

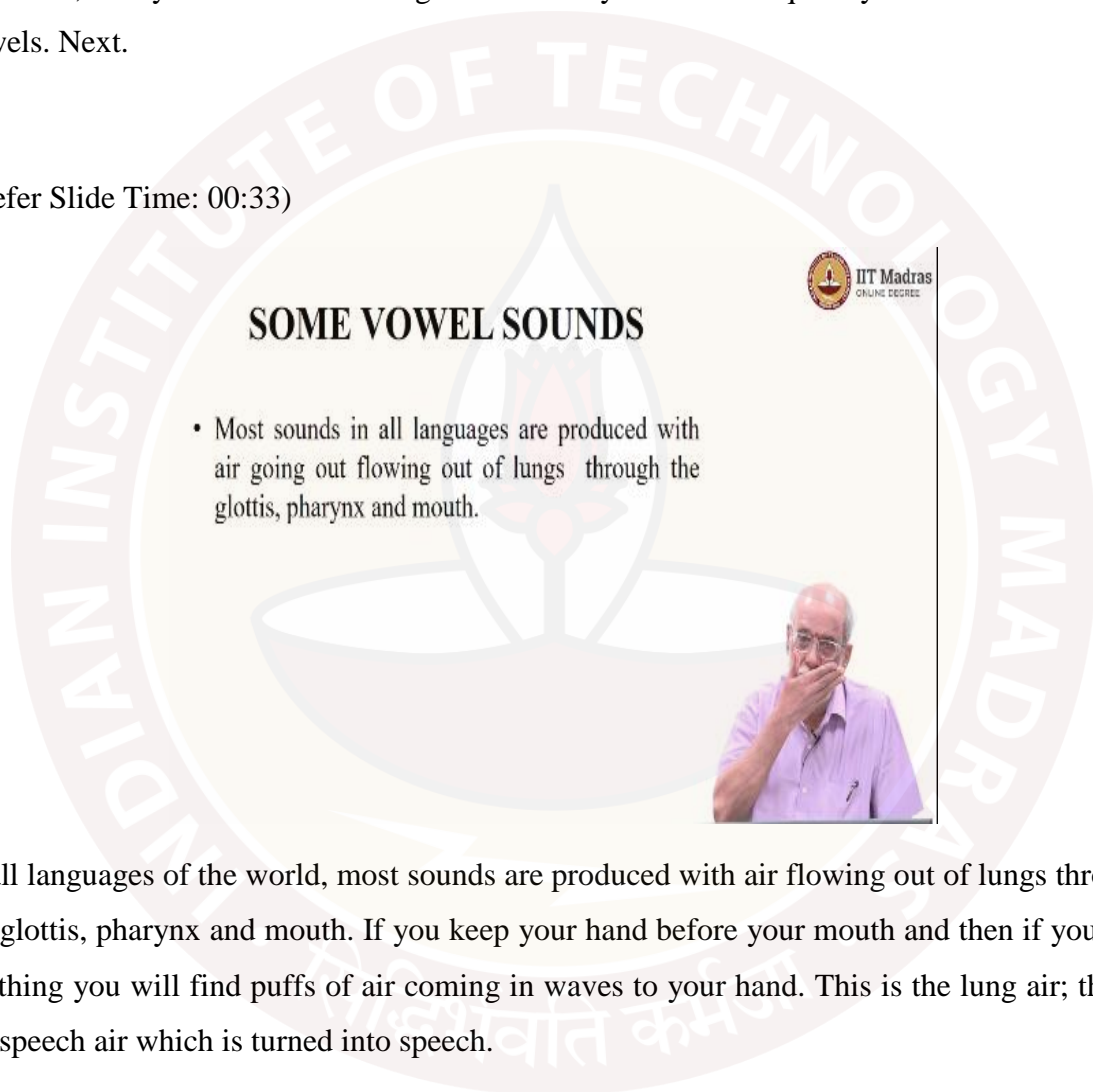


IIT Madras
ONLINE DEGREE

Basic English
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Indian Institute of Technology, Madras
Lecture – 41
Phonetics of English- Part 1

Welcome, today we will be talking about briefly and rather quickly about some English vowels. Next.

