, slang etc. Speakers of some languages in India do not have these combinations. Therefore they tend to add a vowel either between the two sounds or a vowel at the beginning. Accordingly, 'special' may be pronounced either as [ispecial] or [sapecial]. A study of how the sounds combine in a language to form consonant clusters and syllables is called phonology.

We hope the difference between the two terms is clear now. We will repeat this once again later when you are familiar with a few more technical terms.

9.6 Syllable Structure

The focus of the present unit is Syllable structure and a little bit of word stress: There are two aspects discussed here. The first one is syllable structure and the second one is word stress. Both these concepts are related to each other. We will take a look at each one separately.

All of you know what a syllable is? You have come across this word many times earlier. Perhaps, your teacher in the school asked you to divide the word into its syllables, so that you could spell the word easily. Do you remember that?

Task 2

Take a look at some of the words given below. You may not know some of these words, do not worry. Try and guess how many syllables there are in each word.

a. Circumlocution

b. Flannelette

c. Inadvertently

d. Personality

e. Reprehensible

You can answer these very easily. We will suggest a way out. Go to a dictionary and see how these words are entered in it. For example, you will find the word 'domineering' entered like this: dom-i-neer-ing. Do you notice that the spelling is split and small lines are inserted in between. These lines separate one syllable from the other. Similarly, you have to work out syllabification for the five words given.

Think for a while, and reason out why we need to divide the word into syllables. What is so unique about a syllable? Would you like to share your views on this. Enter your comments in the space below before you read the next part.

Definition of a syllable: In phonetics we define terms in their minimal unit form. For example 'a phoneme is a minimal distinct unit of a speech sound'. Similarly, a syllable which is a higher unit than a phoneme must also be a minimal unit. It is a minimal unit of utterance. What does this mean? When we pronounce a phoneme which is a consonant, without our being aware of it, we add a vowel to facilitate its pronunciation, so that we can utter it with ease. (In fact, it is not possible to utter some consonants in isolation.) Phonemes do not come together randomly to form a syllable, often they follow a rule. We shall look at some features of a syllable first and later look at the rules.

You have identified the syllables in the list of words given above. Take a look at those syllables carefully and see if you find anything common in them? To do this, you may need to look at the dictionary once again, take a closer look at the transcription as well. Note your observation in the space below.

Task 3: Now look at the transcription of the words given above:

Cir-cum-lo-cu-tion	/sɜ:k ml kju: n/	Note: These transcriptions are incomplete and need to be completed.
Flan-nel-ette/	flæn let/	
In-ad-ver-tent-ly	/in dvɜ:tentli/	
Per-so-nal-ity	/pɜ:snælti/	
Rep-re-hen-si-ble	/reprɪhensbl/	

You may check your answers for the earlier task on the number of syllables you had identified. It is 5, 3, 5, 4 and 5 respectively.

In this task we had asked you to find out what makes a syllable. You will have noticed that every syllable has just one vowel sound. There cannot be more than one vowel sound in a syllable. In other words, the presence of each vowel, marks the existence of a syllable. Please remember, the reference to vowel here is not in terms of spelling but a vowel sound.

With this extended understanding of the word syllable, we may also redefine it. A syllable is a minimal unit of utterance with a single vowel.

Two aspects of a syllable are clear - it is convenient unit of utterance, and there is only one vowel in the syllable. What about consonants? Consonants are essential in a syllable but they are also optional. We may have a syllable with just one vowel e.g. the first person pronoun 'I' is a syllable and a vowel. Similarly the indefinite article 'a' is a syllable and a vowel. These two syllables do not have any consonants. There are a few other syllables like this, but do not worry about them now. This is only to reinforce the fact, that a vowel is an important and obligatory part of a syllable.

9.7 Word Stress

Having understood what a syllable is, let us look at some words which have just one syllable. Read these words to yourself and see whether they can be divided into further syllables:

Ant, book, cat, dog, eat, feet, goat, high, I,	*jay, key, lake, me, no, put, queue, road,*	*seal, tea, up, van, way, yacht, zoo.*

We are sure you can read them all very easily. Out of the twenty-six words given here, all but one have both a vowel and a consonant or two consonants. Look at the place of consonants. They can occur either before the vowel as in 'key' or after the vowel as in 'eat'. Some words may have a consonant before as well as after a vowel sound as in 'lake'.

What does this mean to us? There is no definite position prescribed for placing a consonant or a vowel in a syllable. They can occur in any order. Does this make it difficult for you to identify a syllable? Don't worry, a syllable is such a small entity, that it can be easily recognized and its structure understood with some practice. We will do it.

Here is a way to do it easily. Look up a dictionary (preferably *Oxford Advanced Learner's Dictionary* or *Longman's Dictionary of Contemporary English)* that provide transcription using the International Phonetic Alphabet (IPA). This will help you recognize the consonants and vowels in each of the words given above. You should transcribe more words and that will be helpful.

Look at some of the words with a single syllable in their transcribed form and also look at their structure:

Tea	/tɪ/	consonant - vowel	CV
Way	/wei/	consonant - vowel	CV
Eat	/i:t/	vowel - consonant	VC
Book	/bʊk/	consonant - vowel - consonant	CVC
Feet	/fi:t/	consonant - vowel - consonant	CVC
Lake	/leik/	consonant - vowel - consonant	CVC
Dog	/dɒg/	consonant - vowel - consonant	CVC
Best	/best/	consonant-vowel-cons-cons	CVCC

Plays	/pleiz/	consonant - consonant - vowel - cons	CCVC
Text	/tekst/	consonant - vowel - cons-cons-cons	CVCCC
Ant	/ænt/	vowel - consonant - consonant	VCC
Spring	/sprɪŋ/	Con-con-con-vowel-con-con	CCCVC

This is just for the purpose of demonstrating the structure of a syllable. This is also to help you see the variety you can have within a syllable. You can have one or more consonants at the beginning of the syllable, similarly you can have one or more consonants at the end of the syllable or you may have no consonants either at the beginning or end. This makes the structure of a syllable easy and not complex. You only need to have a clear understanding of the presence of a vowel sound and the consonants occurring with it and their position.

To represent the structure of a syllable we use two letters of the alphabet 'C' and 'V' to denote consonant and vowel sounds respectively. Using these two letters we can have a syllable as CV or VC or CVC or CVCC or CCVC or VCC or CCCVC etc. We have tried to provide examples for each one in the list above. If this is the structure of a single syllable, what can be maximum length of a syllable. How many consonants can it have at the beginning and how many at the end? Consonants can occur either singly or in groups before a vowel or after a vowel sound in a syllable. When there is more than one consonant, such groups of consonants are called 'consonant clusters'.

Think of the longest single syllable words you have and try and make a guess. How many consonants can we have at the beginning of a syllable, and how many at the end? (Remember we cannot have medial consonants.)

Your answer:

Look at the following syllables to understand the longest syllable we can possibly have in English.

Look at the word 'Spring'. This is a single syllable. We can transcribe it as/ sprɪŋ/. The structure of this syllable is CCCVC. There are three consonants at the beginning of the syllable followed by a vowel and a consonant.

Let us take a look at another word 'Texts'. This is also a single syllable word. We can transcribe it as /teksts/. The structure of this syllable is CVCCCC. There is a consonant before a vowel followed by four consonants at the end of the syllable.

Suppose we combine these two words to form a new (non-existent) word it may look like this: sprixts which can be transcribed as /spriksts/. The structure of this syllable will be CCCVCCCC. This is hypothetically the longest syllable we can have in English. You may think of more imaginary syllables like this,

The sounds /s/, /p/ and /r/ or /l/ can come together at the beginning of many words in English.

Task 4: Make a list of ten words in the space given below.

Your answer:

Task 5

Similarly, think of words that end with three or more consonants and list at least five of them in the space given below:

Your answer:

If you like to become familiar with the syllable and its structure, you may make a list of simple words you know, transcribe them with the help of a dictionary and write the structure of each syllable. Do this at a regular pace. This means, each day choose some twenty five words and transcribe them. This will help you become familiar both with symbols as well as syllables.

Task 6

Let us check our understanding so far. Say whether the following sentences are true or false.

i. We may not be able to pronounce all the syllables

ii. Syllables are parts of a word

iii. Syllables can have many consonants and vowels.

iv. Syllables are only meant for helping us with spellings.

v. Syllables have just one vowel.

vi. There is no restriction on where the consonant should occur.

vii. Consonants can occur either singly or in clusters.

viii. There can be syllables without consonants.

ix. There can be syllables without vowels.

x. Syllables are not useful part of learning a language.

(Look for answers at the end of this unit)

9.8 Structure of a Word

Having discussed syllables in some detail, let us now move on to discuss the structure of a word. You have come across several words in your life both in your language as well as in English. What is your understanding of a word? Can you write a brief definition in your own words?

Words are basic units of meaning and minimal units of grammatical analysis. They are made of one or more syllables. Depending on the number of syllables they have, they are divided into three groups as follows:

9.8.1 Monosyllabic words

Words that have just one syllable are called monosyllabic words ('mono' single or one; 'syllabic' with syllables). Most of the simple words you know are monosyllabic. e.g. pen, pin, cat, mat, hat, hen, tin, pray, sky, speak, say, tell, hear etc.

9.8.2 Disyllabic words

Words with two syllables are called disyllabic words ('di' two; and 'syllabic' with syllables). There are many common words that you are familiar with that belong to this group. e.g. pencil, cricket, party, mobile, content, import, hotel, cottage, village, student, teacher, classroom etc.

9.8.3 Polysyllabic words

Words with three or more than three syllables are called polysyllabic words ('poly' many; 'syllabic' with syllables). These are a large group and here are some examples: primary, examination, institution, university, conqueror, electricity, democracy, brilliant, futuristic, graduate etc.

Go to a dictionary and look for twenty five words from each category. Divide the disyllabic and polysyllabic words into syllables (as shown in the dictionary) and also transcribe them. In the transcription, underline each of the vowel sound that occurs in the words chosen.

What is the importance of syllables in a word? Do they affect the meaning or

pronunciation of the word? They do. In fact, the pronunciation of a word depends on the syllable in the word that receives the stress.

If a word has more than one syllable, only one of them is stressed. What does this mean. One of the syllables is uttered at a higher pitch (more loudly) than other syllable. For example take a word like 'pencil'. This word has two syllables. 'pen' and 'cil'. In this word the first syllable takes the stress and hence pronounced more loudly than the second. We may write the word like this PEN-cil. Consider both these syllables to be pronounced as La. So the word Pencil can be rewritten as La-La and pronounced as LA-la and not as la-LA (pen-CIL).

9.9 Summary

Let us summarise what we have said in the previous paragraph a little differently. Words take stress on a particular syllable. The stress on the right syllable determines how the word is pronounced. Obviously, there is only one correct or accepted way in which a word can be pronounced and this is determined by the number of syllables and the stress on a specific syllable.

How do we know which syllable is stressed? Once again, a dictionary is a helpful resource in knowing which syllable in a word is stressed. The dictionary provides the word (headword), its syllabification, grammar and pronunciation using IPA symbols along with meaning, use and illustration. The transcription also captures the syllables as they are divided and the stressed syllable is marked with a vertical stroke on the top of it as shown in the example alongside /'pen-sil/. (Please note: *stress on a word may differ in American English in comparison with standard British English. Therefore, we suggest, you refer to one of the two dictionaries we have suggested. These dictionaries provide both British and American variants of pronunciation. They also have a compact disc -CD which has the audio recording of the word in both variants.*)

Is dictionary the only source? Are there any rules that govern how a word needs to be pronounced?

These are very good questions. Dictionary is not the only source. You may listen to people who speak with proper accent, e.g. English newscasters on many of the national channels are fairly good. You could listen to discussions on the radio and television and perhaps listen to English on your You Tube. There are rules that govern how a word is stressed. We shall look at some rules that help you understand the principle of stress. Let us now concentrate on the concept of stress. We will do this in the next Unit (Unit 10).

Answers to true false statements:

i. F; ii. T; iii. F; iv. F; v. T;

vi. T; vii. T viii. T; ix. F x. F

9.10 Review Questions

1. What is the role of phonetics in language teaching?
2. How are these two terms different - Phonetics and Phonology?
3. What is the most characteristic feature of a syllable?
4. How does a dictionary enter a word to show the number of syllables?
5. How does one understand stress and how is it marked in a word?
6. What is a syllable?
7. What are the components of a syllable?
8. Can we have a syllable without a vowel sound?
9. How many syllables are there in a word?
10. When a word has more than one syllable, are both the syllables pronounced alike?
11. How do we teach stress in a word?
12. Based on the number of syllables, how are words classified?
13. What are some of the good sources for learning how a word is stressed?
14. Does the meaning of a word depend on the stress?
15. Does Bangla take stress on different syllables in a word?

Unit 10 ❑ Disyllabic and Polysyllabic words

10.1 Introduction

In the previous unit we have largely discussed three aspects. We have looked at the difference in the meaning of the terms Phonology and Phonetics. Phonology, which is language specific tells us how to speak a specific language. In understanding this, we looked at the definition and structure of a syllable. We helped you understand the concept of syllable and its structure with a large number of examples. Subsequently, we introduced you to the concept of stress as it occurs in English words. We illustrated this concept with a single example of how we pronounce the word /'pen-sil/. Now let us go ahead with a discussion of the concept of stress before moving on to words.

10.2 Objectives

At the end of this unit, the learners will be able to:

a. Understand the concept of stress in words.

b. Classify words as mono-syllabic, di-syllabic and poly-syllabic words

c. Understand the difference between structure and content words

d. Divide words into head words and their affixes

e. See the role of suffixes in understanding word stress.

10.3 What is stress?

Take a look at some short words in your language. Write them down on a piece

of paper. Count the number of letters in the word. Each letter is a syllable. Read the word aloud. Did you pronounce some letters in the word more loudly? All the letters are pronounced with the same amount of loudness or breath. It is not like /'pen-sil/. This is the basic difference between English and Bangla and many other Indian languages.

To understand stress, pick up a few words beginning with sounds /p/, /t/ and /k/. Is there anything common to these three sounds? Yes, they are all voiceless, plosives. They differ only in terms of their place of articulation - bilabial, alveolar and velar respectively. What words begin with these three sounds: pin, tin and kin. In all these three words, the initial sounds i.e. /p/ /t/ and /k/ are pronounced with aspiration. To help you understand this, recall the letters of alphabet in Hindi. These three sounds have two versions which are labelled *alpa-prana* and *maha-prana*. *Maha-prana* has a an additional breath force. This constitutes stress. In the three words given i.e. pin, tin, kin, pronounce the initial sound as maha-prana [p^hin], [t^hin], and [k^hin].

Practice doing this with every word that begins with the sounds mentioned above if they are short single syllable words. Make a list of such words and practice them with a friend or your brother, sister, neighbour or anyone who cooperates with you. This will help such pronunciation become a natural part of your speech.

