IIT Madras
BSc Degree

English – 1 (Basic English)
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Speech Sounds in English

Hello and welcome to the class. Today we will talk about speech sounds in English. We know that sounds that we speak are different from how they are represented with the use of symbols in writing, so we are going to pay attention to sounds the way they are spoken. As a note on this discussion on sounds, once we understand the mechanics underlying production of these sounds, the different places of articulation in our vocal tract, then we understand these sounds better. We compare these sounds better with the sounds of our own language.

You know that all of us speak a language or multiple languages other than English. Our goal is to improve our speaking of English. We want to sound better when we speak English. In order to sound better, instead of practicing things blindly, if we pay attention to the specifics of the things that make difference between the languages that we speak, that is the sounds of the languages that we speak natively and sounds of English, if we understand the differences properly, if we understand specific features of sounds in English, then it becomes quite easier for us to improve our English speaking. It becomes easier for us to improve our pronunciation and then we sound better and the moment we start sounding better that adds to our confidence, effectiveness and better communication. We know these things, we have to keep this in mind, a careful note, a careful attention to these things are going to add to the subconscious learning process.

So, let us go to, go straight to understanding sounds. As we know, all sounds can be divided into two parts, two types. They are consonant sounds and vowel sounds. Vowels are more fundamental speech sounds because they are basic for building words. We will continue talking about them as well. For the time being we are going to look at consonants and vowels and in particular for today, consonants in little greater details.

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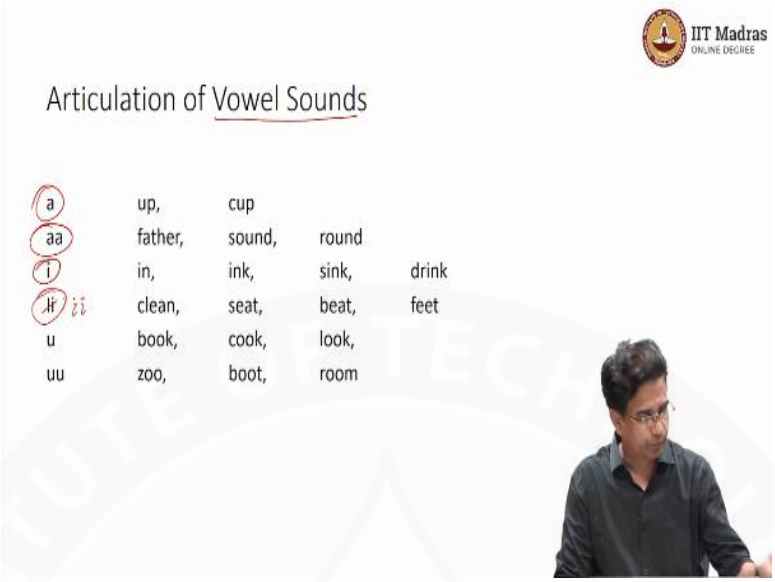

So, look at this. We are talking about a sound like ‘a’, we are talking about a sound like ‘aa’, we are talking about a sound like ‘i’, ‘ii’, this is ‘ii’, ‘u’ and ‘uu’. Now, you can tell that these are vowel sounds. Why are they vowel sounds? What do we mean by vowel sounds and more specifically, what are the differences between these sounds? Let us very briefly look at it because we want to look at consonant sounds as well and then having understood the details of consonant sounds, we will come back to vowel sounds one more time. Now, vowel sounds are produced without much obstruction in the vocal tract. Allow me to give you a note here about vocal tract and the process of production.