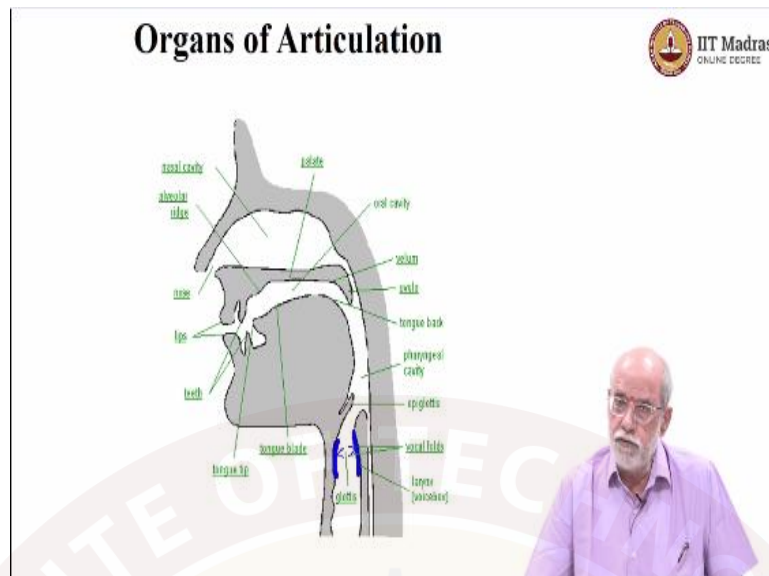
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The slide features a large, faint watermark of the Indian Institute of Technology Madras logo in the background. The title "SOME VOWEL SOUNDS" is centered at the top. Below it, a bullet point states: "• Most sounds in all languages are produced with air going out flowing out of lungs through the glottis, pharynx and mouth." In the bottom right corner, there is a small video inset showing Dr. Shreesh Chaudhary, who is wearing a light purple shirt and glasses, with his hand near his mouth. The IIT Madras logo is also visible in the top right corner of the slide.

In all languages of the world, most sounds are produced with air flowing out of lungs through the glottis, pharynx and mouth. If you keep your hand before your mouth and then if you talk anything you will find puffs of air coming in waves to your hand. This is the lung air; this is the speech air which is turned into speech.

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Basically, this is how speech is produced. These organs of articulation directly participate in the production of speech sounds. You can see the air rises from the lungs, comes to the glottis, crosses the glottis, enters the pharyngeal region, enters pharynx and from the pharynx, it can either take the left turn, go through the oral passage, go through mouth and go out or part of it can also take the right straight path get into the nasal passage and go out through the nose.

For the production of vowel sounds, nearly all speech air goes through the oral passage, but before that, when speech air comes to the glottis, one of the three things can happen in the glottis. Please pay attention it is very easy to understand if you pay attention otherwise you might miss upon a very crucial thing. So, you know, if you pay attention to this channel of speech production you might see that glottis is something like a box, a voice box as the level here says, and it has inside a membrane kind of stuff which is called vocal cord, some people call it vocal fold, and since they are more than one fold, so they are called vocal folds or vocal cords. You can read about them in books. The vocal cords within the glottis can be in one of the three positions. They can be either wide apart so that a speech air flows through them without impediment, without any obstruction.

In that case, there is no noise, there is no vibration, and you hear nothing, no voice is produced that is called the state of voicelessness. State A is the state of voicelessness. You know this is the state of the vocal cords when we whisper, when we say something in the ears of somebody else or when we speak without a voice when we whisper as I am whispering now. I am still producing all those sentences.

I am still telling you this is what we have to learn, but because I have kept my desiring so the vocal cords apart, speech air flows through the vocal cords in my glottis without producing any noise. This box is where inside there are the vocal cords, the vocal folds. So state A when vocal cords are wide apart when vocal folds are wide apart, and there is no noise, no voice as in whisper or in silence or state B they are tightly shut.

No air can go out, come through it, no air can cross the glottis, and no air can come inside the glottis from up above. Most of the time, when we eat, the glottis is tight shut. But some of us you know maybe in the habit of talking while eating, and then food particles get inside, and we choke and we cough. So you know glottis performs a very important function. So state B is when vocal folds, vocal cords inside a glottis are tightly shut, closed.

No air can either get in or cross through the vocal cords either way upward or downward. There is state C when vocal cords are loosely together. A lung air coming from lungs causes enough pressure for vocal cords to part, allow the air to pass, and then vocal cords return, come back to their old shape, and this movement causes vibration. The same thing can happen when speech air comes from mouth inside when you suck air.

Then you know speech air can get in. There again if vocal cords are loosely together, they are parted, producing vibration, producing noise. This is when voice is produced, or voiced sounds are produced. This is what we hear; without this vibration, we cannot hear one another from a distance. We will have to be very close to the speakers, almost our ears touching the speaker's mouth; only then can we understand the speaker.