There is something you should remember here, and this is very important. /p/, /t/ and /k/ are aspirated only when they occur at the beginning (initially) of a stressed syllable. For example look at the word 'paper'. This is transcribed as /'pei-p/. This word has two syllables. Both the syllables begin with /p/ sound. But the first syllable is stressed and hence only this /p/ is aspirated and not the second one. The pronunciation of this word will be [p^hei-p] with the first /p/ being aspirated. There are many words like this where the these sounds occur more than once in a word and pronounced differently. Look at some of these words and practice their pronunciation;

/p/	**/t/**	**/k/**
Paper	Tatter	Cricket
Puppet	Tattoo	Crocodile
Pulpit	Territorial	Cockroach
Precipitate	Tentative	Concordance
Principal	Tutorial	Conclave

Table 1: List of words where /p/, /t/ /k occur more than once.

Practice each of these words. If you have a problem, look up a dictionary and listen to how these words are pronounced using the CD-ROM and repeat to see if you can do it as well as recognise the stressed syllable.

It is easy to understand stress when the word has just one syllable. In case of two syllables, the problem is a little more complex in deciding whether the stress is on the first or the second syllable. This needs to be discovered using a dictionary and the rules that we have are not very helpful in deciding which of the two syllables need to be stressed. We will just give two rules which are to some extent accepted universally. But these also have exceptions.

10.4 Revision of Unit 9

Let us now have a quick revision of the previous module which talked about the production of different speech sounds and the air stream mechanism that facilitates the production of speech. Later we looked at the following points:

a. Syllable and its structure

b. Place or importance of vowel in a syllable

c. Words and their classification based on the number of syllables

d. Place of consonants in a syllable

e. A brief discussion on stress

f. One syllable alone takes stress in a word.

We will now continue our discussion on disyllabic and polysyllabic words, their structure and stress.

10.5 Structure Words and Content Words

Word is an important part of language structure. Without words, we cannot have communication. And each language has millions of words. I am sure you know that there are more words in your mother tongue than you know. You have been using these words in your language and other languages you know for a long time. Can you define a word?

Task 1

Try and write your understanding of a word in the space given below. Don't worry, there is no single correct answer, and there are no wrong answers to this question. So please try:

Here is how Oxford Advanced Learner's Dictionary defines 'word': 'a single unit of language which means something and can be either spoken or written.' Though this definition appears comprehensive, it is not really complete. Do we recognize words when we listen to someone speaking? Are we conscious of word boundaries when we speak? For both these questions, the answer is perhaps 'No'. Word is realised only in reading and writing because of the space that exists between each word. While speaking and listening these boundaries are lost. This is a little complex, and we will not discuss it now. (We will do it in your course on morphology.) We know for sure, a word is a unit of language. It has meaning. It has grammar. It can be recognized by native speakers/listeners of a language. It can be written using the accepted spelling, it can be used in a sentence etc. Words form a major bulk of language.

If we have millions of words, we will be quite confused to study them. So we need to find ways of classifying them. We have two broad categories into which words can be divided - structure words and content words. Structure words represent grammar and their meaning is not very important. Words like conjunctions, prepositions, articles etc belong to this category. They are finite in number and hence are called a closed set. This simply means, we cannot add a new conjunction or a preposition to the language.

The second category called the content words is a large group and is an open set. Words can be added to this category every day. Science, travel and tourism, entertainment, media and journalism have been adding words to this huge category. Think of words like television, multiplex, pizza, etc which did not exit a few decades ago. Now almost all of us know what these words mean. Words like nouns, adjectives, verbs and adverbs belong to this category.

Are there other ways of classifying the words (other than dividing them into parts of speech.) Perhaps yes. Can you think of something and let us know. Write your suggestions in the space given below. (Do not worry about being wrong. In fact, this question cannot have wrong answers.)

Now take a look at the words in the table and answer the questions below:

Management	Treatment	Procurement	Enhancement	Compartment
Nation	Examination	Prescription	Comprehension	Excursion
Biology	Heterology	Archaeology	Herpetology	Topology
Photograph	Photography	Geography	Spectrograph	Histography
Photographic	Photographical	Photographically	Geographic	Geographical

Helpless	Truthfulness	Helplessness	Goodness	Kindness
Cassette	Brunette	Omelette	Flannelette	Etiquette
Engineer	Career	Cricketeer	Mountaineer	Pioneer
Manager	Teacher	Fruiterer	Planter	Traveller
Artist	Dentist	Manicurist	Typist	Flutist
Gainful	Painful	Merciful	Handful	Insightful
Musician	Technician	Electrician	Academician	Utilitarian
Pious	Conscious	Porous	Decorous	Humongous
Activity	Productivity	Creativity	Temerity	Tenacity
Friendship	Fellowship	Comradeship	Horsemanship	Scholarship
Collate	Cognate	Irritate	Precipitate	Decimate
Active	Productive	Creative	Invasive	Extensive
Inward	Outward	Sideward	Downward	backward

Table 2: List of polysyllabic words.

Task 2

Question 1: How many categories of words do you find in this table?

Question 2: How did you arrive at the answer to question 1?

Question 3: Mention the criteria adopted for categorising these words.

Question 4: Add at least two more words to each category.

(you may use a dictionary to answer question 4)

This information is important for us to help us understand the concept of word stress and how polysyllabic words are stressed. We will come back to it after a while.

10.6 Stressed Syllables of Words

Stress on words is an important aspect of English speech. A wrong stress may confuse the listeners and lead to misunderstanding. When a word has just one syllable, there is no problem about the choice of syllable to stress. But when a word has two syllables, things become a little complex in choosing which of the two syllables to stress. (We know we can stress only one syllable in a word.) Let us look at some more details. Are there rules for this? Yes, but rules also have exceptions, and you need to be aware of them as well.

To begin with let us look at two syllable words that are stressed on the second

syllable. Generally, structure words are stressed on the second syllable. Please remember that this is not a rule but a broad generalisation. There are many content words with two syllables that are stressed on the second syllable. (e.g. Ho-TEL) (Structure words are those that have a grammatical function and meaning of these words is not important. Content words are words with meaning.) Look at the following list of words:

A-bout, a-cross, a-long, a-round, al-though,
Be-tween, be-yond, be-cause, be-hind, be-low,
Des-pite,
How-ever,
In fact, etc.

We have listed just a few words which can be classified as prepositions or conjunctions. Both these are finite sets (closed sets) and you may find a few more words. All the words in the given list are disyllabic and in none of the above examples, the first syllable is stressed.

There are some disyllabic words which are stressed on either the first syllable or the second syllable. Depending on which syllable is stressed, the meaning of the word and the grammatical category to which it belongs change. Look at some of the examples given.

CON-tent (noun) stress on the first syllable

con-TENT (verb) stress on the second syllable

IM-port (noun) EX-port

im-PORT (verb) ex-PORT

PRO-ject (noun)

pro-JECT (verb)

IN-ject (noun)

in-JECT (verb)

OB-ject (noun) SUB-ject

ob-JECT (verb) sub-JECT

You can add to such list of words, but once again they are limited in number. Often, we do make an error while pronouncing these words and use one for the other.

There are a host of disyllabic words other than what we have listed here. You know quite a few of them (as they are fairly frequently used words) and you can find out where to stress each word. You are already aware of this, and perhaps you are doing it right. Just verify and reconfirm you are part of those who speak good English.

Task 3

In the space given below make a list of twenty five (25) disyllabic content words and transcribe them. Using a dictionary find out which syllable is stressed. This exercise will help you with three things - transcription, syllabification and pronunciation. Here are a few words to get you starting. You may transcribe these first and then make your list.

Angle, able, baker, butter, cattle, current, decade, decide, eagle, earthy, father, feather, gather, goatee, hotel, halter, inter, include, jackal, juggle, kettle, kingdom, longer, leather, mother, matter, neither, neighbour, opera, opener, police, predict, quickly, quiver, rather, rougher, stronger, stammer, tatter, token, under, utter, vendor, Venice, water, weather, x-ray, xylem, yellow, younger, zero, zenith.

With this we come to polysyllabic words or words with three or more than three syllables. These form the largest group of words and most of them are content words - that is words that carry meaning and can be categorised as Nouns, Verbs, Adjectives or Adverbs. In order to know how these words are pronounced, or understand which of the syllables is stressed, we need to frame some rules and follow them. Recall the words that you saw in Table 2 given earlier and the four questions you answered. We will make use of that knowledge now.

Take a close look at the number of words you know in your language. Very often you use them properly. You are not very conscious of these words in terms of their grammar, pronunciation and spelling. But you are sure of their meaning and use. However, in English, you are more aware of their spelling, part of speech they belong to and their pronunciation. But often you are not aware of their meaning and use. Because you have this knowledge of English words, it is easy to classify them. (you may not able to do this in your mother tongue)

Earlier we have talked about the content words as an open set. By this we mean new words can be added to this group. (this has been mentioned with examples) In

the space given below, write five words from each of the four classes - Nouns, Adjectives, Verbs and Adverbs. Try and choose the lengthiest words that you know. You may use a dictionary for this.

10.7 Stress and Suffixes

Do the words you have written belong to one of the categories that you saw in the table given earlier? They should. Now we will provide an explanation for the classification. Each row in the table represents a category and these are based on how the words are spelt. In each row, you find that the words take a specific suffix or word ending. This is an important factor to decide the syllable that takes the stress. Here is a figure that helps you see all the suffixes used for the words listed in Table 2.

-ate; - age; -eer; -ette; -ful; -graph -ian; -ical/ically; -ious/ous; -ity; -ist; -ive; -less/ness; -logy; -ment; -ship; -sion/tion; -ward

Figure 1 A list of suffixes.

We will now look at one word from Table 2, find out the stressed syllable and also discuss a few terms to describe this in specific terms. The first word in the table is 'Management'.

This word is entered in a dictionary as: **man-age-ment**. From this it is clear that the word has three syllables. 'ment' is a suffix and the last syllable. 'age' is the one before the suffix or the penultimate syllable. This is represented as -1. 'man' is the second syllable before the suffix or the ante-penultimate syllable. This is represented as -2.

In this word the stress is on the first syllable. But while fixing stress, we always count the syllables from the end or the suffix. In that case 'man' becomes the ante-penultimate syllable or -2 or the second syllable from the suffix. Now look at other words that end with -ment. e.g. Predicament. This word has four syllables **pre-di-ca-ment**. As per the rules we have formed just now the stress should be on 'di'. Similarly, in the word bet-er-ment, the first syllable or the -2 gets stressed. You can look for more words and confirm the rule for yourself. There could be some exceptions and you will have to remember them.

Now let us go about systematically framing the rules for each suffix as given in Figure 1 and also provide you with some examples.

No.	Suffix	Examples	Rule
i.	-ate	Curate, mandate, pirate, desiccate, predate	All these words take stress on the syllable immediately preceding the suffix (-1)
ii	-age	Manage, heritage, leakage, drainage, advantage	The stress is on the syllable immediately preceding the suffix (-1)
iii	-eer	Engineer, mountaineer pioneer, cricketeer, career	This is also similar to the two suffixes illustrated before -ate and -age. The stress is on -1.
iv	-ette	Gazette, brunette, omelette, cassette, silhouette	The stress is on the suffix itself or the last syllable.
v	-ful	Helpful, grateful, thankful, merciful	The stress is on the ante-penultimate syllable or the second last from the suffix. (-2)
vi	-graph	Photograph, telegraph, spectrograph, sonograph	The stress is on the syllable immediately preceding the suffix. (-1)
vii	-ian	Musician, phonetician, academician, technician	The stress is on the syllable immediately preceding the suffix (-1)
viii	-ical -ically	Electric/electrically Physical/physically Cyclic/cyclically Intrinsic/Intrinsically	In the case of both these suffixes the stress is on -2. i.e. the second syllable from the suffix. e.g. /i-'lek-trI-kl/
ix	-ious -ous	Pious, generous, fictitious, dangerous	The stress in these words is on the last but second syllabus (-2.
x	-ity	Electricity, municipality, publicity, curiosity	The stress on these words is on the last but second syllable (-2).
xi	-ist	Activist, pessimist, pianist, terrorist, atheist	The stress on these words is on the last but second syllable (-2)
xii	-ive	Active, decisive, positive, creative	The stress is on the syllable immediately preceding the suffix (-1)

xiii	-less -ness	Goodness, greatness, helpless, penniless	The stress is on the syllable immediately preceding the suffix (-1)
xiv	-logy	Biology, phonology, topology, morphology,	The stress is on the syllable immediately preceding the suffix (-1)
xv	-man	Postman, watchman, policeman,	In these words, suffix -man is not stressed. The main word is stressed.
xvi	-ment	Betterment, agreement, improvement, tenement	The stress is on the syllable immediately preceding the suffix (-1)
xvii	-ship	Friendship, comradeship, fellowship, scholarship	The stress is on the syllable immediately preceding the suffix (-1)
xviii	-sion -tion	Tension, examination, nation, persuasion	The stress is on the syllable immediately preceding the suffix (-1)
xix	-ward	Inward, downward, backward, leeward	The stress is on the syllable immediately preceding the suffix (-1)

Table 3. A list of suffixes and the syllable that takes the stress in such words.

[**Please note:** This table is not really comprehensive in two senses. Some suffixes may not have been included here for reasons of their frequency. Secondly, the rule quoted here is the most accepted general rule. There could be exceptions. Besides these, the American English follows a different set of rules to stress words and you need to find this out from a dictionary.]

You now have a fairly good idea of the concept of stress and why it is important in speaking English. You have understood how words can be divided into several categories based on their spelling or the suffixes they take. Depending on this, it is possible to fix the stress on the word.

In the next unit, we shall look at some more aspects of stress and see how the concept of stress contributes to the development of fluency in speech. We shall also look at some different types of syllables without vowels.

10.8 Summary

Let us now recall the points discussed in this unit.

a. We began the unit with a very quick revision of Unit 9.

b. We reiterated the concept of stress.

c. We looked at the role of stress in disyllabic words.

d. We discussed the concept of structure and content words.

e. We looked at different ways of classifying polysyllabic words.

f. We made an inventory of suffixes and had examples of words for each one of them.

g. We looked at the stress rules for each of such words.

We will take the discussion further in the next unit.

10.9 Review Questions

1. What techniques can be used to help the students understand the concept of stress in words?
2. How is stress determined in di-syllabic and poly-syllabic words?
3. Do we have different stress rules for content and structure words?
4. What is the meaning of shifting stress? Can you give some examples
5. What is the most important source of confirming stress on a word?
6. What do you understand by the term 'stress' in phonetics?
7. Do all words take stress? Are there exceptions?
8. How do you help learners become familiar with the concept of stress?
9. How are disyllabic words stressed? Give some examples.
10. How do we divide words according to their functions and meaning?
11. Which group of words are larger in number?
12. How many syllables can a word have? How are words classified according to the number of syllables?
13. Does meaning have a role to play in terms of stress?
14. How are polysyllabic words categorised?
15. How many syllables in a polysyllabic word can be stressed?
16. How do we determine stressed syllable in polysyllabic words?