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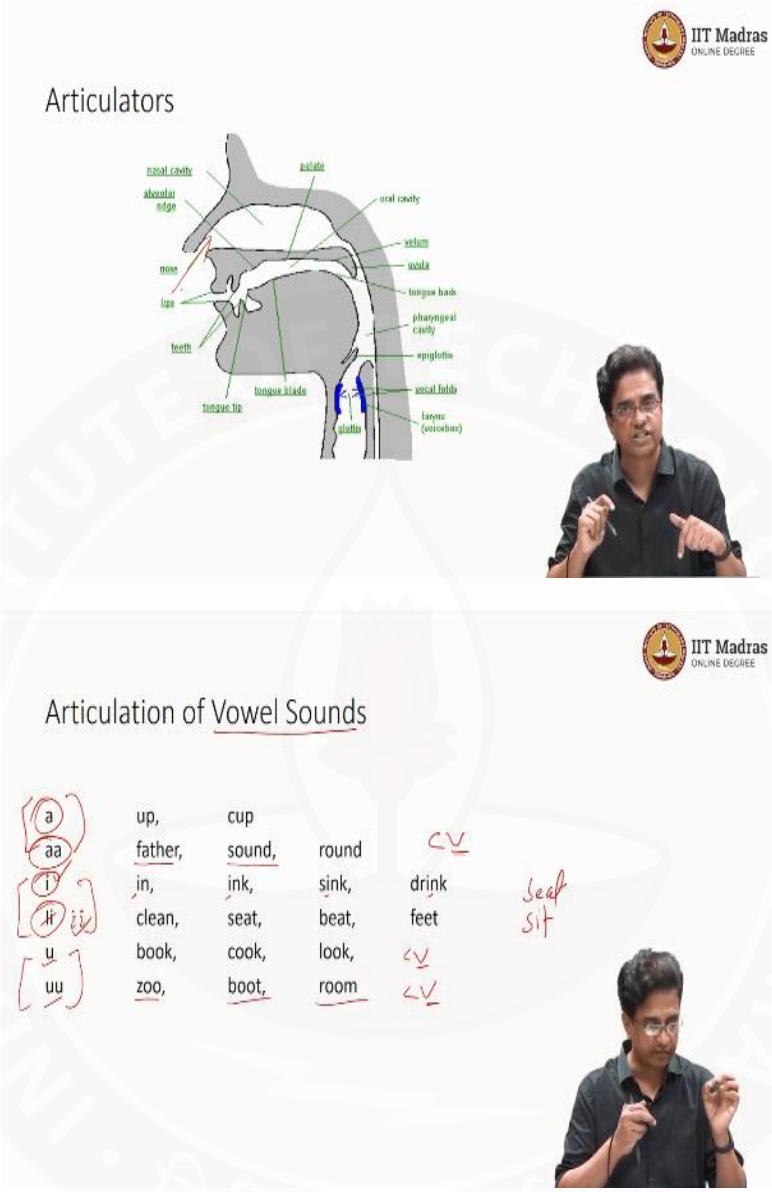

You see, look at this picture. This picture details out articulators in our vocal tract but at this moment I want your attention to that. You know we breathe air in. We breathe air in through this and then all the way it goes to our lungs. It has other purposes, for our survival and our physiology. However, exhaling flow of air is responsible for production of speech sounds.

When we breathe in, we also breathe out. There is a function of lungs, it retains the kind of things that it needs and remaining gets exhaled. The exhaling flow of air is responsible for speech sounds, not the inhaling flow. When we exhale, the flow of air gets modified at different places in our oral tract to give us different kinds of sounds, both consonant sounds and vowel sounds. I will detail them out to you, that is, different places of articulation for different sounds. We will come back again and do that.

The point that I am trying to make here is the exhaling flow of air gets modified to a great extent in multiple ways for production of consonant sounds but exhaling flow of air gets modified in a very minimal way for production of vowel sounds. We can also say vowel sounds are free, vowel sounds are produced from free flow of air. That sounds little bit of exaggeration because no sound gets produced from free flow. There has to be some bit of obstruction, some bit of modification for production of sound.

So, we say vowels are produced with minimal obstruction of exhaling flow of air in our oral tract, that is just for you to explain. We brought this picture in to explain you just this part. With little modification, vowel sounds; with more and different kinds of modifications, we get consonant sounds. So, that is the fundamental distinction between vowel sounds and consonant sounds.