So, voice helps us understand the speaker even at a distance. If you are interested, there are books on phonetics; you should look them up. We have given you a list in a book in the list of desired readings for this course. So speech air comes out, then comes to the pharynx. Nothing much happens in the pharynx then if all speech air comes through the oral passage, the uvula is raised so that no speech air can escape into the nasal passage.

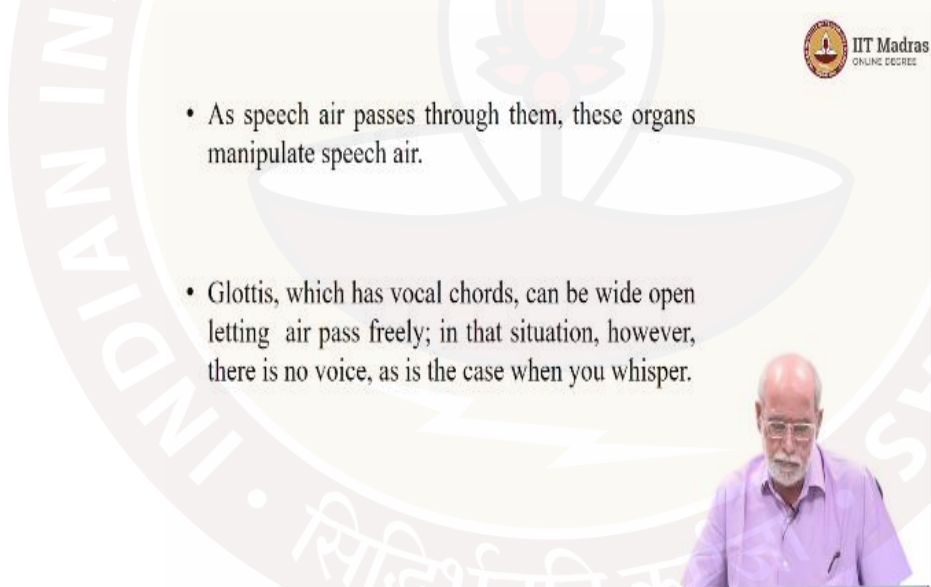
Then all speech air passes through the oral passage, and if it meets with no obstruction in the mouth in the oral passage and goes out, then that is the vowel sound. In other words, vowel sounds are those sounds which are voiced and produced without obstruction, without any obstruction in the mouth in the oral passage which means vowel sounds are not nasal sounds, vowel sounds are not obstructed sounds, and vowel sounds are not voiceless sounds.

This is important for us to remember that vowel sounds are oral sounds, sounds produced without obstruction and voiced sounds. The question then arises, how do we get different kinds of vowels, how do we get. We get these vowel sounds because the shape of mouth can change because of the distance between jaws, because of the changing shape of lips.

The lips can be round as in oo, they can spread as in e, or they can be neutral as in a. We can produce vowel sounds by slightly raising the back of the tongue towards the soft palate, and we can say aa, we can produce e or a by causing pressure upon the front of the tongue, upon the blade of the tongue spreading towards molar teeth. So, these are the few things a combination of which shape of lips opening between jaws and different parts of the tongue involved in the production of speech sounds which give us different kinds of vowels.


If you want to know more about them, please look up the books of phonetics we have suggested in the list of desired readings for this course.

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- As speech air passes through them, these organs manipulate speech air.
- Glottis, which has vocal chords, can be wide open letting air pass freely; in that situation, however, there is no voice, as is the case when you whisper.



So, as speech air passes through them this organ that is lips, jaws, and tongue to some extent manipulate a speech air without causing obstruction. Air still flows freely. Glottis which has vocal cords as I said, can be wide open letting air pass freely so that sound is silent sound, it is not a voiced sound.

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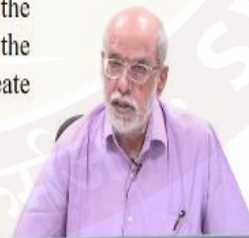
- Glottis may be tightly shut. Air cannot pass, and there can be no speech.
- Within Glottis, vocal chords can be loosely together. Air passing through the glottis can, then, vibrate these chords resulting into voice. If these chords do not vibrate, there can be no voice, and we cannot be heard, at least not easily.



But if glottis is tightly shut, what happens, no sound is produced and position C. State C, when vocal cords are loosely together then air passing through them causes vibration. That is the voice sound, that is the vowel sound.