Unit 11 ❑ Vocoids and Contoids

11.1 Introduction

In the previous two units, you have learnt how words which are the most important components of language need to be pronounced in a specific manner. This depends on an aspect called stress, and we have provided adequate information on the concept of stress, syllable structure and the ways of determining stress in words. While discussing syllable structure we have emphasised the role played by the vowel sound. In this unit we will discuss the role of vowels and consonants and how these can vary to change the structure of a syllable.

11.2 Objectives

After going through this unit, the learners will be able to:

a. Understand further differences between the terms phonetics and phonology.

b. Describe the structure of a syllable and also emphasise the role of a vowel in it.

c. Identify the characteristic features of consonants and vowels and their relationship to orthography.

d. Perceive the possibility of having a syllable without a vowel sound.

e. Perceive the possibility of consonants taking up the role of vowels in a syllable.

11.3 Revision of Units 9 and 10

Units 9 and 10 had a focus on syllable structure word stress and classification of words into monosyllabic, disyllabic and polysyllabic words. Here is a quick summary of the units to help you connect with the present module.

a. Syllable is a basic unit of utterance.

b. Each syllable has only one vowel sound.

c. A syllable can have any number of consonants.

d. Consonants can occur either at the beginning or the end of a syllable.

e. We can have syllables without consonants, but not without a vowel.

f. We cannot have a syllable without a vowel sound.

g. /p/, /t/, and /k/ at the beginning of stressed syllables become aspirated.

h. Words with more than one syllable take stress only on one syllable.

i. Words with two syllables can take stress either on the first or the second syllable.

j. There are certain disyllabic words that change in their meaning and grammar when the stress shifts.

k. Polysyllabic words can be categorised on the suffix they carry with them.

l. Depending on the suffix, the syllable to be stressed is determined.

m. Good dictionaries are helpful in locating the stressed syllable and also practising pronunciation.

Check if any point that was discussed has been left out.

11.4 Phonetics and Phonology

At the beginning of Unit 9 we made an attempt to understand the difference between the two terms 'Phonetics' and 'Phonology'. Phonetics is universal and provides information on production and description of any speech sound in any language. It is highly discrete. This simply means that while describing one speech sound, it does not refer to any other speech sound. Phonetics uses a set of minimal pairs (pairs of words that differ in just one aspect) to establish phonemes in a language. Phonology, on the other hand discusses the functions of the speech sounds of a single language.

It tells us more about their behaviour. In other words, Phonetics is language universal whereas, phonology is language specific.

Phonetics and phonology are two distinct systems or separate fields of study. The study of phonetics has been made easy by introducing a new script called the International Phonetic Alphabet. This gives us a list of symbols for each sound, the human speech organs can produce. There are nearly 150 symbols and one may access them from the Internet.

We also know that no two languages are likely to have exactly the same set of speech sounds and the ways in which they combine. (we have looked at some examples earlier). In English we have 44 speech sounds that are divided into 20 vowel sounds and 24 consonant sounds. You have studied this in detail in Module 2.

Phonology is not distinct, but integrated. It shows us how sounds can change their quality depending on the environment they exist. This is because, speech sounds cannot exist in isolation. They need to combine to form syllables and words. The speech sounds cannot combine randomly. They need to follow a set of rules. For example when you form a syllable in English, if the first sound is /p/ voiceless, bilabial plosive, the second sound cannot be another plosive or a fricative. This combination may be possible in other languages. In unit 9 we have given you some rules as well as examples to show why some of the Indian speakers of English have problems while pronouncing words like spirit, school, etc.

Lastly, when syllables are formed, and they combine to form words, certain language like English take stress on specific syllables. A study to determine which syllable is stressed and provide a rationale is confined to the study of Phonology.

Task 1

Answer a few questions to see whether what is said is clear:

a. My language has thirty two sounds. I want to know how each one of them is produced. Which of these two studies help me? Phonetics/Phonology

b. I have problems pronouncing certain speech sounds in English? How can I overcome these?

c. I cannot pronounce certain words in English? What should I study to help myself?

d. My friend has problem with stress on words. He is not able to decide which syllable to stress. Often, he pronounces every syllable with equal force. How can I help him?

Let us now begin the discussion on the present module. Here is a simple task for all of you to do.

Task 2

In the space given below write about twenty five words that you are familiar with. Try and write down disyllabic or polysyllabic words. You may use a dictionary if you wish.

Here are a few questions to answer:

a. How many words were you able to write?

b. Can you identify the number of syllables in each word?

c. How did you do this?

Take a close look at the words once again.

Now try and answer these simple questions. The answers will help you understand the focus of this unit.

Task 3

a. How many letters are there in the English alphabet? (very simple)

b. Of these, how many letters are recognised as vowels?

c. How many consonant letters do we have?

d. Why are letters divided as vowels and consonants?

e. Which of these letters is more important and why?

f. Can you spell some words which do not have vowel letters in them?

g. Do you have vowels and consonants in your language?

h. How many vowels and consonants are there in Bangla?

i. Do vowels and consonants behave the same way in your language?

Answer as many questions as possible (the first three are compulsory). Check with someone in your neighbourhood and find out whether your answers are correct. (you may send your answers to us and we will give you the feedback).

11.5 Classification of the letters of the alphabet in English

In English, we have twenty six letter of the alphabet.(Please don't say 'English has twenty six alphabets'. This is not acceptable. Alphabet is a system and it has letters

specific to each language it represents and used for writing. e.g. Letters of the English alphabet, letters of the Bangla alphabet, letters of the Hindi alphabet etc. Also note, 'alphabet' is always singular, you cannot add 's' to it and make it a plural.) These letters are divided into twenty one consonants and five vowels. A, E, I, O, and U are the vowel letters and the rest are consonants. Vowels are an integral part of the English spelling system and they help in forming the words. Generally we cannot have a word spelt without the help of a vowel letter. How far is this true? Take a look at the words in Table 1 below and see if there is something wrong with them.

By	Cry	Crypt	Cyst
Dry	Fly	Fry	Gym
Gypsy	Hymn	Lynch	Lynx
My	Myth	Nymph	Pygmy
Rhythm	Shy	Sky	Stymy
Try	Tryst	Why	Wry Wryly

Table 1. Words spelt without the letters of alphabet

Did you notice that none of these words uses the vowel a, e, i, o, or u in its spelling? How is this possible? Just now we mentioned that vowel letters form an integral part in spelling the words. So these are exceptions.

So we have made a point. We can have some words in English which do not have vowel letters in their spelling.

If this is the case, can we have a syllable without a vowel sound? The answer to this question is 'yes'. But we can have just a few words like this, and not many.

We repeat, every syllable has a vowel. But there are a few syllables which are exceptional. Take a look at these words:

Kettle, Cattle: Button, Cotton: Bottom, Rhythm

We have taken just six words. Each one of these words has two syllables. Let us divide them into syllables:

/ke - tl/ /b tn/ /b tm/

/k -tl/ /k tn/ /ri m/

Take a look at the second syllable in each of these words. These syllables do not have a vowel in them. Still it is possible for us to pronounce them. You must have observed that these syllables end with the sounds /l/, /n/, or /m/.

These three sounds take up the role of vowels in these syllables. To indicate their special status, we place a dot below them while transcribing these words. These three sounds are pronounced as consonants, but acquire the function of a vowel only in specific environment as shown above. In such cases, we call these consonants **'syllabic consonants'** or **'vocoids'.**

Now let us go back to the table and look at one more aspect of the English letters of alphabet and their use in spelling. Take a second look at the words in Table 1. Most of the words have either the letter 'w' or 'y' in them. In the letters of the English alphabet, we recognize these two letters as semi-vowels. This simply means, that they have the potential to work as vowels when necessary. Or they can substitute for a vowel when it is absent. This should also happen when these sounds become part of a syllable. 'w' is transcribed as /w/ and 'y' is transcribed as /j/. They are both voiced sounds like all vowels. Further, they are produced without any obstruction to the air stream issuing out of the mouth. They are called **open approximants**. They have all the qualities of a vowel. Therefore, in the normal course they should work as vowels. Let us look at just two words where these sounds occur and see whether they behave as vowels. The words are:

'Why' and 'yes' transcribed as /waɪ/ and /jes/

Let us analyse these two words. We know both these words are monosyllabic or have just one syllable. A syllable cannot have more than one vowel. This is a well-known fact. In the first word we have a diphthong /aɪ/. This is a vowel by classification. Hence the other sound has to be a consonant. In other words, /w/ in 'why' does not behave like a vowel, but remains a consonant.

Similarly in the word 'yes' we have a pure vowel /e/ in the syllable. Again, going by its definition and structure, a syllable cannot have more than one vowel. Therefore, /j/ has to be a consonant though it is pronounced like a vowel.

Now we need to think of new words to describe these sounds /l/, /m/, /n/, /w/ and /j/.

11.6 Syllables without vowel sounds

/l/, /m/ and /n/ are normally consonants. But when they occur in certain syllables, they

assume the role of a vowel. They acquire the power of a vowel by giving the syllable the possibility of utterance. Hence these are called 'vocoids' or 'syllabic consonants'. If we retain the term vocoid, we will still be able to trace the structure of the syllable using letters C and V. /-tl/ in kettle or bottle can be described as CV.

11.7 Syllables without Consonant sounds

/w/ and /j/ are open approximants or sounds that are produced with the stricture of a vowel sound. However, when they occur in a syllable, they behave like consonants. Therefore, we use a term called **'contoids'** to describe them. The structure of the syllable /waɪ/ or /jes/ still remains CVC.

Let us take a quick look at the points we have discussed in this unit. As usual, we began with a revision of what was learnt in Units 9 and 10. We began the unit by discussing the two terms phonetics and phonology a little further. Phonetics is a language universal phenomenon whereas phonology is language specific. Phonology discusses the behaviour of phonemes while their description and production is taken care of by Phonetics. Discussion on syllable structure, therefore, rightly belongs to the domain of phonology.

We looked at the classification of the letters of the alphabet in English. We discovered that normally, it is not possible to have words spelt without taking help of vowel letters. However, there are exceptions to the rule, and we were able to look at a few words that do not have any vowels in them.

Then we looked at syllables without vowel sounds. In such syllables, /l/,/ m/ and / n/ behave like vowels and acquire the name vocoids or syllabic consonants. Similarly, /w/ and /j/ which are articulated like vowels behave like consonants in syllables. Therefore these are called contoids. Using terms like vocoids and contoids does not disturb our description of syllable structure using the letters C and V.

Answer the following questions to check your own understanding of the unit.

Task 4

Answer the following questions to check your own understanding of the unit. Say whether the following statements are true or false based on your understanding of the unit.

a. Letters of the alphabet are divided into consonants and vowels.

b. Vowel letters are very important and we cannot have a word without a vowel in its spelling.

c. The vowel letters and vowel sounds correspond with each other in English

d. Syllables always have a vowel in them.

e. /l/, /n/ and /m/ always behave like syllables.

f. /w/ and /j/ are actually vowels in English.

g. Contoid is another name for vowels in English.

h. Vocoids are actually consonants.

i. There are a few syllables in English without obvious vowel sounds.

j. We discuss the function of contoids and vocoids in phonetics.

11.8 Summary

In the next and concluding unit in this module we will take a closer look at stress and its function in conveying the meaning. We shall also broach on the topic of stress and its impact on continuous speech.

(answers: T, F, F, T, F, F, F, T, T, F)

11.9 Review Questions

1. How are the letters of the alphabet divided?
2. Do these categories play a role in the spelling system?
3. Do the vowel letters and the vowel sounds correspond with each other?
4. Is it possible to have words without vowel letters and syllables without vowel sounds?
5. Do the sounds /l/, /n/ and /m/ always behave like vowels?
6. Can we consider /w/ and /j/ as vowels in English?
7. Is Contoid another name for vowels in English?
8. What are Vocoids? How do they function in syllables?
9. Write at least ten words in English that do not use vowel letters, and transcribe them.
10. How is phonetics different from Phonology?
11. How do we distinguish between consonant and vowel sounds in a language?

12. Is there a one-to-one relation between the phonetic symbol and the letters of the alphabet in English?
13. What is the most important element in a syllable? Give some examples and mark the important element.
14. Can there be syllables without this important element mentioned in 'c'? If yes, how? Give some examples.
15. Can consonant sounds in some words act as vowels? What is the special name given to such consonants?

Unit 12 ❑ Stress and Meaning

12.1 Introduction

In the present unit on Stress and meaning, we will look at word stress in some more detail and show how meaning is closely associated with stress especially when it is in the context of a sentence. While discussing this, we shall look at some of the difficulties Indian speakers of English have in their spoken English.

12.2 Objectives

At the end of this unit the learners will be able to:

a. Understand further functions of stress in connected speech

b. Produce diphthongs in English appropriately and also describe them

c. Understand the placement of stress in compound words

d. Understand the terms lexical stress and prosodic stress

e. Appreciate the role of stress in teaching poetry lending to the rhythm

12.3 Revision of Previous Units

In the previous units we have looked at different aspects of words with respect to their pronunciation. We began the module with a quick revision of the contents of

the previous module which discussed speech production in detail. We had a recap of the forty four speech sounds that the English Language has and how these can get organized into syllables.

Syllable being a technical term we spent a while discussing its definition and also its structure. The most important feature of the syllable is the presence of a single vowel in each syllable. There are no such restrictions on consonant sounds either in terms of their position or number. When more than one consonant occurs in a syllable without an intervening vowel, such group of consonants are known as consonant clusters. There is a restriction on the order in which consonants can come together.

We moved on to the concept of stress and looked at monosyllabic words beginning with /p/, /t/ and /k/ which get aspirated in the initial position. These sounds get aspirated only when they are in the initial position of a stressed syllable. Stress is a unique concept to the English language. Words are formed either with one syllable, two syllables and three and more syllables. When a word has two or more syllables, only one syllable gets the stress, or is pronounced more loudly than the rest of the syllables. This can be acquired with practice.

We looked at a large number of disyllabic and polysyllabic words to determine the syllable that is stressed in each word. We provided some easy ways of determining this by helping you with the spelling system of English.

Subsequently, we made a distinction between the two terms 'phonetics' and 'phonology'. We mentioned that while phonetics is language universal, phonology is specific to one language. Each language can have its own phonology, but not phonetics. We discovered that while writing words using conventional spelling, we may have a few words without vowels. Similarly, it is possible to have syllables without vowel sounds. In such words there are certain consonants that take up the role of vowels. Such consonants are called 'vocoids'. Similarly, there are certain speech sounds that are open approximates like vowels. But they never behave like vowels when they occur in syllables. Such speech sounds are called 'contoids'.

12.4 Diphthongs of English

We shall begin with a quick revision of the vowel sounds in English. English language operates with 20 vowels which are divided into two groups. Can you mention how these are divided?

Your answer:

We have two groups of vowel sounds. The first group has a set of twelve vowels which are pure vowels and the second group has eight diphthongs or two vowels in combination functioning as a single vowel. These are also called glides for the tongue moves from one position towards the position of another vowel during their production.