So, going back to when we look at vowel sounds, try saying these vowel sounds for yourself and then you will realize what we mean by free, what people mean when they say free and what we mean when we say minimal obstruction. So, we can say ‘a’, ‘aa’, the impact of this minimal obstruction is the thing that we can articulate, we can pronounce, we can say a vowel sound for longer duration of time until as much as we can hold our breath.

So, for example, you just try saying ‘a’ or ‘aa’ we can continue saying like ‘aa’, something of this type ‘ii’ but a consonant sound, this will not be possible for a consonant sound. If we try saying a consonant sound for a longer duration then what we end up lengthening again is a vowel sound that is inbuilt vocalic sound ‘a’ and not the actual consonant.

Take an example ‘pa’ or ‘ka’ or ‘ta’. So when you say ‘ka’ if you make it for a longer duration of time what allows you to make it longer is the vocalic element in the ‘ka’, not the consonantal element. So, these are the fundamental differences between vowel sounds and consonant sounds.

So, that is one distinction, so what we know is we can produce a vowel sound for a longer duration of time, but in normal speech we do not produce a vowel sound for longer duration of time. In fact, we do not produce it for too long at all. Just say the words like ‘up’, ‘cup’, we have a vowel sound ‘a’ here. We make it very short depending upon the kind of word we have.

So, ‘up’ we have ‘a’ as a vowel sound, in ‘cup’ we again have ‘a’ as a vowel sound. Then we have ‘aa’ as in words like ‘father’, ‘sound’, ‘round’. Again, like I said this in the beginning, the way we say a particular word is very different from how they are written. So at this point I have written them as English, as the way they are written in English with their spellings and the symbols the way they are used but I want your attention to the sounds.

So, you know that the first sound after, so let us say we have in these three words ‘father’, ‘sound’ and ‘round’ you have first consonant sound and the second vowel sound that you have, is an example of long vowel ‘father’, ‘sound’, ‘round’. So, ‘aa’ after ‘fa’ in ‘father’, ‘aa’ after ‘sa’ in ‘sound’ and ‘aa’ after ‘ra’ in the word ‘round’ and likewise we have vowel sounds.

We see in, ‘ink’, ‘sink’, ‘drink’. So here, short ‘i’ at the initial position in these two words and short ‘i’ at non-initial positions in the remaining of the two words are there in these four words. So, we have an example of short ‘i’ and then long ‘i’. Long ‘i’ in words like ‘clean’, ‘seat’, ‘beat’, ‘feet’. When we read these words ‘clean’, this word has a long vowel sound after ‘ka’ and ‘la’. In the word ‘seat’ we have a long vowel, otherwise it is only the length of the vowel that makes a difference between these two words like ‘seat’ and ‘sit’, only three sounds involved ‘sa’, ‘ii’, ‘t’ in the word seat, sit ‘sa’, ‘i’, ‘t’. So long

vowel in ‘seat’, short vowel in ‘sit’. That is the distinction between these two words which mean two different things.

So, you see the example of long vowels, long and short vowel ‘i’ in these two, in these words. Then you have again examples of short ‘u’ the distinction between short ‘u’ and long ‘uu’. Look at these two in words like ‘book’, ‘cook’, ‘look’ in all these three words you have after ‘c’ the vowel that you have is an example of short ‘u’ and in these words like ‘zoo’, ‘boot’, ‘room’ the example of vowel that you have is an example of a long vowel.

The examples are quite clear to you I hope and I am sure they are clearer and when you pay attention to this, it becomes much clearer. What I want you to do is to find more words and look for these distinctions between short and long counterpart of these vowels. I am purposely discussing only few vowel sounds for two reasons. One, I want your attention to the specifics of how vowel, what is the mechanism underlying production of vowel sounds. Second, I want you to look at the distinction between short and long pair. There are lot more vowels available in any language, not only 6 but I am giving you 5 examples to make these distinctions for yourself.