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- Vowels are voiced sounds produced without any obstruction in the oral passage, in the mouth. This is how vowels are produced in all languages of the world.
- Though mouth does not create any obstruction in the production of vowel sounds, it can still manipulate their length and type by changing the shape of lips, opening of the jaws, and raising the tongue to different heights. All these things create various kinds of vowels in all languages.



If you want to know more about the mechanism of production of speech sounds which is at the same time a very complex and a very simple mechanism. All human beings we claim to have this faculty. They can speak without realizing that they are speaking, they can speak at will, God has given them an apparatus using which they can produce a variety of speech sounds unlike any other animal on the planet earth as we know of.

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- “Pill” and “pull” are different words because vowel in one is produced by stretching the blade or the front of the tongue towards the molar teeth, whereas in “pill” back of the tongue rises towards but does not touch the soft palate.
- In the production of one the lips are spread; in the other, they are rounded. In the production of “pit”, the jaws are very close to each other, though not closed; but in the production of “part”, jaws are far apart.



As I said pill and pull are different because both initial and final sounds are the same in both of them 'p l', but the vowels are different because in 'pill' we have lips in the neutral position, but in 'pull' lips are rounded. In 'pill' it is the front of the tongue which is involved in 'pull' it is the back of the tongue that is involved.

Similarly, take a word like 'pit' and another word like part. In-pit jaws are as close as they can get this pit hardly wide apart. But in part jaws are wide apart. You cannot produce aa without taking both your jaws far apart from each other. So these are some ways in which different vowel sounds are produced.

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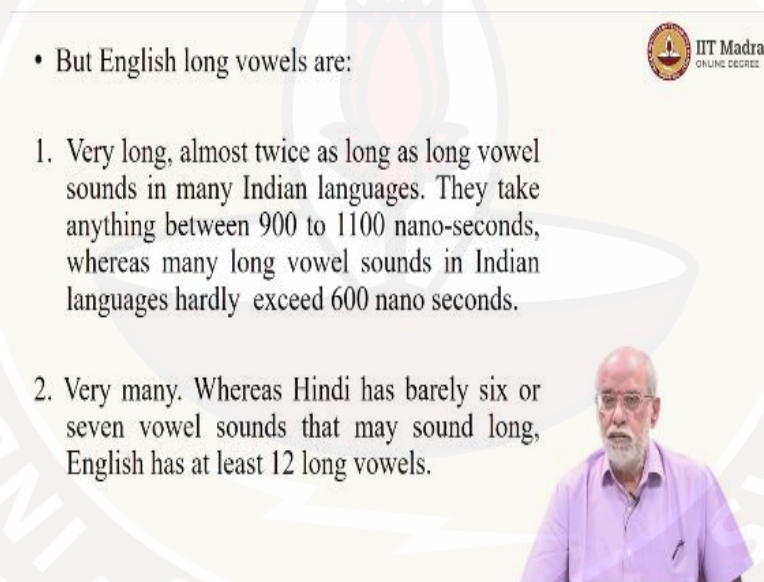
- English has more vowel sounds than many other languages. Standard British English has 20 vowel sounds. American English has one or two fewer.
- Like all other languages, English also has both long and short vowel sounds.



So far, whatever we have said is common to all languages of the world. Vowel sounds, all languages of vowel sounds and in all languages vowel sounds are produced that way. In English, there are some unique things, some different kinds of things. Number one, English has more vowel sounds than many other languages, than many Asian and African languages particularly.

The standard British English has 20 vowels, Hindi or Tamil have about 12, Hindi and Tamil have about 12 or 14, even American English has one or two fewer. Some people say American English has 18 or 19 but not 20. Both like other languages, English also has all standard varieties of English also have both long and short vowel sounds. i, which is short and ii, which is long, as in pill and as in feel. So they have English also has long and short vowel sounds.

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- But English long vowels are:
 1. Very long, almost twice as long as long vowel sounds in many Indian languages. They take anything between 900 to 1100 nano-seconds, whereas many long vowel sounds in Indian languages hardly exceed 600 nano seconds.
 2. Very many. Whereas Hindi has barely six or seven vowel sounds that may sound long, English has at least 12 long vowels.

But English long vowels, let us talk about English long vowels. English long vowels are very long, almost twice as long as the long vowels in many Indian languages. In many Indian languages, long vowels are about 600, 700 nanoseconds, but in English, they are between 900 and 1,100, sometimes even 1,200 nanoseconds long and there are some vowels in English called diphthongs which go even beyond, so long that they are almost like two vowels, one long and one short.