Go back to unit 6 (Module 2) and revise your knowledge of vowels.

For the present we shall concentrate only on the diphthong sounds. Often these cause problems for our learners. We tend to lengthen the vowel instead of using a diphthong. Let us take some common examples.

Look at this word 'table'. This word has two syllables. The first syllable is often mispronounced by our learners. They lengthen the vowel /e/ instead of making it a diphthong /eɪ/. The word is pronounced as /teɪ-bl/ and not as [te:bl]. This is just one common example.

Here is a list of twenty five words. Each one of these uses a diphthong and in many parts of India, these diphthongs are replaced with lengthened vowel sound. Look up a dictionary and find out how each of these words is pronounced. Transcribe these words and practice their pronunciation.

Aid	Asia	Atheist	Bake	Boat
Bolt	Bowl	Cage	Coal	Coast
Caste	Day	Daily	Deity	Dough
Fade	Fold	Fuel	Gate	Glaze
Globe	Go	Grow	Haste	Home

Table 1: Words with diphthongs

These are just a few illustrations to point out the problems of pronunciation. You can find several other similar words. You may check on the pronunciation of your friends or ask one of them to check yours as the two of you interact with each other.

We should learn to pronounce diphthongs properly in words. This helps in clarity of speech, and occasionally, it can also avoid miscommunication. We would like you to pay special attention to words like 'bowl' and 'caste' which when mispronounced can cause some embarrassment. We are sure you will do this task.

12.5 Stress and Compound words

In the previous unit we also looked at some suffixes that determine the syllable to be

stressed in polysyllabic words. We did not look at compound words. Let us take a look at some compound words here before moving on to another aspect of stress.

Look at the words given in the table below:

One word	Without hyphen	Hyphenated
Cannot	Ice cream	Mass-produced
Fireworks	Real estate	Mother-in-law
Basketball	Post office	Merry-go-round
Grandmother	Attorney general	Well-known
Waterman	Head master	Three-day seminar
Grasshopper	Full moon	Twenty-six
Textbook	Paper bag	Self-restraint
Sometimes	Black bird	Single-minded
Moonlight	Middle class	Long-standing

Table 2. List of compound words

We have provided a list of thirty words. Each one is a compound word. These words are categorised into three columns. In the first column you have words that are formed by the coming together of two words. But both the words are written together without any space in between. In the second column you have words where the two words are always used together to suggest a noun - a thing, place, profession etc. In the last column you have two words that are brought together using a hyphen. When we have words like this, how do we pronounce them? Do we look for the syllable that takes the stress in each word, or do we stress one of the words?

Let us see if we can have some principle based on which we can decide this. Words in the first column are all pronounced on the first word or the very first syllable. So we have CANnot, FIREworks, BASketball, GRANdmother etc. These words should not cause any problem as far as their pronunciation is concerned.

In the second column, we have words where one of the words governs the meaning. Look at the word 'Ice cream'. Which of the two words do you think is more important. In this word, 'ice' is an adjective and 'cream' is the noun. You are interested in eating the cream (food) that has been cooled or chilled. The ruling word is 'cream' and hence it takes the stress. We pronounce it as 'ice CREAM'. Take one

more example 'post office'. Here the word 'post' refers to a specific function the office performs. There are many offices. Office is a common place. 'Post' (the service) is the specific function and hence it takes the stress. We pronounce this word as POST office. When you have words like this, try and analyse their meaning. Find out which of the words is more important or carries the meaning with it. Stress that word and you will not be wrong. When you are in doubt, you have your friend, the dictionary.

In the last column, we have words that are hyphenated. In these words, we once again go by the word that gives meaning to the word. Here is an example. 'mother-in-law'. Which of these three words is important. Obviously, 'mother'. A woman who is like a mother by marriage, for she is your spouse's mother. In this word we stress 'mother' and pronounce the word as 'MOTHER-in-law'. Let us look at one more example 'self-restraint' In this word, 'restraint' governs the meaning. The essential factor is to restrain (control) something. The control may be external or from within oneself. 'restraint' which is a verb carries the meaning of the word and is stressed on the appropriate syllable in the word. We pronounce this word as 'self-reSTRaint'

It is difficult to provide all the examples in a course like this. Language learning happens best when one learns on one's own. We have provided you with a source - the dictionary. Use it extensively, and you will stand to gain.

Task 2

Let us check our understanding of what is discussed so far.

a. How is a diphthong described? (one word answer if possible)

b. What problem do Indian speakers of English have with diphthongs?

c. Can you mention some words which are commonly mispronounced?

d. Transcribe the following words: serious, furious, curious, series. Underline the diphthongs used in each of these words (some words have more than one diphthong). Check how these are pronounced properly.

e. How are compound words stressed? Give some examples. (don't repeat the examples already given in the book).

f. How is the word 'dictionary' pronounced? Please check.

(Check the answers at the end of the unit.)

12.6 Lexical Stress and Prosodic Stress

Now we shall move into a new area. A syllable has one vowel, in a word only one

syllable is stressed, and in a sentence, it is one word that takes the stress or carries the meaning. Now we are talking of two types of stress. Let us make a distinction between these two and also see if we can identify them using different labels.

In a polysyllabic word, we stress only one syllable. This is confined to the word in isolation. Such stress is identified as **'Lexical Stress'** in linguistics. Whatever we have discussed so far, refers only to lexical stress. (Note: in a word more than one syllable can take stress. There are varying degrees of stress called primary stress, secondary stress, tertiary stress etc. But we will not discuss these here at present.)

When we utter a sentence in English, we do not utter all the words with same loudness. Some words are in fact, not heard. The words that are stressed are generally content words. Stressing the words in a sentence is called **'Prosodic Stress'**. This is because, the stressed words occur at regular intervals and lend to the rhythm of English Speech. (you will learn more about rhythm of English speech later in Unit15). We will look at some examples and analyse them to understand words that take stress in a sentence, and how the meaning of the sentence is affected because of this.

Here is a very popular illustration given by a linguist.

TAKE my **DOG** for a **WALK** in the **PARK**

This sentence has nine words. But only four words are stressed. Read this sentence aloud in such a manner that the time you take to move from Take to Dog and from Dog to Walk and from Walk to Park is the same. To make this simple, keep a beat (tal) and each time there is a beat you say either 'take' or 'dog' or 'walk' or 'park'.

Analyse the sentence further.

Take is a **verb**,

My is a pronoun

Dog is a **noun**

For is a preposition

A is an article

Walk is a **noun**

In is a preposition

The is an article

Park is a **noun**

Out of nine words, we have three nouns, and a verb. The rest are all structure words and do not take stress.

This sentence can be read in four different ways with emphasis on just one of the four words. Let us take a look at it quickly.

a. TAKE my dog for a walk in the park. (This is an order. Somebody is asked to take the dog for a walk, but not feed it or wash it.)

b. Take my DOG for a walk in the park. (Here the person speaking has more than one animal as a pet - perhaps a cat and a cow. It is only the dog that needs to be taken and not the cat or the cow.)

c. Take my dog for WALK in the park. (Here is speaker emphasises the fact that the dog needs to be walked. It should not be made to run or just sit idly in the park.)

d. Take my dog for a walk in the PARK. (Here the speaker wants the dog to be taken only to the park and not any other place, not to the sea shore or the river bank, but only to the park.)

This should make it clear to you, how stress is important in conveying the meaning the speaker intends. You will learn more about all this in the next module.

12.7 Summary

Let us stop here, with a quick revision of what is discussed here in this unit. We began the unit with a thorough revision of all the points made in the first three units of this module. Subsequently, we looked at the concept of diphthongs and their importance in pronouncing the words properly. We looked at some examples where Indian speakers often mispronounce the words. Having discussed this, we moved further and took a look at the stress in compound words with the help of several examples. We also saw the rationale for stressing a particular word in a compound word. Finally, we concluded the unit with a discussion on how word stress affects the meaning of a sentence and also lends to the rhythm of spoken English. With one illustration we saw why certain words are stressed in a sentence, and how the meaning of sentence varies with change in the stressed word.

The next module will take you to sentences and their behaviour. Stress is not confined to syllables and words, but extends to sentences as well. How is sentence stress realised in speech is what the next module focuses on.

12.8 Answers to the task on page

a. Glide

b. Use lengthened vowels instead of diphthongs.

c. (no specific answer)

d. /siri s/ /fjuri s/ /kjuri s/ /siri:s/

e. Based on the word that governs the meaning.

f. /'diknrɪ/

12.9 Review Questions

1. What are diphthongs? How are they important in English?
2. How are compound words stressed? Give examples.
3. How are hyphenated words different from unhyphenated words?
4. How does a stressed word add to the rhythm of a spoken sentence?
5. Does stress have a role to play in conveying the meaning?
6. How complex is the role of stress in words?
7. Does stress affect the meaning always?
8. What are some of the problems we have by using wrong stress?
9. How are words stressed in Bangla?
10. Does meaning play a role in deciding the stress on compound words?
11. How is a pure vowel different from a diphthong?
12. What role does word stress have on the meaning of a sentence?
13. What are some of the best sources of learning word stress?
14. Does stress have any role other than conveying meaning?
15. How is the tone of a sentence determined by word stress?

Module 4 : Supra-Segmental Features-2

Unit 13 ❑ Sentence Stress

13.1 Introduction

This unit is prepared to familiarise you with supra-segmental features of English language, with special emphasis on accent and stress. While structural phonology deals with the phonemic and phonetic structure of English language, supra-segmental features include accentual or stress pattern of words. In connected speech, sentence stress, accent, rhythm and intonation play an important role. In modern linguistics, speech is regarded as primary and writing secondary. Sentence stress is an important feature of spoken English. The unit concludes with a summary followed by review questions provided at the end.

13.2 Objectives

This unit introduces you to:

a) Analysis of syllables

b) Distinction between stressed and unstressed syllables

c) Stress rules governing connected speech

d) Intonation and its basic features

13.3 Syllable, Accent and Stress

We have learnt about syllables and their structure in Module 3. Let us quickly revise some of the important points. The phonological system comprises the segmental and supra-segmental systems. Supra-segmental features in phonetics and phonology refer to a vocal effect which extends over more than one sound segment in an utterance. Such features include stress, rhythm and intonation. The basic unit of pronunciation in a connected speech is the syllable. A syllable is a unit of pronunciation typically larger than a single sound or phoneme and smaller than a di-syllabic word. A monosyllabic word may be pronounced as a single independent unit of utterance, while in case of polysyllabic words, syllable divisions are audible. Syllabification is the term which refers to the division of a word into syllables and through this division the stress-pattern is marked in speech. From a phonetic viewpoint, syllable is defined on the basis of the articulatory effort required in order to produce them.

In English utterances, as R.H. Stetson (1892-1950) argued, each syllable corresponds to an increase in air pressure. The pulmonic egressive air-stream from the lungs is released as a series of chest pulses which can be felt and measured. In case of emphatic syllables, this increase in air-pressure is easy to detect.

Every syllable has one vowel sound, but when two vowels occur simultaneously, as in showing, both the syllables are uttered with a single muscular effort. If we try to define syllable in auditory terms, we can realise that in a string of sounds, some syllables are intrinsically more audible than others and the sonority is located in the centre of a syllable, i.e., the vowel sound.

Phonological analysis can reveal the ways sounds combine in English to produce connected speech. The syllabic structure of the words is represented by [V] and [C]. The basic structure of a syllable is [V] as in words like "I" or "a" and the structure may be one of the following: [CV] (to), [VC] (or), [CVC] (not), [CCVC] (spat), [CCCVCC] (string), [CCVCC] (thank), [CVCCC] (tenth), [CVCCCC] (tenths), [CCVCCCC] (twelfths). Syllable-division is marked with a hyphen. A consonant-vowel(CV) sequence is a common pattern and if a syllable ends with a vowel, it is called **'open syllable'**. When a syllable ends with a consonant, it is called **'closed syllable'**.

A CVC pattern is very common in English. The following terminology is used in

phonology: the opening segment of a syllable is called the **onset**; the closing segment of the syllable is called the **coda**; and the central segment of the syllable is called the **centre or nucleus**. Some exceptional syllables can also be identified, such as those where certain consonants occur alone to form the syllable. The last consonant sound in such syllables is called a syllabic consonant. In words such as "button" [bʌtn] and "bottle" [bɔtl], the last syllable formed without a vowel sound where/n/ or /l/ is a syllabic consonant. These rules of syllabification are essential for proper articulation and sentence stress. In prosodic morphology, the word is broken into syllables and stress rule is applied for pronunciation.

Several languages, like Sanskrit, Hindi or Bengali, are syllable timed and the syllables are said to occur at regular intervals of time. In such languages the vowel sound in the syllable receives the accent. English, on the other hand, is an accentual-syllabic language and the pronunciation depends on the accent or occurrence of the stressed syllable. In Britain, for example, the neutral accent associated with a public-school education, is called "Queen's English," or "BBC English," or "Received Pronunciation" (RP). In the spoken form, all the syllables in English language are not accented.

In any metrical composition there is a conscious patterning of accented and unaccented syllables. Accent is not solely a matter of loudness; it is also related to pitch and duration. Theory of stress covers the domain of syllable structure and phonological boundaries. Stress patterns in connected speech are related to both the word and the sentence stress. Metrical strength depends also on the weak and strong forms of the syllable or the word.

Stress pattern also changes according to the grammatical use of the word. For example, in a word like "water" there are two syllables /wɔ:-tə/. This di-syllabic word can be used in a sentence as both noun and verb. When the word is used as noun the accent is placed on the first syllable. Similarly, the word "record" used as noun and verb receives stress on different syllables: "I have made a Record" (noun); "I am going to record my lecture" (verb). An exception is the word "water". It is always stressed on the first syllable, noun or verb, since the second syllable contains the schwa that can never carry stress. In scansion, an accent is a mark placed above the prominent syllable or the core phoneme.

13.4 Stress and Connected Speech

As discussed above, stress is a term used in phonetics to refer to the degree of force used in producing a syllable. In the spoken form of the language, there is a notable

distinction between stressed and unstressed syllables. In case of stressed syllables there is more audible prominence, while in the unstressed syllables, there is a decreased loudness, pitch and length. Stress in connected speech may be equated with a notion of emphasis or strength attributed to the prominent syllables. In phonology, the main function of stress is to provide a means of distinguishing degrees of emphasis or contrast in sentences. Sentence stress is clearly audible. For example, in this sentence, stress is placed on the important words:

"My HEART leaps UP when I beHOLD a RAINbow in the SKY"

The degrees of stress, however, vary. In American English, the stressed syllables are easily identified because of the degree of stress given on the phonemes. Let us learn about the classification of these degrees of stress from strongest to weakest. The strongest stress is called primary stress; the next lower level of degree of stress is called secondary stress, followed by tertiary stress and weak stress. In British standard English / RP, the degrees of stress may be basically classified as stressed and unstressed, related to intonation and vowel quality. In phonology, the various degrees of stress are assigned to the syllables of words. Sentence stress is governed by stress rules. These stress rules may be categorised as lexical stress, stress based on compounding of words, and nuclear stress rules. In poetry or lyrical composition, the stress pattern may be governed by metrical rules.