So, as you can see, we have three pairs and the distinction between these is they are the pair is short and long, short and long, short and long. So, we have just 3 vowels ‘a’, ‘i’ and ‘u’ and we have counterparts of longer duration, the pronouns for longer duration of the same vowel which gives us three new sounds like ‘aa’, ‘ii’, ‘uu’ and these are fundamental vowel sounds which are largely available in most of the languages including English as you see from these examples.

I also invite you to check these sounds in the languages that you speak primarily. Again, I make the distinction, time and again time to time I keep talking about your primary language. All I mean is we all of us have another language with us other than English. If we keep paying attention to that language all as well, if we see, do these things apply to those languages as well? They have your attention to your own language has impact on your efforts in learning of English as well, then you become more aware and conscious or cautious about the sounds in English and the way these sounds are produced in English.

One more time: the distinction between these vowels should be clearer to you and we will come back to this after we have done some bit of practice in that.

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With that we move to a discussion on some consonant sounds and those consonants I will specifically tell you that this discussion may not be directly applicable to English consonants. Like I have mentioned, the 6 vowel sounds that we have discussed are part of English inventory of sounds in English as well. However, the vowels, the consonant sounds that we are going to discuss may not be, all of them may not be part of English

but allow me to describe this thing to you and then I take you to English sounds where you can see the distinction with a closer look.

So, what is it that I am asking you to do, is just to look at these 25 sounds. There are 25 sounds in this chart and I want you to look at this. Many of them are available in English, many of them are available in languages that you speak, and many of them are definitely available in English when we Indians speak English. Therefore, I want your attention to this chart and how does… Let us go into the details, so how this chart helps us understand consonant sound.

So, here we go, you see we have. So, what are these sounds first of all? Let me read them to you ‘k’, ‘kh’, ‘g’, ‘gh’ and here is the last one. I am keeping this separate and I also want you to look at this and so we have ‘k’, ‘kh’, ‘g’, ‘gh’ and then we have this nasal sound ‘na’. So, then you can look at this ‘c’, ‘ch’, ‘j’, ‘jh’, ‘T’, ‘Th’, ‘D’, ‘Dh’ then we have ‘t’, ‘th’, ‘d’, ‘dh’ and then finally we have ‘p’, ‘ph’, ‘b’, ‘bh’, ‘m’. First point to note out of this chart of 25, we have 20 of them as oral sounds and these 5 of them are called nasal sounds.

What is the meaning, what is the distinction between oral and nasal? I am going to show you that distinction, but before we go there let us look at one more point and then we go and verify that. That point is ‘k’ is known as a velar sound because it comes from velum. ‘c’ is known as a palatal sound because it comes from palate region in our vocal tract. ‘T’ is a retroflex sound, ‘t’ is a dental sound and ‘p’ is a labial sound or bilabial sound, because it comes from lips.

So, let us go back, backward ‘p’ you can see both lips coming together to produce this sound therefore, a bilabial sound. ‘t’, the tip of the tongue goes in the middle of upper teeth and lower teeth and thus we get ‘t’. ‘T’ retroflex, meaning of that is the tongue, particularly the tip of the tongue curls backward, folds backward and in that fashion, it hits the areas, muscular areas of upper teeth, not the teeth, the muscular area of our teeth where we have our upper teeth in fixed. That area is also known as alveolar, so the tongue, curled tongue, unfolds backward in alveolar region. The sounds that we get are called retroflex sounds and that sound one of one such example is ‘T’.