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3. Many long vowels in English make minimal pairs with short vowels. Look at the following lists of words made distinct from each other only by the length of the vowel



The third problem is, number one English has many long vowel sounds. Number two, English long vowels are very long, and three these long vowels make pairs of words with short vowels. Many pairs of a word not one, not two something like 300 pairs in everyday use, words like pill and peel, words like pull and pool, words like fill and feel, words like getting and gait, they are in everyday use. So, unless you learn to keep short vowel short and long vowel long you incur, you run the risk of being misunderstood.

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Short Vowel	Long Vowel
bit	beat
bet	bait
bell	bale
bid	bide
cell/sell	sale / sail
debt	date
did	deed
fill	feel
fit	feet
fell	fail
get	gate
hit	heat
let	late



Here is a list. Do the practice. On my left-hand column, we have words with short vowels so a bit. On the right hand, we have words with a long vowel the very long. You cannot make them long enough, do them as long as you like you cannot say beat, so it is bit and beat. Many speakers of English, particularly in Asian and African countries, do not keep the length

distinction clearly apart. They just say bit and beat. It is not bit and beat. It is a bit very short but beat very long. Bet and bait, bell and bale, bid and bide, sell and sail. Do the practice like this.

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ACTIVITY



1. By contrasting long and short vowels in the manner given above, add to this list and learn to pronounce long vowels as quite long, much longer than you perhaps do just now, and short vowels as quite short, much shorter than perhaps you do just now.



By contrast, you can do this activity to get the length right, unless you already do them correctly. If you do them correctly, do not bother, because you know length distinction is more important than any other aspect of the production of vowel sounds. British or American ways of producing vowel sounds are not in length. Length distinction is extremely important for us to be understood in English worldwide.

How can you do it by contrasting long and short vowels in the manner I told you just now. You can also add to this list, make a list, your own list actually using the book I have suggested, better spoken English book or using a dictionary and I have suggested other books. So make your own list of words that are frequently used, that you hear very often and that tends to be mispronounced that do not give length distinction clearly enough.

And then you can do the drill, say in turn short first, long next, short next, long after that with easy. Do not be in a hurry, do not do too many words the same day, maybe do twice a day, 10 minutes morning, 10 minutes in the evening, and you will find that you are getting the appropriate, the right length distinction among these words.

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- Some English vowels are so long that the time they take equals almost to the production of two vowels, a long and a short one. Vowels of this kind are called “**Diphthongs**”, that is two bursts of voice vowels, or extra-long (XL) vowels.



I told you already some English vowels are so long that they give you the impression of being extra long XL. Again the same way like gait that is ait. Many of us pronounce boat as a boat, but it is actually a boat, it is two vowels long and short. So, it is gate. It is not gate; it is gate. Pretty easier, you can see some examples.

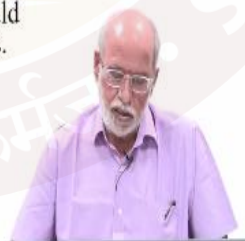
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- We have diphthongs in English words like

“bite”, “bout”, “boat”, “bait”, etc.

- It may be a good idea to learn to pronounce diphthongs as diphthongs. All English dictionaries show the pronunciation of words, and by merely looking at them you can come to know which vowels can be rendered as diphthongs. But even if you cannot render them as very long, you should produce them at least as words with long vowels.

Look at the following words:

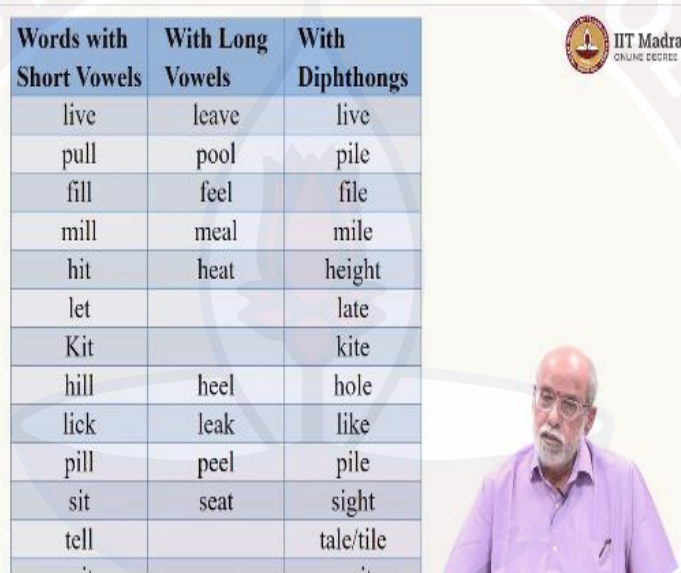


So, for example, bite it is two vowels there, bout again two vowels there, boat again two vowels there, bait again two vowels there. So, it is the length of the vowel sound that distinguishes between one and another of these words, and it is therefore very important for us that we get the length distinction right in learning to speak in Standard English. Now all dictionaries show the pronunciation of words.