Distinction is made between linguistic contrasts involving loudness. Syllables that are more audible and longer than other syllables in a sentence are called stressed syllables. Some of these stressed syllables additionally involve pitch or accent, determined by the frequency with which the vocal cords vibrate during the production of syllables. The higher is the degree of vibration of the vocal cords, higher would be the pitch associated with the syllable. Some argue that variations in pitch and loudness are matters of accent, not stress.

13.5 Sentence Stress

Stress pattern in a sentence is called sentence stress. English is a language that uses tone groups for connected speech. In English the stress-pattern is partly fixed and such fixed stress is referred to as accent. In English, we also find a free or movable stress or accent-pattern. (This is called shifting stress). In metrical compositions, stress-timed rhythm is based on fixed stress-rules as well as free stress shift. Usually in lyrical compositions, the stresses fall at roughly regular intervals in a line. Any line of a sonnet has ten syllables usually composed in a proper metrical pattern of five pairs of unstressed and stressed syllables. This pattern in prosody is called Iambic.

Similarly, the Trochaic pattern in poetry refers to the pairing of stressed and unstressed syllables. In metrical phonology, a stress-foot refers to a string containing a stressed syllable as its first element, followed by unstressed syllables. The most prominent element in the stress foot is called the head. Therefore, foot-division is made to mark the underlying metrical division.

In colloquial speech, language is spoken in such a way that a stressed syllable is more audible and the unstressed syllables are hardly audible. In connected speech, a sequence of syllables constituting a rhythmical unit, containing one primary stress, is known as a stress group. There are certain stress rules governing connected speech.

1. Words are classified into two broad groups: lexical category (typically nouns, verbs, adjectives and adverbs) and words of a functional, or grammatical, category (such as articles, conjunctions, prepositions and pronouns). Important words that contain independent meaning and function as nouns, verbs, adjectives and adverbs, usually receive stress, while the parts of speech that are functional and grammatically obligatory, such as pronouns, conjunctions, prepositions and interjections, used in sentences, receive no stress in connected speech.
2. The placement of primary stresses in English words is calculated by counting the syllables from the end of the word. The primary stress in a word falls on either the final syllable of the word, or on the penultimate syllable or on the antepenultimate syllable. Di-syllabic English words receive stress usually on the first syllable. However, some words that are used as both nouns and adjectives usually receive stress on the first syllable, while the same words used as verbs receive stress on the second syllable.
3. It is possible for English words to end with as many as four unstressed syllables, as in the word "GEN-tle-man-li-ness."However, English words do not begin with more than one unstressed syllable. We do not find any sequence of two or more unstressed syllables.
4. Stress shift is common in English language. For example, when we derive Japanese from Japan, the primary stress shifts from the final syllable of "Ja-PAN" onto the final syllable of "Ja-pa-NESE." We find a tendency to place the secondary stress on the syllable which had primary stress in the deriving word: "cha-RAC-ter" is changed to "cha-rac-TER-ize" and the primary stress shift in " 'cha-rac-te-ri-'ZA-tion." Similarly, primary accent shifts in the following words: "a-CA-de-my" - "a-ca-DE-mic" - "a-ca-de-MI-cian."

5. Two adjacent stressed syllables are to be avoided in connected speech. Thus, the word Japanese is not articulated as "Ja¸PA' NESE."There are, of course, exceptions in words that receive two accents, one secondary and one primary as in the following verbs: "¸RE'RUN" and "¸SPON'DEE."Even words functioning as nouns and adjectives may sometimes receive two stresses as in "Burmese"[¸BUR'MESE] and "Chinese" [¸CHI'NESE].
6. In most of the compound word in English RP, the primary accent falls on one of the two elements, usually on the first syllable, such as "'BOOK-shelf," " 'CROSS-word." However, there are compound words formed by "-ever" or "-self" in which the second element receives the primary accent, as in "how-'E-ver" or "her-'SELF."
7. T. Balasubramanian (1981: 137-141), has listed the following useful rules for word-accentual patterns in English:
   a) Words with weak prefixes take the accent on the root.
   b) Inflexional suffixes like -ed, -es, and -ing do not affect the accent.
   c) Derivational suffixes like -age, -ance, -er, -ess, -ful, -hood, -ice, -ish, -ive, -ly, -ness, -or, -ship, -ter, -ure, and -zen do not normally affect the accent.
   d) Words ending in -ion/ -ian take the primary accent on the penultimate syllable.
   e) Words ending in -ic, -ical, -ically, -ious, -ial, -ially take the primary accent on the syllable preceding the suffix.
   f) Words ending in -ity take the accent on the ante-penultimate syllable.

13.6 Isochronism and Stress-timed rhythm

Isochronism or stress-timed rhythm in phonetics is used to characterize the pronunciation in which the stressed syllables recur at regular intervals of time. Irrespective of the number of intervening unstressed syllables, there is, more or less, an equal-time-gap between two stressed syllables in connected speech. This characteristic is referred to as isochronism or isochrony. In connected speech some words receive more force and loudness and stand out from the rest. For example, in the following sentences the words that stand out from the rest are marked with a vertical bar [']:

i) 'Ro-sy and 'Rock-y are 'friends.

ii) I 'lost my 'pair of 'shoes.

iii) I 'want to 'buy a 'pair of 'scissors.

iv) 'Ma-ry, 'sing a song'.

In case of polysyllabic words used in connected speech, only that syllable of a polysyllabic word is made prominent which is prominent when the word is spoken in isolation, as in the following sentence:

'Ma-ry and 'Ro-sy have de-'ci-ded to 'vi-sit 'Lon-don.

Stress-timed rhythm is maintained in connected speech irrespective of the number of intervening unstressed syllables. In some cases, the choice of the syllable receiving the primary accent depends on the meaning the speaker wants to convey. In such cases the stress-timed rhythm is carefully calibrated with intonation, a feature of connected speech and sentence stress that we will learn in the next section.

13.7 Accent and Intonation

Intonation is a term used in the study of supra-segmental phonology. Intonation refers to the distinctive use of patterns of pitch, or melody. This study of intonation is called **intonology** and is applied to the study of sentence stress. There are several ways of analysing intonation. The basic components of intonology are the following:

a) Stressed and unstressed syllables

b) Primary and secondary accent

c) Pitch patterns of phonemes and morphemes

d) Tone units or tone groups and tonicity

e) Three variables of pitch range, height and direction.

In conversation, intonational phrasing is a structured hierarchy of the intonational constituents. In connected speech, an utterance-span is marked by tone-groups. Intonation performs the following functions in connected speech:

a) as a signal of grammatical structure, where it performs a role similar to punctuation in writing, the marking of sentence, clause and other boundaries,

b) as the contrast between some grammatical structures, such as, questions and statements,

c) as the marker of emotive communication.

The speakers of English inflect their speech, creating intonational contours. Intonation refers to the use of pitch variation in discourse. Pitch refers to the auditory impression created by variations in the rate of vibration of the vocal folds. Intonation refers to the use of pitch contours in connected speech which usually consist of more than one word. For example, in the sentence,'"Gita 'went to the 'doctor" there are three syllables with primary word stress. An additional pitch movement is placed on one of the primary-stressed syllables, 'DOC-tor. We can notice that this stressed syllable is more prominent than the other stressed syllables in the line. This syllable is longer in duration and louder than the other stressed syllables in the sentence. That syllable is said to be the tonic syllable. Tone can be initiated on any primary -stressed syllable. For example, in the sentences, It's 'green', What did you say?, there is primary stress on green and what.

13.8 Stress and Intonation

Intonation and stress are interrelated. Tonic syllable denotes the stressed syllable where the tone falls. There is an extra pitch movement placed on the tonic syllable. There are various types of tones:

a) **Falling tone:** the rate of vibration of the vocal folds decreases as the syllable is uttered, resulting in a transition from a higher to a lower pitch represented by the symbol ↗. This kind of tone is typical of declarative utterances, in which the speaker is making a statement.

b) **Rising tone:** the rate of vibration of the vocal folds increases as the syllable is uttered, resulting in a transition from a lower to a higher pitch represented by the symbol ↗. This kind of tone is used in yes/no questions.

c) **Rise-fall tone:** the rate of vibration of the vocal folds increases and then decreases as the syllable is uttered, resulting in a transition from a higher to a lower pitch represented by the symbol↗↘, as in the following dialogue:

   Wife: Have you been 'seeing ↗Gita?

   Husband:↗↘No!

   The use of rise-fall tones conveys certainty, exclamation, conviction or feeling. The husband confidently saying that he has not been seeing Gita, and the intonation conveys a complete denial of the charges brought upon him by his wife.

d) **Fall-rise tone:** the rate of vibration of the vocal folds decreases and then

increases as the syllable is uttered, resulting in a transition from a lower to a higher pitch represented by the symbol ↘↗, as in the following dialogue:

Wife: Have you been 'seeing ↗ Gita?

Husband:↘↗ No!

Here the pitch falls then rises to convey a sense of hesitation, lack of certainty or reservation on the part of the husband. He is less than clear and straight forward in his response. He is denying that he's been seeing Gita at least in the romantic sense.

Intonation phrase may be defined as a stretch of discourse which contains a tonic syllable. This is also called intonation group. These are also called breath groups as the utterance requires a single unit of pulmonic egressive air-stream. When we give a pause, separating the tone group, we draw breath. We do this at the end of a tone group. Further, it is common for English speakers to pause at the end of every such unit.

There are three main features of intonation: creating boundaries of tone groups; the placing of the tonic on one of the stressed syllables of that tone group; and the assignment of a specific tone on the tonic syllable. Usually, the tonic falls on the last lexical unit serving important function. In this sentence - "Rakesh ↘ gave it to her." - the pronouns "her" and "it" do not take the tonic and the penultimate preposition also fails to take the tonic. The tonic falls on "gave" that functions as verb. Intonation pattern refers to a sequence of pitch levels.

13.9 Summary

Through this discussion, the students are made familiar with sentence stress in spoken English RP. Stress, accent, rhythm and intonation constitute the supra-segmental features of English language. Accentual or stress pattern of words in connected speech along with rhythm and intonation play an important role.

13.10 Review Questions

Long Questions (270 words)

1. Write a note on the use of stress in English language.
2. What is intonation? Identify and explain different types of intonation in connected speech.
3. Write a note on the relationship between stress and intonation.
4. What are stress rules? Discuss with suitable examples.

Medium Length Questions (180 words)

5. What are the basic components of intonology?
6. Define rise-fall tone with suitable examples.
7. How does the addition of suffix change the stress in syllables of a word?
8. Define a syllable.
9. What are the components of a syllable?
10. Show various types of syllabic structure of English words.

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Unit 14 ❑ Supra-segmental Features

14.1 Introduction

In continuation to the previous unit, this unit will familiarise with supra-segmental features of English language, with special emphasis on accent and stress. While structural phonology deals with the phonemic and phonetic structure of English language, supra-segmental features include accentual or stress pattern of words. In connected speech, sentence stress, accent, rhythm and intonation play an important role. In modern linguistics, speech is regarded as primary and writing secondary. Sentence stress is an important feature of spoken English. The unit concludes with a summary followed by sample questions provided at the end along with list of recommended books.

14.2 Objectives

At the end of this unit, you will be able to:

a. Understand the role of supra-segmental features in pronunciation

b. Decipher the supra-segmental features as marked on an utterance

c. Understand different stress rules at the level of word and an utterance

d. Understand the role of stress in deciding the intonation patterns in utterances

e. Relate stress, pitch and rhythm as evidenced in intonation of an utterance

14.3 Supra-segmental features

The phonological system comprises the segmental and supra-segmental systems. In the spoken form of language, speech sounds or phonemes are part of larger construction. In speech these individual segments are not pronounced as individual units. These phonemes or segments that are studied under segmental phonology now become a part of larger constructions. Supra-segmental features refer to these distinctive elements that are added to the basic segmental features of phonemes. One such larger construction that phonemes can be combined together is the syllable, or the basic unit of supra-segmental features of language. Apart from the syllabic structure and the consonant clusters that contribute to the making of the syllable, some other supra-segmental features are also involved, such as stress, pitch, tone groups, intonation, rhythm, etc.

Supra-segmental features in phonetics and phonology refer to a vocal effect which extends over more than one sound segment in an utterance. The basic unit of pronunciation in connected speech is the syllable. A syllable is the smallest unit of pronunciation typically larger than a single sound or phoneme and smaller than a di-syllabic word. A monosyllabic word may be pronounced at a time, while in case of polysyllabic word syllable divisions are audible. Supra-segmental analysis involves syllabification, the process of division of a word into syllables as through this division the stress-pattern is marked in speech. From a phonetic viewpoint, syllable is defined on the basis of the articulatory effort needed in order to produce them. When we pronounce any word, we do not articulate the segmental phonemes independently. Rather, we break the word into syllables and produce these syllables independently, as in a word like "examination" the articulation is done by identifying the separate components, broken into five syllables, "ex-am-i-NA-tion." Furthermore, all the syllables of the word do not receive same emphasis or stress. In connected speech, more supra-segmental features are visible like intonation and rhythm.

14.4 Syllable

As stated above, when we use speech, we do not produce the segments of phonemes as individual items. One such combination of segments or phonemes is called a syllable. With our intuition, we can feel what a syllable is: we can say that "photo" has two syllables, "photograph" has three syllables, and "photography" has four syllables and so on. These syllables, one can easily observe are made up of different phonemes. Even the syllabic structure is different: "photo" has CV-CV structure, "photograph"

has CV-CV-CCVC structure. While the numbers of consonants in a syllable vary, there is only one vowel in a syllable. When we have a sequence of syllables in a word, some syllables are stronger and more audible than others, i.e., some syllables carry more breath force than the others. These are stressed syllables and require more muscular effort, are louder and longer than unstressed syllables.

In English the syllables differ in loudness and duration depending on the degree of stress they bear. If we try to define syllable in auditory terms, we can realise that in a string of sounds, some syllables are intrinsically more audible than others and the sonority is located in the centre of a syllable, i.e., the vowel sound. According to R.H. Stetson (1892-1950), each syllable corresponds to an increase in air pressure. In order to produce each syllable, a burst of muscular energy is involved. The pulmonic egressive air-stream from the lungs is released as a series of chest pulses which can be felt and measured. In case of emphatic syllables this increase in air-pressure is easily detectable. A syllable has one vowel sound, but when two vowels occur simultaneously, as in "water" two syllables are uttered with a single muscular effort. So the distinction on the basis of breath-release cannot be easily made.

Phonological analysis can reveal how the phonemes combine in English to produce connected speech. The syllabic structure of the words is represented by the following symbols:

[V] for vowels

[C] for consonants.

