IIT Madras
BSc Degree

English – 1 (Basic English)
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Articulation of Vowel and Consonant Sounds in English

Welcome to the class. Today we will talk about Articulation of Vowels and Consonant Sounds. As you know, vowels are the sounds which are produced with minimum obstruction of the exhaling flow of air in the vocal tract and consonants are the sounds that are produced with different kinds of modifications at different points in vocal tract. With this working understanding of consonants and vowel sounds, we want to look at a description of English vowel sounds and consonant sounds.

At the same time, we will look at a comparative study, comparative understanding of how certain sounds are different in our languages and certain sounds are very specific to English and the way we understand that, in order to make our speaking better, in order to make changes in the way we speak, we need to pay attention to certain sounds to make it impressive and fluent and that is what we are going to look at today.

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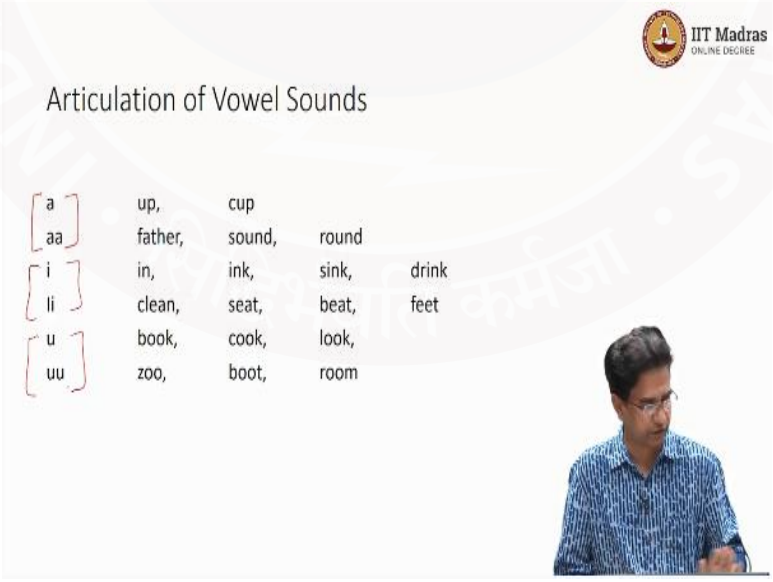

So, these are we, these are some of the vowels, some of the fundamental vowel sounds which has three pairs in them and they have long and short alternations like ‘a’, ‘aa’, ‘i’,

'ii', 'u', 'uu'. These are just six fundamental vowel sounds which are, which are available in almost all the languages of the world.

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And then you can look at 20 vowel sounds of English in these words and this is how they are represented with phonetic symbol. We do not need to pay much attention to phonetic symbols, however it is just good to understand, but important point is looking at these words and paying attention to the vowel sounds in these words and we have 20 examples of different vowel sounds in English with example of different words on this screen with you.

So, they are 'pit', 'pet', 'pat', 'pot', 'but', 'book', 'mother', 'bean', 'burn' and 'barn', just some of them, at least 10 examples. So, where we need to pay attention is in the word 'pit' we have short 'i' pit; 'pet' the vowel sound is 'a'; 'pat' the vowel sound is 'a'; 'pot' the vowel sound in this word is 'o '; 'but' a short 'a' in but; 'book' shot 'o'; 'mother' 'a' sound in this word; 'bean' long 'ii'; 'burn' short 'u'; 'barn' 'a'; 'born'.

So, if you look at words like 'pat', 'born' you will see the differences in these vowel sounds and these vowel sounds are specific to English language. 'Boon' has long 'uu'. So, what I am trying to tell you is there are lot, we do not need to look at how these words are written in with their spellings. We are looking at how certain sounds work in

these words when we speak these words. So, these are, you can do this exercise for yourself multiple times. These are examples of 20 vowel sounds.