And by merely looking at them, all dictionaries also tell you how to read pronunciation they have a phonetic alphabet which is very easy to learn. So we are not spending any time here. Many symbols these dictionaries use are already known to you. There may be one or two which may be new, but with the examples given there, you might learn them in no time. So, whenever you are in doubt whether this is the long or a short vowel.

Whether it is a back vowel or a front vowel, look up the dictionary, and you will know, but cultivate more importantly than any other feature of English vowels, acquire the length distinction that is notorious for causing miscommunication in English.

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Words with Short Vowels	With Long Vowels	With Diphthongs
live	leave	live
pull	pool	pile
fill	feel	file
mill	meal	mile
hit	heat	height
let		late
Kit		kite
hill	heel	hole
lick	leak	like
pill	peel	pile
sit	seat	sight
tell		tale/tile

Look at the following words for the practice you have a short vowel, long vowel and very long vowels. So you have live, leave and live. You have pull, pool and pile. Fill, feel and file. You know it goes on, you can do the practice leisurely, pleasurely and acquire and once you do with them as I have said many times in earlier units, getting these words right will help you get all other words right which follows this pattern. So, it is time well invested, invest your time in this kind of drill.

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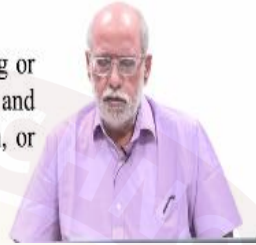
ACTIVITY



2. You can create similar lists from your memory, or with the help of your dictionary.

Take all the short, long and extra-long vowels, or diphthongs, as they are called, and read them aloud, at a slow tempo, giving yourself time.

You will find that every time you produce a long or an extra-long vowel your tongue becomes stiff and more stiff, or it spreads towards the molar teeth, or tends to rise towards soft or hard palate.



It is important that you create your own lists, list of words you hear frequently on this pattern and which tend to be mispronounced then you know in turn slowly and easily taking pauses between words. Do not say fill, feel, file that is not the way. You should say fill, feel file. Take a comfortable pause between two words, and that way, the drill will be meaningful; otherwise, it might only be a charade.

You might spend time without learning anything. So, in this manner, you will find that every time you produce a long or an extra-long vowel, your tongue becomes stiff and more stiff or it spreads towards the molar teeth or tends to rise towards soft or hard palate, towards depending upon which vowel you use may be soft or hard. Once again, it is the practice, the drill that is the trick.

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Short vowels are produced mostly with tongue in the neutral position. Practice in this manner may help you acquire a standard, globally intelligible accent of English.



Short vowels are produced with tongue in the neutral position that should not be a problem though some people tend to make it a little longer, the trick here is a short vowel is very short under 100 nanoseconds, no way more than 200 nanoseconds. So you know in a word like a bout 'a' is hardly heard, away 'a' is hardly heard, so you know keep them short.

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3. Lists of frequently used words contrasting long and short vowels are also given on **page nos. 172-185 of *Better Spoken English***. You can do the pronunciation drill with this book, and acquire standard English pronunciation within a few weeks.



In the Better Spoken English book after listening to students, senior undergraduate students at the Indian Institute of Technology Madras have compiled a list of frequently used but mispronounced words they are given on page number 172, between 172 and 185 of this book

and quite often I have found that other students have also profited from doing these drills. In the end, you can also make your own list of words.

And do the practice, do the drill the way I have advised. Once again, the mantra, the clue, the trick is that speaking is a skill nobody else can teach you this skill. You have to teach yourself how to produce correct sound in correct situation. There are books, there is other teaching aid, and you should listen to good speakers, you should see how the key distinction sometimes without bothering to listen for content.

Listen to the manner of speech production, see how they spread their lips in the production of some sounds, how they round their lips in the production of some other sounds, it will in no time you will acquire those habits, and we will be speaking all the great things that you have got to say. Good luck. Thank you.