Every syllable has [V] at the core and this vowel is called the nucleus. These probable structures of syllables can be seen in the following words given in the table:

Words	Phonemic-structure	Syllabic-structure	Classification
I	/ai/	[V]	Open syllable
Eye	/ai/		
Oh!	/əu/		
Ah!	/a:/		
Be	/bi:/	[CV]	Open syllable
She	/ʃɪ:/		
So	/səu/		
Go	/gəu/		
Draw	/dr-ɔ:/	[CCV]	Open syllable
Grew	/gru:/		
Brow	/brau/		
Sleigh	/slei/		

Stray Spree Screw Scree Come Some Gone Boat	/strei/ /spri:/ /skru:/ /skri:/ /kʌm/ /sʌm/ /gɔn/ /bəut/	[CCCV] [CVC]	Open syllable Closed syllable
Am All Up And	/æm/ /ɔ:l/ /ʌp/ /ænd/	[VC]	Closed syllable
Spin State Plate School	/spin/ /steit/ /pleit/ /sku:l/	[CCVC]	Closed syllable
Scream Stream Screen Spleen	/skri:m/ /stri:m/ /skri:n/ /spli:n/	[CCCVC]	Closed syllable
Box Fox Band Bold	/bɔks/ /fɔks/ /bænd/ /bəuld/	[CVCC]	Closed syllable
Tempt Tents Bands Tenths	/tempt/ /tents/ /bændz/ /tenθs/	[CVCCC]	Closed syllable
Tempts Texts	/tempts/ /teksts/	[CVCCCC]	Closed syllable

A vowel in a syllable is its central element. It is called the nucleus of a syllable. A syllable which ends in a vowel is called an **open syllable**. A syllable that ends in a consonant is called a **closed syllable** - a feature sometimes referred to as a 'free' syllable. The consonant that begins a syllable is called the releasing consonant. The consonant that comes at the end of a syllable is called the arresting consonant. The sequence of consonants at the beginning or end of a syllable is called a consonant cluster. In case of certain words where we get a sequence of consonants in the middle belonging to two distinct syllables, the consonants are called abutting consonants. For example, in a word like "stranger" the syllable division /streind-ʤɔ/ shows a syllabic structure [CCCVCC-CV]. In the word "stranger," the /d/ is the arresting consonant of the first syllable and the /ʤ/ is the releasing consonant of the second syllable.

Syllable-division is marked with a hyphen. A consonant-vowel (CV) sequence is a common pattern and if a syllable ends with a vowel, it is called open syllable. When a syllable ends with a consonant, it is called closed syllable. A CVC pattern is very common in English. The following terminology is used in phonology: the opening segment of a syllable is called the onset; the closing segment of the syllable is called the coda; and the central segment of the syllable is called the centre or nucleus.

In most of the syllables, the central element is normally a vowel sound while the marginal elements are usually consonants. However, in some syllables the nucleus is a consonant, as in the following words:

Words	Phonemic-structure	Phonemic-structure	Syllabic-structure	Classification
Kettle	/ke-tl/	[CV-CC]	[CV-CV]	Open syllable-Syllabic consonant
Rattle	/ræ-tl/	[CV-CC]	[CV-CV]	
Little	/li-tl/	[CV-CC]	[CV-CV]	
Cattle	/kæ-tl/	[CV-CC]	[CV-CV]	
Mutton	/mʌ-tn/	[CV-CC]	[CV-CV]	
Cotton	/kə-tn/	[CV-CC]	[CV-CV]	
Sudden	/sʌ-dn/	[CV-CC]	[CV-CV]	
Ridden	/ri-dn/	[CV-CC]	[CV-CV]	

As you can observe, the second syllables of these words have two phonemes: the first is either a voiceless or a voiced alveolar plosive, while the second phoneme is an /n/ or an /l/. Furthermore, there is no sound in the second syllables that can be classified as vowel. Both the consonants are produced with a stricture of close approximation whereas vowels are produced with a stricture of open approximation. Here the consonants occupy the central positions of syllables. These are called syllabic consonants. While marking syllable structure, the last phoneme has to be marked [V]. English consonants /l/, /m/, /n/, /r/ can occupy the V positions in some syllables. Among the supra-segmental features, syllabification is an essential component for proper articulation and sentence stress.

14.5 Stress

Several Indian languages, like Sanskrit, Hindi or Bengali, are syllabic-timed and the syllables are said to occur at regular intervals of time. Almost equal emphasis is placed on the nucleus [V] of all the syllables. In these languages the nucleus [V]of the syllables receives stress. The pronunciation is timed according to the length of the syllables. English, on the other hand, is an accentual-syllabic language and the pronunciation depends on the stress-pattern of Received Pronunciation [RP]. However,

in their spoken form, all the syllables in English language are not stressed.

Stress is a term used in phonetics to refer to the degree of force used in producing a syllable. The stressed and unstressed syllables can easily be distinguished: the former being more prominent than the latter. In phonetic transcription the stressed syllable is marked with a raised vertical line ['']. In case of stressed syllables, the prominence is loud and more audible than in the unstressed syllables. The pitch and length of the syllable also contribute to the quality of stress. Stress in connected speech may be equated with a notion of emphasis or strength attributed to the prominent syllables.

In phonology, the main function of stress is to provide a means of distinguishing degrees of emphasis or contrast in sentences, also referred to as sentence stress. As all the syllables in a sentence do not receive equal amount of stress, a term, contrastive stress is often used in supra-segmental phonology to describe this process of identification of stresses syllables.

In Scansion, an accent is a mark placed above the prominent syllable or the core phoneme. Sentence stress is clearly audible. For example, in the following sentences, stress is placed on the emphatic syllables:

"A SLUMB-er did my SPI-rit SEAL"

"PUFFS, POW-der, PATCH-es, BI-ble, BI-llet DOUX"

In prosodic morphology the word is broken into syllables and stress rule is applied for pronunciation. In metrical composition too there is a conscious patterning of stressed and unstressed syllables. Stress is not solely a matter of loudness; it is also related to pitch and duration. Strength of the syllable also depends also on the weak and strong form of the syllable or word. Stress variation, both lexical stress or word stress, as in the contrast between the following sentences:

1. An increase of GDP is expected this year.

2. The boss is going to increase his pay.

In the first sentence, the word "increase" is used as a noun and the lexical stress is placed on the first syllable: /'iŋ-kri:s/. in the second sentence, the word "increase" is used as a verb and the lexical stress is placed on the second syllable /iŋ-'kri:s/. In the American Structuralist tradition, there are four such degrees of stress, analysed as stress phonemes, from strongest to weakest, namely, "primary," "secondary," "tertiary" and "weak." In English RP, the stress is classified as:

(a) primary stress denoted by the symbol ['']

(b) secondary stress denoted by the symbol [ˌ]

Word	Phonetic Transcription
Examination	/ɪg-ˌzæ-mɪ-'neɪ-ʃ(ə)n/
Comprehensible	/ˌkəm-prɪ-'hɛn-sɪ-b(ə)l/
Temperamental	/ˌtəm-p(ə)-rə-'mɛn-t(ə)l/
Sophistication	/sə-ˌfɪs-tɪ-ˌkeɪ-ʃ(ə)n/

Some analysts maintain that the distinction should be made on the basis of loudness which they refer to as "stress"; some maintain that the contrast should be made on the basis of pitch which they refer to as accent. Some languages have affixed stress or accent, e.g. Welsh; others, such as English, have a free or movable stress (accent).

14.6 Stress Rules

Distinction is made between linguistic contrasts involving loudness. As noted above, syllables that are more audible and longer than other syllables in a sentence are called stressed syllables. Some of these stressed syllables additionally involve pitch or accent. Although some argue that variations in pitch and loudness are matters of accent, not stress, because contrasts in pitch variation are normally involved. The various degrees of stress are assigned to the syllables of words by means of the repeated application of rules. These stress rules may be categorised as lexical stress, stress based on compounding of words, and nuclear stress rules. In poetry or lyrical composition, the stress pattern may be governed by metrical rules. Stress is governed by the following stress rules:

(a) "lexical" - stress rule based on the item and its grammatical function. However, some words that are used as both noun and adjectives usually receive stress on the first syllable, while the same words used as verbs receive stress on the second syllable.

(b) "compound" - stress rule based on the process of compound word-formation. In most of the compound word in English RP, the primary accent falls on one of the two elements, usually on the first syllable, such as "'BOOK-shelf," "ˌ 'CROSS-word." However, there are compound words formed by "-ever" or "-self" in which the second element receives the primary accent, as in "how-'E-ver" or "her-'SELF."

(c) "nuclear" - stress rule based on the nuclear word. Words are classified into

two broad groupings: lexical category (typically nouns, verbs, adjectives and adverbs) and words of a functional, or grammatical, category (such as articles, conjunctions, prepositions and pronouns). Important words that contain independent meaning and function as noun, verb, adjective and adverb, usually receive stress, while the parts of speech that are functional and grammatically obligatory, such as pronoun, conjunction, preposition and interjection, used in sentences, receive no stress in connected speech. The placement of primary stresses in English words is calculated by counting from the end of the word. The primary stress in a word falls on either the final syllable of the word, the penultimate syllable or the antepenultimate syllable. Di-syllabic English words receive stress usually on the first syllable.

(d) "metrical" - stress rule based on metre and rhythm in poetry or lyric. In metrical composition stress-timed rhythm is based on fixed stress-rules as well as free stress shift. Usually in lyrical compositions, the stresses fall at roughly regular intervals in a line. Any line of a sonnet has ten syllables usually composed in a proper metrical pattern of five pairs of unstressed and stressed syllables. This pattern in prosody is called Iambic. Similarly, the Trochaic pattern in poetry refers to the pairing of stressed and unstressed syllables. In metrical phonology a stress-foot refers to a string containing a stressed syllable as its first element, followed unstressed syllables. The most prominent element in the stress foot is called the head. Therefore, foot-division is made to mark the underlying metrical division.

14.7 Pitch, Assimilation and Elision

Pitch refers to the auditory impression created by variations in the rate of vibration of the vocal folds. According to T. Balasubramanian:

> During normal speech, in case of an adult male, the vocal cords vibrate between 80 and 120 times a second and between 150 and 200 times a second in case of an adult female. The rate at which the vocal cords vibrate is called the frequency of vibration and this determines the pitch of the voice. The more rapidly the vocal cords vibrate, the higher will be the pitch. (151)

[`] High fall - the pitch falls from very high to very low

[ˎ] Low fall - the pitch falls from mid to very low

[´] High rise - the pitch rises from very low to very high

[ˏ] Low rise - the pitch rises from low to mid

[ˏ] Low rise - the pitch rises from low to mid

[ˆ] Rise-fall - the pitch rises from low to about mid and then falls again to low

[ˇ] Fall-rise - the pitch falls from about mid to low and then rises to mid

It takes a considerable length of time to gain mastery over this supra-segmental aspect of spoken English.

Another supra-segmental feature of connected speech is that of assimilation. Speech is a connected utterance and not just a stringing together of discrete units or phonemes. A sound may be 'affected' by the preceding or succeeding sound of the connected utterance. The way by which such sounds in connected speech influence each other is called assimilation. Such assimilatory changes may be allophonic or phonemic. It is defined as a process of replacing sound A by sound B under the influence of sound C. For example, "horse shoe" is pronounced as /ɔʃ-ʃu/ by replacing /s/ of "horse" with /ʃ/ under the influence of /ʃ/ of "shoe." In a sentence too such changes can be seen: "Who is there?" is pronounced as /huzðeə/.

In order to maintain the characteristic rhythm of English, an unaccented syllable is pronounced very fast. This omission of sounds in connected speech is called elision in phonetics and phonology. Through elision, both consonants and vowels may be affected. Sometimes, whole syllables may be elided. Unstressed grammatical words used in weak forms are particularly prone to be elided, such as *and* and *of*. Even in connected speech elision is marked, such as the dropping of /f/ in "cup of tea"/kʌp-ə-ti:/. Similarly, complex consonant clusters are also often reduced through the process of elision:"twelfths" is pronounced as /twelθs/ or /twelfs/.In rhetorical terminology, an elision in word-initial position was known as aphaeresis or prosiopesis, ("he is" is pronounced as /hiz/); the elision in word-medial position is known as syncope ("cannot" as /kɑ:nt); and the shortening of word-final position is called apocope ("cup of tea" as /kʌp-ə-ti:/.

14.8 Summary

Through this discussion you are made familiar with various supra-segmental features of English language such as syllable, stress, stress-rules, intonation, pitch, assimilation and elision. The unit also discusses their use and patterns of occurrence in connected speech. There are a set of review questions to test your comprehension of the unit.

14.9 Review Questions

Long Questions (270 words)

1. What do you understand by supra-segmental features of English language? Identify and explain any one such feature.
2. What intonation? Identify and explain different types of intonation in English connected speech.
3. What is pitch? How are pitch and rhythm inter-related?
4. What is stress? What are the types of stress rules? Discuss with suitable examples.
5. How would you define a syllable? Show various types of syllabic structure with suitable examples.

Medium Length Questions (180 words)

1. What is assimilation?
2. Define elision with suitable examples.
3. What is stress-shift?
4. How does the affixation change the stress pattern in syllables of a word?
5. Give strong and weak forms of the following words: am, the, to, the, and, does.
6. Define open and closed syllable.
7. Show the syllabic structure of the following words: termination, kettle, nuisance, little, button.

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Unit 15 ❑ Rhythm in English

15.1 Introduction

This module is prepared to familiarise the students of Linguistics and English Language Teaching with rhythm, a supra-segmental feature of language based on accent, stress, phonetic structure, syllable-length, pitch and tonal pattern. As speech is regarded as primary and writing secondary in modern linguistics, analysis of conversational rhythm is an integral part of stylistics. These components that are related to rhythm are discussed in detail in this unit. The unit concludes with a summary and is followed by review questions provided at the end, along with a list of recommended books.

15.2 Objectives

At the end of this unit, the learners will be able to:

a. See the pattern of rhythm as it exists in English speech

b. Contrast the rhythm of English speech with the rhythm of mother tongue

c. Understand the role of rhythm in speech and poetry in English

d. Relate rhythm with metrical composition of poems and read a poem properly

e. Appreciate the terms Rhyme, Rhythm and Length as relational terms.

15.3 The Rhythm of English

The phonological system comprises the segmental and supra-segmental features. In the spoken form of language, speech sounds or phonemes are part of a larger construction. In speech these individual segments are not pronounced as individual units. These phonemes or segments that are studied under segmental phonology now become a part of larger constructions. Supra-segmental features are new distinctive elements that are added to the basic segmental features of phonemes. The supra-segmental features of English language include the following: stress, pitch, tone groups, intonation, and rhythm.

In phonology, rhythm refers "to the perceived regularity of prominent units in speech" (Crystal 417). According to Geoffrey Leech, "versification is a question of the interplay between two planes of structure: the ideally regular, quasi-mathematical pattern called METRE, and the actual rhythm the language insists on, sometimes called the PROSE RHYTHM" (103).The prominent stressed syllables recur in a regular pattern, and the rhythm depends on the pattern of stressed and unstressed syllables, long and short syllables and high pitch and low pitch. These variables are also combined in a rhythmic pattern for greater rhythmicality, as seen in lyrical poetry. These supra-segmental features like stress, syllable-length and pitch are arranged in a schematised pattern in spoken language and contribute to the rhythmic effect.