‘c’ palatal sound because the body of the tongue, blade of the tongue is in contact with palate area, ‘c’, not the tip of the tongue but the body of the tongue and ‘k’ the tip of the tongue has no role in it because velum is quite low in our vocal tract, so the lower part of the tongue is in contact with velum area and thus we get velar sounds. So, I will show you that. So, we talked about ‘k’, ‘c’, ‘T’, ‘t’, ‘p’ but all these in this series ‘k’, ‘kh’, ‘g’, ‘gh’ are velar sounds, all of them in this series are palatal sound ‘c’, ‘ch’, ‘j’, ‘jh’ they are all palatal sounds. ‘T’, ‘Th’, ‘D’, ‘Dh’ they are retroflex sounds; ‘t’, ‘th’, ‘d’, ‘dh’ they are all dental sounds and ‘p’, ‘ph’, ‘b’, ‘bh’ they are all bilabial sounds.

We come back to this part one more time having looked at this one more time. We saw this picture when we were talking about vowel sounds. Now let us look at this picture one more time when we are looking at consonant sounds. Remember, the exhaling flow of air we have, we inhale this way and then we have exhaling flow of air from here, when it moves upward look at this, this is the velum area.

So, the body of the tongue here, the exhaling flow of air gets modified in particular ways and we will go back to those ways as well, and it gets blocked here and then the sound that we get is known as ‘k’. If you speak this sound and pay attention to the articulators, the place from where this sound comes, and the sound itself you will realize that we are getting, we will understand this discussion ‘k’.

I am putting this on record and I am speaking this to you through this video: there is nothing embarrassing about doing this practice for understanding the places of articulation of these sounds for making our pronunciation, our speaking better and you can give half an hour of time to yourself to check place of articulation of every sound that you are going to see at least once, and then you will get the point that we are trying to make through these articulators and through this detailed discussion on discussing sound production mechanism, the mechanism underlying sound production system.

So, that is the velum area. Then we were talking about palatal, so the next, at the next point where the body of the tongue produces a second set of sounds ‘ch’ is here, then you have these teeth. So, look at this, so what happens is the tip of the tongue goes, here is our, here is our teeth area and this is the muscular region, so the tip of the tongue folds

backward and then hits this area in the alveolar ridge region, this alveolar, region and then the sound that we get are called retroflex sounds. When the tip of the tongue, look at this tongue tip, tip of the tongue comes in between this teeth, this, then we get a dental sound and when these lips come together, we get labial sounds.

So, I am only talking about 5 of them velum, palate, this alveolar region, tongue, teeth and lips. These are fixed places velum, palate, alveolar region, teeth region, teeth and lips these are fixed places in our vocal tract. The only one organ that can moves backward and forward to get in touch with these areas is tongue, it is tongue. So, through this picture we understand the places and movement. By this time you must have figured out this is just a picture of a posterior picture of our vocal tract.

The point that I made right in the beginning about the distinction between nasal sounds and oral sounds is the following. So, and that all distinction also you can hear when you speak the sound. So, when we say ‘p’ and ‘m’ say these two sounds for yourself and then see what kind of distinction do you observe between them, say ‘t’ dental and ‘n’. What is the distinction between these two? I am particularly asking you to look at these two ‘m’ and ‘n’.

What is the distinction and how does this distinction become critical? Here is how the distinction becomes. Please look at this, so all the places of articulations that we talk about like velum, palate, teeth, alveolar region and lips, they are in the oral cavity and then we have a big area as, look at this nasal cavity, which is this area and there is one more organ here look at this, this is uvula. So, it is, if we open our mouth also little wider, we see from the roof of the this area, we see some, something hanging in when we open our mouth wide open. That organ is called uvula. That is a very critical organ for sound production and here is how it works.

When this gets raised look at this, this is the passage through which exhaling flow of air moves. If it gets raised then it blocks this cavity. It blocks this cavity and no air moves through, no air moves through nasal cavity. The movement, the air flows only through oral cavity and thus the sounds that we get from different places of articulations are called oral sounds. When the uvula is not raised, it is gets lowered down then the part of

the flow of this exhaling air can move through this nasal cavity as well and then the sounds that we get are called nasal sounds.