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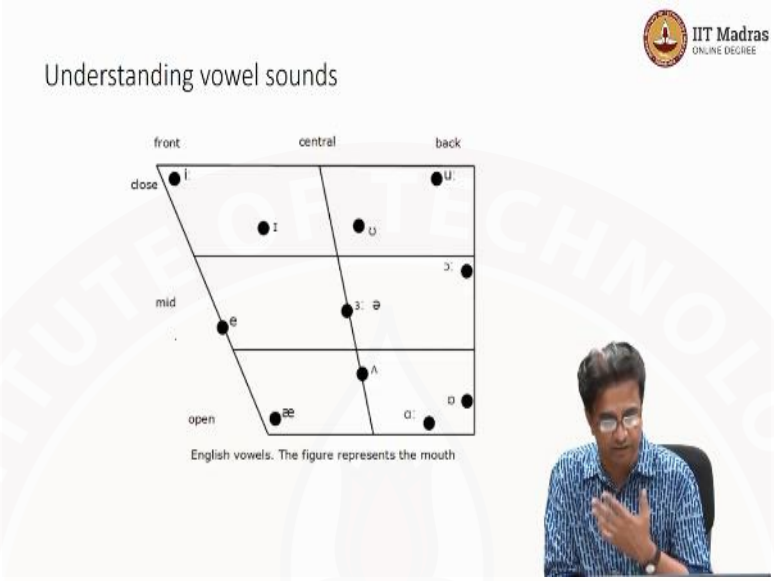

Now, let us look at this chart. This chart does not have all 20 vowels in it but it has many of them and it is like this picture. Imagine this whole thing in our mouth and thus you will see, then when they say front, center, and back, will make sense. So, these vowels like ‘E’ is front wall, the vowels here are central vowel and vowels here like ‘uu’ back wall. Similarly, according to the tongue height, they are close, mid and open. So basically, this picture gives you distribution of vowel sounds and sort of their places in the vocal tract, in the oral cavity.

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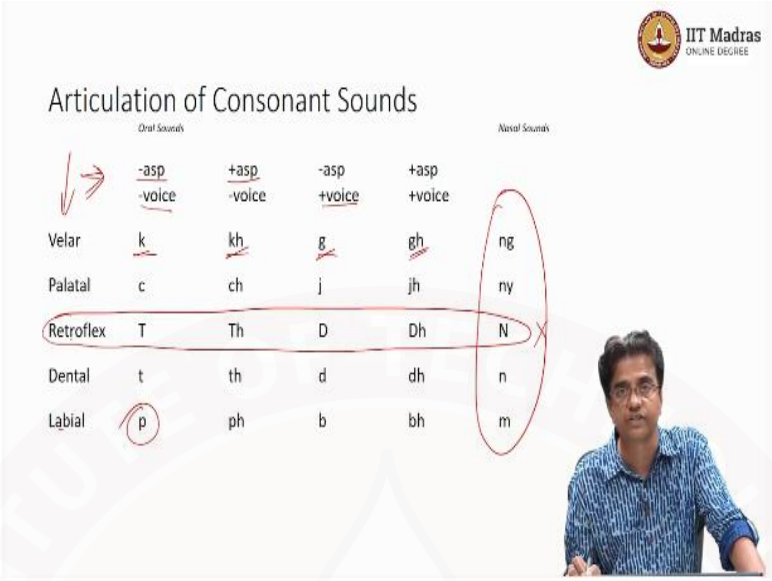

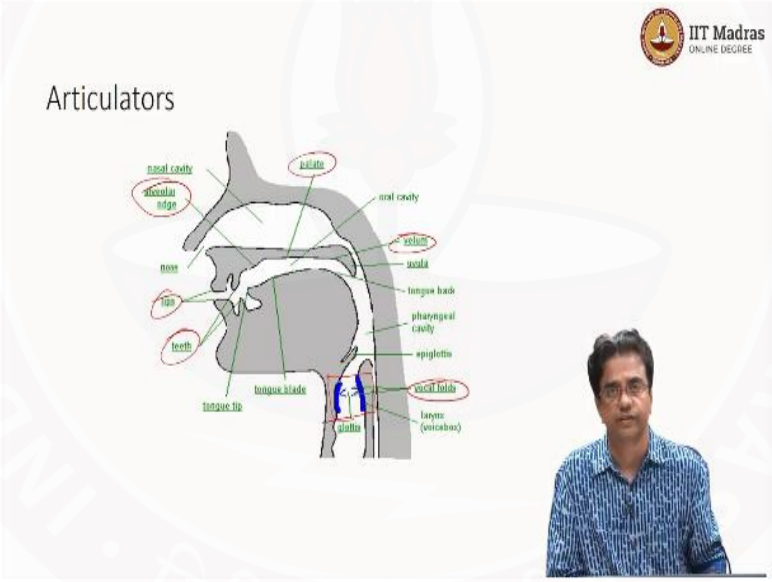

Now, we need to look at certain aspects of consonant sounds before we look at specific details of consonants of English. So, we understand certain things like there are places in our vocal tract which are responsible for different sounds like velum, palate, alveolar ridge, teeth, and lips. So, when we have sounds from velum they are called velar sounds, sounds from palate they are called palatal sounds, sounds from alveolar ridge are called retroflex sounds, sounds from teeth are called dental sounds, and sounds from lips are called bilabial sounds.