Rhythm is produced by the regularity of time-lapse between two stressed syllables and the emphatic sound of the stressed syllables. If we compare poetic composition to a musical composition, we can say that the utterances are divided into 'bars' or 'measures'. According to Geoffrey Leech:

> Stripped of all subtleties, conventional English metre is nothing more than rhythmic parallelism: a patterning of the succession of stressed and unstressed syllables with greater regularity than is necessary for spoken English in general. (111)

These patterns of rhythm achieved through rhythmic parallelism organize themselves into speech utterances, especially verse lines.

While in case of independent long polysyllabic words, there is an internal patterning of primary stress and secondary stress, in case of connected speech, the patterning of stressed syllables is more perceptible. According to Daniel Jones, "[t]here is a strong tendency in connected speech to make stressed syllables follow each other as far as possible at equal distances" (Jones 1922: 106). In one of the ways, rhythm is created when a syllable containing long vowel or diphthong is followed by unstressed syllables. There is more or less an equal time-gap between two stressed syllables in English

language as the language is isochronous.

The length of a vowel also depends on the rhythm of the sentence in connected speech. Most of the stressed syllables of a sentence follow each other as far as possible at equal distance of time and thus, English becomes an isochronous language. Daniel Jones cites the example of the series of numbers:"

eighteen, nineteen, twenty /ei-ti:n-nain-ti:n-twen-ti/

eight, nine, ten /eit-nain-ten/

The musical note of these two lines will appear thus:

(Jones 1922: 106)

The stress falls on the vowels and if we pronounce the line at a proper speed, we can see that there is an equal time-gap between the vowels. In these lines, however, the length of the same vowel varies. The diphthong /ai/ in nineteen is shorter than the /ai/ in the word nine in the second line. In order to represent the rhythmic structure some symbols used in writing musical notes are also used in linguistics, such as:

Symbol	English	American
	semibreve	Whole note
	minim	Half note
	crotchet	Quarter note
	Quaver	Eight note
	semiquaver	Sixteenth note

These symbols are used to denote the length of time between two consecutive stresses in musical notation.The rhythm of a line can be presented through the following note:

(Leech 106)

The length of the syllable and the length of time between the stressed syllables are determined by rhythm. Take for example the following sentence:

"I could not start immediately as I was not ready."

In this line, the long vowel /a:/ in the "start" takes more time than the long vowel /i:/ in "immediately." This elongation or shortening of the long vowels or diphthongs is due to the rhythm of the connected speech. The stress in an independent word is modified by rhythm in connected speech. Even in words with a single stress, rhythm may modify the stress in connected speech.

15.4 Rhythm in English Poetry

Usually in any verse composition, rhythm is an essential component. In poems, the words are articulated as connected speech. The articulated lines of poetry can be heard as a sequence of syllables. In words of two or more syllables, one syllable is almost always given more emphasis than the other. Metrical pattern in poetry works on the schematised patterning or alternation between accentuated syllables and weak syllables. Rhythm refers to that repetition into a regular phrasing across a line of verse. Rhythm in poetry is a patterned movement of pulses in time which is defined both by periodicity as it occurs at regular time intervals and repetition as the same pulses occur again and again.

Sri Aurobindo in his *Letters on Poetry, Literature and Art* has stated that "poetic effect" depends on "the magic of rhythm" (168). Phonological foregrounding becomes more effective and draws the attention of the audience to the rhymical pattern. Accent pattern can be effectively used to produce the desired rhythm.Through rhythmic parallelism, patterning of successive stressed and unstressed syllables, the poet can produce a desired rhythm. As stated above, English is a stress-timed language and there is almost an equal time-gap (isochronous) between two accented syllables in English language. According to Geffrey Leech, a line in poetic "language can be split into segments which are in some sense of equal duration…. although the rhythm of language is not isochronic in terms of crude physical measurement" (105).

15.5 Accent and Rhythm

Rhythm refers to the perceived regularity of accented units in speech. This rhythmic regularity is seen in the patterns of stressed and unstressed syllables, long and short syllables, and high or low pitch. In poetry such regular rhythmic patten is found specially in metrical compositions. In the context of rhythm studies, the notion of a stress-timed language is another important supra-segmental component. In case of English, the stresses fall at roughly regular intervals within an utterance. This phenomenon is called isochronism or stress-timed rhythm in phonetics.

Isochronism is used to characterize the pronunciation in which the stressed syllables recur at regular intervals of time. Irrespective of the number of intervening unstressed syllables, there is equal-time-gap between two stressed syllables in connected speech. This characteristic is referred to as isochronism or isochrony. In connected speech some words receive more force and loudness and stand out from the rest. For example, in the following sentences the words that stand out from the rest are marked with a vertical bar [']:

i) 'Ro-nny and 'Joh-ny are 'friends.

ii) I 'got my 'pair of 'spec-ta-cles.

iii) I 'want to 'go to the 'mar-ket.

iv) 'Ra-him, 'join me at the 'par-ty.

In case of polysyllabic words used in connected speech, only that syllable of a polysyllabic word is made prominent which is prominent when the word is spoken in isolation, as in the following sentence:

'Ma-ry and 'Ro-sy have de-'ci-ded to 'vi-sit 'Lon-don.

Stress-timed rhythm is maintained in connected speech irrespective of the number of intervening unstressed syllables. In some cases, the choice of the syllable receiving the primary accent depends on the meaning the speaker wants to convey. In such cases the stress-timed rhythm is carefully calibrated with intonation, a feature of connected speech and sentence stress that we will learn in the next section.

English rhythm is also characterized by another supra-segmental feature, i.e., the use of weak forms and strong forms in case of several words. These changes, in both qualitative and quantitative patterns, depend upon whether the words are accented or not. Whenever these words are pronounced in isolation and accented, the strong forms of these words are used. When these words are used in connected speech and remain unaccented, the weak forms of these words are used. Given below are the most common words used in weak and strong forms:

Words	Strong Form	Weak Form
A	/ei/	/ə/
An	/æn/	/ən/
The	/ði:/	/ði/ before a vowel /ðə/ before a consonant
Am	/æm/	/əm/, /m/
Are	/ɑ:/	/ə/
Can	/kæn/	/kən/

Could	/kud/	/kəd/
Does	/dʌz/	/dəz/, /z/, /s/
Do	/du:/	/du/, /də/
Had	/hæd/	/həd/, /əd/, /d/
Has	/hæz/	/həz/, /əz/, /z/, /s/
Have	/hæv/	/həv/, /əv/, /v/
Is	/iz/	/z/, /s/
Must	/mʌst/	/məst/, /məs/
Shall	/ʃæl/	/ʃel/, /ʃl/
Was	/wɔz/	/wʃz/
Were	/wə:/	/wə/
Will	/wil/	/l/
Would	/wud/	/əd/, /d/
At	/æt/	/ət/
To	/tu:/	/tu/ before a vowel /tə/ before a consonant
And	/ænd/	/ənd/, /nd/, /ən/
But	/bʌt/	/bət/

15.6 Metre

In phonology, the main function of stress is to provide a means of distinguishing degrees of emphasis or contrast in sentences, also referred to as sentence stress. As all the syllables in a sentence do not receive equal amount of stress, a term, contrastive stress is often used in supra-segmental phonology to describe this process of identification of stresses syllables. In Scansion, an accent is a mark placed above the prominent syllable or the core phoneme. Sentence stress is clearly audible. For example, in the following sentences, stress is placed on the emphatic syllables (shown in BLOCK letters):

"A SLUMB-er did my SPI-rit SEAL"

"PUFFS, POW-der, PATCH-es, BI-ble, BI-llet DOUX"

In prosodic morphology, the word is broken into syllables and stress rules are applied for pronunciation. In metrical composition too there is a conscious patterning of stressed and unstressed syllables. Stress is not solely a matter of loudness; it is also related to pitch and duration. Strength of the syllable also depends also on the weak and strong form of the syllable or word. Stress pattern also changes according to the grammatical use of the word. For example, in a word like "water" there are two

syllables /wɔ:-tə/. This di-syllabic word can be used in a sentence as both noun and verb. When the word is used as noun the accent is placed on the first syllable; when the same word is used as verb, -ed or -ing has to be added to the root.

15.7 Rhythm and Metrical Structure

Various degrees of stress are assigned to the syllables of words by means of the repeated application of rules. These stress rules may be categorised as lexical stress, stress based on compounding of words, and nuclear stress rules. In poetry or lyrical composition, the stress pattern may be governed by metrical rules. Stress is governed by the following rules:(a) "lexical" - stress rule based on the item and its grammatical function; (b)"compound" - stress rule based on the process of compound word-formation; (c) "nuclear" - stress rule based on the nuclear word; (d) "metrical" - stress rule based on metre and rhythm in poetry or lyric.

Words are classified into two broad groupings: lexical category (typically nouns, verbs, adjectives and adverbs) and words of a functional, or grammatical, category (such as articles, conjunctions, prepositions and pronouns). Important words that contain independent meaning and function as noun, verb, adjective and adverb, usually receive stress, while the parts of speech that are functional and grammatically obligatory, such as pronoun, conjunction, preposition and interjection, used in sentences, may receive contrastive stress and emphatic stress, as required in a context. The placement of primary stresses in English words is calculated by counting from the end of the word. The primary stress in a word falls on either the final syllable of the word, the penultimate syllable or the antepenultimate syllable. Di-syllabic English words receive stress usually on the first syllable.

Rhythm in poetry is based on metrical stress. In metrical composition, stress-timed rhythm is based on fixed stress-rules as well as free stress shift based on the metrical requirement. Usually in lyrical compositions, the stresses fall at roughly regular intervals in a line. Any line of a sonnet has ten syllables usually composed in a proper metrical pattern of five pairs of unstressed and stressed syllables. This pattern in prosody is called Iambic. Similarly, the Trochaic pattern in poetry refers to the pairing of stressed and unstressed syllables. In metrical phonology, a stress-foot refers to a string containing a stressed syllable as its first element, followed unstressed syllables. The most prominent element in the stress foot is called the head. Therefore, foot-division[|] is made to mark the underlying metrical division.

15.8 Rhythm, Rhyme and Length

In English verse we can often see an extensive sequence of unstressed syllables, while an optimal rhythmic structure has one strong syllable alternating with one weak syllable. Such optimal rhythmic structures are often referred to as **eurhythmic structures**. Foot structures with more than one weak syllable are less eurhythmic and less optimal.

Metre and stress are inter-related. The length of the syllables in a line, however, depends on the rhythmic pattern. The rhythm and rhyme are interrelated and constitute an important stylistic technique in poems. For example, take the following lines:

In the room the women come and go

Talking of Michelangelo.

In these lines of Eliot's poem, "The Love Song of J. Alfred Prufrock", the length of the vowels that form the nucleus of the syllables, vary according to the rhythm.

||in ðəru:m| ðəwi | -minkʌm| əngəu||

||tɔ:kiŋ| əvmai | -kəl-æn | -ʤi-ləu||

The rhymed vowels at the end, forming the couplet, are longer than the phonemes at the end of unrhymed lines in the poem. In some cases, the metrical pattern influences the rhythm. Let us see the metrical pattern of a few lines of Eliot's poem "Gerontion":

Hère I |àm, an |òldmàn | in a | drýmònth,

Bèing | read tò |by abòy,| wàiting| for raìn.

Ì was| nèither |àt the | hòtgàtes

Nor fòught | in the | warm ràìn

Nor knèe |dèep in | the salt |màrsh, heàv| ing a |cùtlass.

Bìtten| by flìes, |foùght.

Although the dominant metre of "Gerontion" approximates a trochaic pentameter, the lines contain several instances of spondees and occasional pyrrhics, thereby manipulating the tone and rhythm.While the metrical pattern approximates a trochaic meter, the lines are interspersed with spondees. There is also a variation of foot-type and number of feet per line. This gives the lines a rhythm reflective of conversational tone or "conversational rhythm."

The length of lines also contributes to the rhythm. Rhythm refers to the time-

based distribution of elements or units of language. In several poems we find lines composed in dimeter, trimeter, tetrameter, pentameter and hexameter. While reading the poems, the readers develop a rhythm of speech according to the line length. In case of irregular line-length in any stanza, the rhythm is disrupted or modified, as in the last lines of each stanza of Keats's ballad "La Belle Dame Sans Merci":

O what can ail thee, knight-at-arms,	/z/=a [Iambic tetrameter]
Alone and palely loitering?	/ŋ/=b [Iambic tetrameter]
The sedge has withered from the lake,	/k/=c [Iambic tetrameter]
And no birds sing.	/ŋ/=b[Iambic dimeter]

The first three lines of this passage approximate a tetrameter that allow the reader to fall into a fairly steady, conversational rhythm. When the reader reaches the fourth dimeter line, the short line breaks the rhythm, and there is a sense of abrupt ending. The emotional sterility and frozen desire are foregrounded through this rhythmic shift.

15.9 Summary

Through this discussion you are made familiar with the rhythm of English - an important supra-segmental feature of English language and in English poetry. Accent, stress and rhythm are closely related as are metrical structure and rhythm. The relationship between the length of line in poetry, rhyme scheme and prosodic feet has also been analysed.

15.10 Review Questions

Long Questions (270 words)

1. Write a note on the rhythm of English.
2. What are weak and strong forms of words? Give suitable examples.
3. What is metre? What is the relationship between rhyme and metre?
4. What is stress? How is stress related to rhythm? Discuss with suitable examples.
5. How would you define isochronism? Would you consider English rhythm influenced by isochronism?

Medium Length Questions (180 words)

1. How is the length of the nucleus of a syllable related to the rhythm?

2. Define rhyme.

8. What is Iambic foot?

9. How does the length of a syllable related to rhythm?

10. Give strong and weak forms of the following words: should, would, but, am, the, to, the, and, does.

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Unit 16 ❑ Strategies for Overcoming Speech Problems

16.1 Introduction

This unit covers an important aspect of Applied Linguistics and English Language Teaching that is related to strategies of overcoming speech problems. In modern linguistics, listening and speech are given more importance than reading and writing skills. Several problems of verbal communication have been identified in this unit. Speech problems include common pronunciation and voice problems.By understanding the origin and nature of these problems, some strategies for overcoming speech problems may be adopted. Such strategies for overcoming speech problems are discussed in detail in this unit.

16.2 Objectives

At the end of going through this unit, the learners will be able to:

a. Become aware of different types of speech problems learners may have

b. Diagnose the problems and find their causes

c. Help learners with speech problems to overcome the same

d. Device learning strategies for normal learners to learn without encountering problems.

16.3 Speech, Language and Listening

According to Dorit Sasson, "acquiring speaking proficiency is one of the hardest things for ELL [English language learner] students to achieve" (24). Production of speech and reception of speech make effective verbal communication a possibility. Student of ESL are more challenged than the learners of English as first language as they are taught to achieve higher competencies in reading and writing skills, often neglecting listening and speaking skills. Spoken language should be the main area of competence in the language curriculum. The ESL learners gain proficiency in interpersonal communication but they need to learn the academic and disciplinary language too and gain linguistic proficiency.