So, ‘m’, when we say ‘m’ uvula is lowered, little bit of air moves through the nasal cavity, little part from the exhaling flow, it moves through the oral cavity as well as the nasal cavity and thus we get some nasal sounds. That is the distinction between oral and nasal sound. So ‘p’ is an oral labial sound bilabial sound and ‘m’ is bilabial nasal sound and that is how we make the distinction. So, now we understand the two-way distinction between oral consonants and nasal consonants and we also understand the distinction about different places of articulations.

This part becomes clearer for understanding places of articulations. So, here is what I want you to do I want you to look at, do a very clear practice of these sounds with you and check their places of articulations. As I mentioned most of these sounds are part of the languages that we speak. I come back here, here is another range of features that I will come back to but right now I want you to look at the features on this vertical axis, that is they are places of articulation. I come back to these things later.

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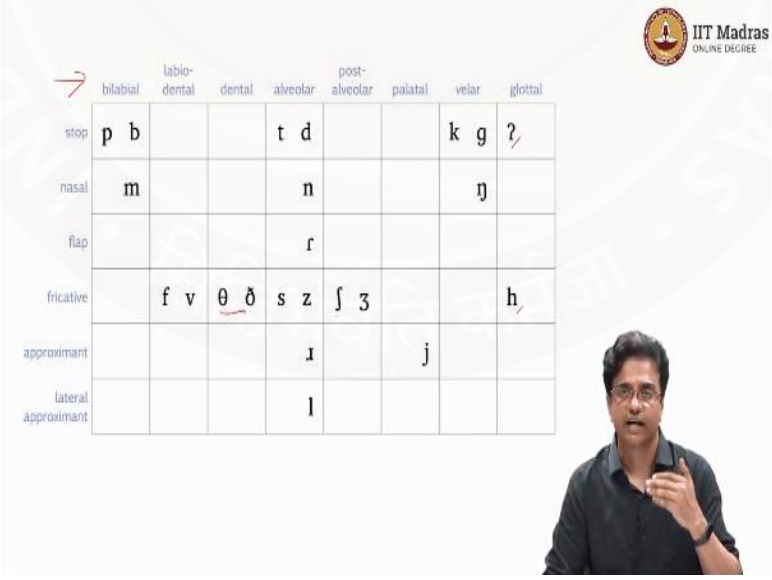

For the time being what I want you to look at is these sounds of English. These are 24 specific English sounds, they are ‘p’, ‘b’, ‘m’ and I want you to pay attention to this axis. How do we pay attention to this axis? Look at this these are the three bilabial sounds in English. ‘f’ and ‘v’ are labiodental sounds.

You can understand bilabial sounds are produced by both lips bringing together, labiodental sounds are produced by lip, lower lip and upper teeth together labiodentals. ‘f’ and ‘d’ are two dental sounds in English. ‘t, ‘d, ‘n’, ‘r’ ‘sh’ and ‘z’ are alveolar sounds in English and ‘r’, ‘l’ all of them are alveolar sounds in English. These two ‘sh’ and ‘j’ are post-alveolar sounds in English, ‘y’ is a palatal sound, ‘k’, ‘g’ , ‘n’ are velar sounds, and these are ‘h’ and there is one more ‘g’ two glottal sounds in English.

Now, see there are a lot of sounds here which are not part of our vocal tract, our sound system. So we need to learn these sounds separately to sound better while speaking English. At the same time we need to do little bit of modification in the way we have been speaking.

If we bring in sounds from our languages in speaking English, we will sound the way we usually sound, but if we want to improve that, we need to understand this distinction. Look at this chart of English sounds and try to practice these sounds the way they should be produced understanding their places of articulations.

So, with this discussion on places of articulations and the distinction of sounds, we can very well get an idea of how consonant sounds are produced in English and this will give you a clearer idea about sound system, little bit about vowel sounds, and little bit about consonant sounds. We stop here. I expect you to have done a little bit of practice, we will see you again with something else next time. Thank you so much.