Auditory phonetics deals with listening skills, such as listening to speech sounds and speech perception. It is thus concerned with both segmental and supra-segmental aspects of speech. Proper recognition of the speech sound by the auditory organs is essential for effective listening. In English language learning sessions, dictation method is often used. Our ears are capable of registering audible sounds and proper reception of verbal sound is essential to follow classroom interaction. Usually, practical phonetic training is used as an essential foundation for proper reception of verbal sounds from the primary stage of language learning. Along with segmental features, emphasis is also placed on the supra-segmental features such as pitch, stress, intonation and rhythm. Students are made familiar with syllable division in order to learn the phonological structure of polysyllabic words. Morphophonemic changes are also there in English language, and in the spoken form English language does not always match with the alphabetic form of words.

Listening skill is carefully orchestrated with speaking skills. Articulatory phonetics deals with the production and use of speech sound for verbal communication and involves both segmental and supra-segmental phonology. In the production of speech sounds, the organs of speech located in the respiratory, phonatory and articulatory systems are involved. Along with such physiological factors that transform the aerodynamic energy of the pulmonic egressive air-stream into acoustic energy in the form of articulation, some neurological aspects are also involved. As sounds are produced by expelling air from the lungs, the distinctive phonemes are produced by the movement of the active articulators toward the passive articulators. Any physiological challenge in the production of speech sounds is overcome by effective phonetic training.

16.4 Identification of Speech and Listening Problems

The problems of teaching the pronunciation of any second language, such as English, involve both phonetic and phonological approaches. In order to identify problems in listening and speaking, it is important to consider the following factors: biological, socio-cultural, pedagogical, personality trait, and the role of the native language. Once the problems are identified keeping these factors in mind, it is easier to adopt strategies to overcome these problems.Teaching pronunciation to ESL learners is done primarily through pronunciation drills. Yet it becomes difficult for the learners, especially of higher age-groups, to eradicate all traces of the learner's native tongue. Thus, by considering the above-mentioned linguistic factors, the acquisition of the sound system of any second language can be made easier. Let us first identify the problems in speech arising out of different factors.

Language learning depends on biological factors such as the age of the learner. Languages are learnt differently by children and adult learners and linguistic competence depends on the maturation of the brain. While adult learners of English as a second language face difficulty in acquiring native-like pronunciation in English, the child learner has a better acquisition power and adaptability. However, the degree of pronunciation accuracy varies from individual to individual due to other factors as well. Certain socio-cultural factors determine the success-rate in achieving native-like pronunciation. It has been found that the more strongly the second language learners identify themselves with the culture of members of the second language, the more likely they are to learn proper pronunciation. In most cases, however, the learners seek to preserve their own linguistic and cultural identities. Any foreign accent is seen as a marker of foreign identity. Adult speakers of ESL rarely lose their native accent in order to preserve their socio-cultural identity. When native English accent is accepted positively by members of society in which the learners live, it becomes easier to acquire linguistic proficiency.

ESL teachers must be aware of the way in which these socio-cultural factors influence their students in order to identify the root cause of speech problems. In order to make their English more comprehensible, the students may be influenced by these socio-cultural factors. The learners of ESL may not be necessarily be interested in sounding like native-speakers of English. It is therefore important to set realistic goals in ESL class and adopt appropriate strategies for overcoming speech problems. The personality of the learner may also affect the acquisition of the sound system of a second language. Learners who are more extroverts, out-spoken, confident, and willing to learn the language with greater motivation acquire linguistic speaking skills

better than those for whom ESL is just a course of study. Some learners have more opportunities to practise their pronunciation of the second language while others may not have the opportunity to use English in daily life and interaction. The interference of the native language or mother tongue is another factor that determines proper acquisition of second language. Indian speakers of English are more familiar with the syllable-timed language that allows a stress pattern entirely different from a stress-timed language like English. All the syllables in English are not stressed and there is an equal time gap between stressed syllables in connected speech. Even Indian languages contain a larger inventory of sounds than English. The supra-segmental features, such as syllabic-structure, stress-pattern, intonation, pitch, etc., are also different. Identification of pronunciation errors of learners of English as a second language must take into account such linguistic features of the first language.

16.5 Common Pronunciation Problems

Among the common problems of speech and pronunciation, some are related to the sound system of the native language. This interference, impact or influence of the mother tongue or first language may give rise to the following problems:

a) Some difficulties an ESL learner encounters are speech sounds that are not part of the sound inventory of his/her native language (mother tongue). As the organs of speech and articulators are more attuned to produce the sounds of first language, the speaker may find it difficult to produce new sounds.

b) Some difficulties may arise because in connected speech there are certain rules to combine the phonemes into words and the words into speech. The rule of combination may vary from language to language. This rarely happens when the rules of combination are same in both the languages.

c) Some difficulties may arise due to differences in the supra-segmental features of two languages, such as stress-pattern, pitch, intonation, etc. these supra-segmental features contribute to the overall rhythm and melody of any language.The supra-segmental features of the native language may get transferred to English. This might affect the receptive and productive quality of speech sounds.

d) Some difficulties may arise due to the differences in the spelling system and pronunciation in English, a feature that may not be present in the local or first language. Students repeat a mispronounced word and any forced rectification may prove futile.

e) Some difficulties may arise when the words are heard through the sound system of the native language rather than through the actual sounds of English. A learner is able to hear the second language through a 'filter' of the sound system of the native language.

There are other types of problems in developing the language skill of speaking, particularly in the areas of fluency. Second-language acquisition does not usually depend on natural language use. The ELLs are more inclined to learn the language through formal instruction and try to imitate a native speaker of English. In most cases classroom instructional strategies help the learners to develop fluency and accuracy. Teachers may introduce accuracy-aimed activities to enhance fluency and accuracy in speech.

Other strategies may be adopted by the teacher to address speech problems. In CLT or Communicative Language Teaching most of these problems are addressed. One of the major obstacles and challenges that is related to Speaking skill is the identification of errors, error-analysis and error correction. Interactive sessions and activity-based learning may be encouraged for practice in conversation, elocution, group discussion or dialogues. Pair work may be encouraged and the students may be asked converse through role-playing. For, example, Student A may play the role of an interviewer and Student B may be asked to play the role of an interviewee. Interrogation sessions may be conducted and questions may be used to promote both fluency and accuracy in speech. Just a Minute (JAM), a language game, in which the participant is asked to speak in English on a given topic, without any pause, repetition of words, or using native language, for a minute, may be played for increasing fluency and accuracy. Students must be made aware of aspects of their pronunciation and given the opportunity to practice speaking in proper English. The learners should be encouraged to use English in everyday speech.

16.6 Common Voice Problems

Some speech problems are also related to other supra-segmental features of phonology like stress, pitch, loudness, intonation and rhythm. Common voice problems faced by ESL learners are related to pitch, intonation and voice modulation. The tempo and speed of speech is different than the native speaker of English. Professional voice users, such as news broadcasters, RJs, radio announcers and public speakers train themselves by overcoming these speech problems. In some cases, even the perfectly normal pronunciations in everyday speech undergo certain changes in media communication. In some cases when the speaker gets irritated or angry, some sounds

are left out. If proper voice modulation is not done, there may be lack of clarity of what is said.

16.7 Speech and Language Disorder

The following chart identifies and describes major speech and language disorder and offers some remedial strategies to overcome these problems:

Disorder	Description	How to Overcome the problem
Apraxia	Apraxia is a neurological speech disorder that affects a child's ability to plan, execute, and sequence the precise series of movements of the tongue, jaw, lips, and palate that are necessary for intelligible speech.	This requires frequent and intensive one-on-one therapy in order to make speech automatic under the guidance of speech-language pathologist (SLP). Language drills include a lot of repetition of sounds, starting with syllables and then progressing to words and sentences, to improve the muscle coordination and sequencing necessary for speech.
Articulation Disorders	Articulation disorder is related to trouble with the physical production of individual speech sounds that depends on movement of the tongue, lips, and teeth. A speaker attempts to make the correct sound but pronounces it incorrectly.	Speech therapy for articulation problems involves proper guidance to produce sounds correctly. Speech therapists help the speaker to approximate pronunciation of a word to the rectify pronunciation.
Auditory Processing Disorder	Auditory Processing Disorder (APD) refers to difficulty in listening and processing although the hearing faculty functions well. The problem includes receiving, analysing, organizing, storing, retrieving, and using information they hear. The brain is unable to process auditory information properly and APD impedes understanding speech and developing language.	**A** Speech Therapist works on modification of the listening environment to reduce noise and enhance sound, tries to develop listening abilities such as decoding speech and improving auditory memory. In order to overcome APD problem, these strategies help the learner to address language processing problem.

Dysarthria	Dysarthria, a neurological speech disorder, limits a learner's ability to use the muscles required for speech, such as lips, tongue, soft palate, larynx, and face. Due to oral-motor weakness, the speech is slurred or mumbled.	A speech-language pathologist works to strengthen the oral muscles. In severe case of speech intelligibly, an augmentative communication device may be required.
Dysfluency or Stuttering	Dysfluency or stuttering refers to a condition when the natural flow of speech is interrupted. Most of the speakers experience some degree of dysfluency as part of the normal developmental process of learning language, usually between two and five years of age. As children mature, they improve their communication skills. In some cases, muscles of lips, jaw, or neck become tense. There may be tremors of the lips, jaw, or tongue. Dysfluency increases in stressful situations.	For overcoming this problem, a speech therapist may adopt indirect and direct strategies. In indirect therapy, the focus is on teaching the parents appropriate ways of interacting with their child so as to minimize any stuttering. Parents and teachers are advised to speak at a slow pace, to wait a few seconds for the learner to speak and allow their child to finish speaking without interruption. In direct therapy, treatment focuses on teaching language through easier speaking styles.
Expressive Language Disorder or Receptive Language Disorder	This disorder manifests itself in either expressive or receptive language difficulties.	A speech pathologist adopts hands-on activities and practical word drills to create opportunities for the learner to listen and respond. An English teacher should design specific program to improve the skill of the learner.
Phonological Disorders	This phonological disorder is due to a child applying an incorrect rule of language. Students with this disorder are capable of pronouncing appropriate phonemes but they fail to fit the sounds together and unable to apply morphophonemic rules of proper articulation. They have a tendency to simplify words.	An ELT expert or speech therapist tries to make the learner aware of the correct phonological rules and uses oral drill to address the problem. him with these patterns. For example, the learner is offered minimal pairs of rhyming or chiming words, like "stock/block"

Semantic Pragmatic Language Disorder (SPD)	This is a language disorder usually related to communication difficulties of learners with Asperger syndrome and autism. It is also sometimes related to nonverbal learning disability, a neuro-psychological disorder associated with difficulty in reading nonverbal communication. Semantics is related to understanding the meaning of words, phrases, and sentences and Pragmatics is related to the practical use of words in speech in a social setting for effective communication. Some supra-segmental features like the use of stress, appropriate tone of voice, intonation, etc., are also included in this type of speech problem. The learner struggles with the meaning of language in a social context, face difficulty in understanding the literal meaning of words and sentences, abstract concepts, words about emotions, idioms, and humour.	The language teacher or speech therapist focuses on conversational skills by creating a realistic social situation for speech act. Sessions are moderated by the therapist to develop proficiency of using common vocabulary for ordinary conversation. Team work, pair-work, drama is used for helping the learners to read body language, interpret words and use words to express thought. among other crucial social skills.
Attention Deficit or Hyperactivity Disorder	Attention Deficit/Hyperactivity Disorder (ADHD) is a neurobiological disorder characterized by inattention, impulsivity, and hyperactivity. Speech problems are sometimes due to ADHD, such as poor auditory memory, lack of attention, logical sequencing of information, etc.	The learners with ADHD fail to attend to the appropriate information, interrupt others, speak out of turn, struggle with the rules of social language, and face difficulty telling a story. Proper attention may be given and task-based language learning may be devised for the students. Group task, group discussion and drama may be included in the practical sessions.

Autistic Spectrum Disorders	Autism, a developmental disability, a neurological disorder that affects the normal functioning of the brain. Learners face difficulties in social interaction, verbal and nonverbal communication, and role playing.	The problems in speech include delay in language processing, difficulty in understanding the meaning of words and using the words in speech with proper intonation. Other problems that are to be addressed include repetition of words, use of stock phrases, poor attention span, unresponsiveness, trouble with the rules of social language. In some cases, the learners are specially gifted with impressive vocabulary, fluency, articulation, but only in areas of their interest. Such problems are to be addressed on case-to-case basis by a trained speech therapist.
Cognitive and Intellectual Disabilities	Cognitive and intellectual disabilities include significant limitations in intellectual functioning and adaptive linguistic behaviour - the basic skill necessary for reception and expression of language.	As the learners take longer to learn to speak and have trouble speaking, face difficulty in remembering things or understanding of social rules, special care should be taken by the speech therapist and language teacher.
Down Syndrome	Down syndrome, a genetic disorder, involves a combination of physical, intellectual, and developmental delays and difficulties. There may be a moderate hearing loss, delay in speech, receptive skills more developed than expressive skills, inhibition, language deficits and may face difficulty being understood by others. The learner might speak in a distinct, often hoarse-sounding, voice, or even speak with a stutter.	A language teacher with proper training in special education or a qualified speech therapist is usually involved to address speech problems arising out of Down syndrome.

Bilingualism	Bilingualism refers to the use of two or more languages in speech through code-switching and code-mixing. Usually, learners in any multilingual society use bilingualism for verbal communication.	There is no evidence that hearing more than one language impedes speech and language development. In ELT classroom bilingualism should be avoided in order to reduce interference of other languages in learning process.

16.8 Summary

Through this discussion the students are made familiar with the definitions of speech, language and listening. The unit dealt with identification of speech and listening Problems faced by English Language Learners (ELL). The most common problem faced by the speakers is related to pronunciation. Other common voice problems have also been identified and discussed. English language Teaching for students with special need has also been covered. Major types of speech and language disorder have been identified, and some remedial strategies that are adopted by speech therapist have been discussed.

16.9 Sample Questions

Long Questions

1. Write a note on problems of listening and speaking face by learners of English as Second Language (ESL).
2. What is speech? Identify different features of connected speech.
3. Write a note the common problems in language processing and speech. Suggest some remedial strategies to overcome these problems.
4. What is voice problem? Suggest some strategies to overcome voice problems.
5. Identify five major types of speech and language disorder and suggest some remedial measures for students with special needs.

Medium Length Questions:

1. What are the basic components of speech?
2. Write a short note speech disorder.
3. What is stuttering?
4. Define voice disorders with suitable examples.

10. Can bilingualism affect the process of language learning and cause speech problems?

11. What is articulatory disorder? Suggest some remedial measures.

16.10 References and Recommended Text for Study

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