We have looked at some of the examples of these like ‘k’ as an example of velar sound, ‘c’ as an example of palatal sound, ‘T’ as an example of retroflex sound, ‘t’ as an example of dental sound, and ‘p’ as an example of labial sound. And then we looked at the distinction between oral sounds and nasal sounds.

At this point I want to specifically point it to you that this entire range of retroflex sounds are not available in English and we are going to discuss the implications of this and the way some of these sounds are produced in English. This much of fixing will help us improve speaking to a great extent.

So, before we go to that, let us look at one specific thing. So, as we know on this vertical axis we can describe sounds of natural language according to the places from where they originate or places of articulations. Now, if we know, so let me describe the following to you. If we know ‘k’ is a velar sound and ‘kh’ is a velar sound too, ‘g’ is a velar sound as well, and so is ‘gh’ but these four sounds have their own distinctive identity, how do we describe the differences between these sounds?

If we pay attention to two specific features, they are going to help us understand the differences between these sounds quite clearly and these differences are... So what is the difference between ‘k’ and ‘kh’? We see, when we speak ‘kh’ we have little additional flow of air and this sound says ‘kh’. You can put your palm right in front of your mouth and when you say the two sounds one after the other, you can see additional flow of air as part of blow on your palm. That is called aspiration and as I want to underline it again.

The idea of description here is not that you do not know these sounds. The idea is to pay attention to the distinction, to the differences between these sounds and there is nothing embarrassing about it to do these tests without laboratory for yourself so that you get the differences once for all and then you can evaluate the differences between sounds of the language that you primarily speak and the sounds that you are going to be specifically careful about when we want to improve speaking of English.

So, this additional flow of air, this additional flow of air in the form of small little blow is called aspiration. So, if we make the difference between these two sounds in terms of additional flow of air, we see no aspiration with ‘k’ which is here indicated as minus aspiration and this one with additional flow is called plus aspiration. So, this much should be good enough to give us the distinction between these two sounds ‘k’ and ‘kh’.

Now, how do we make the distinction between ‘k’ and ‘g’? There is yet another difference between the two and this is quite specific and it is little more difficult to notice than the distinction between ‘k’ and ‘kh’ because ‘k’ and ‘kh’ had additional blow, additional flow of air which can be realized externally.

Now, let us go back to this picture again and within this glottis, you see within this vocal folds, we have, this is vocal fold, and this has vocal cords in them. For some sounds, this cord vibrates little more than usual and that vibration is technically understood as voicing. So, the difference between ‘k’ and ‘g’ is when we say ‘k’ we do not have vocal cords within the vocal folds vibrating additionally, whereas ‘g’ has little bit more vibration which is realized as resonance.

So, sometimes if you put your hand in this area of this, this is the area where we have vocal fold and vocal cord and if we put your palm on this and then we say and ‘k’ and ‘g’ one after the other, ‘k’, ‘g’, then we hear, we feel that resonance on the palm. For some, it may not be clear, but again you can do this experiment to yourself and realize it. If it does not become apparent, you just need to understand it in the following way, in this particular way to understand the distinction between these two and thus we get the difference between ‘k’ and ‘g’. So, ‘k’ is no vibration, so minus voice; and ‘g’ has vibration, so it has plus voice.

So, on this axis if you see and if we put these two features together then we can give distinctive identity to these sounds like ‘k’ is no aspiration, no voicing; ‘kh’ is aspiration, little bit of additional flow of air and no voicing; ‘g’ is no aspiration but voicing, that is, vibration; and this sound ‘gh’ has both aspiration and vibration. Thus we see the distinction between all these four oral sounds from one specific place of articulation that

is velum. These sounds are velar sounds and if we look at these features then we get their identity and thus these 20 sounds, 20 oral sounds get specific identity.

So, if you say no aspiration and no voicing but from lips, that can only be ‘p’. So labial non-aspirated, non-voiced sound, it is only one that is ‘p’ and as we know these are nasal sounds. There are certain specific things that we need to know about nasal sounds which we will discuss at a separate point.

So, now we understand these sounds, all these 20 orals and 5 nasal that is 25 sounds are parts of our languages. Most of them are spoken in India but not all these sounds are available in English. Like I mentioned, the retroflex sounds, that is, the sounds which come from alveolar region when the tongue folds backward and tip of the tongue unfolds and hit this alveolar ridge. This sound is not available in English.

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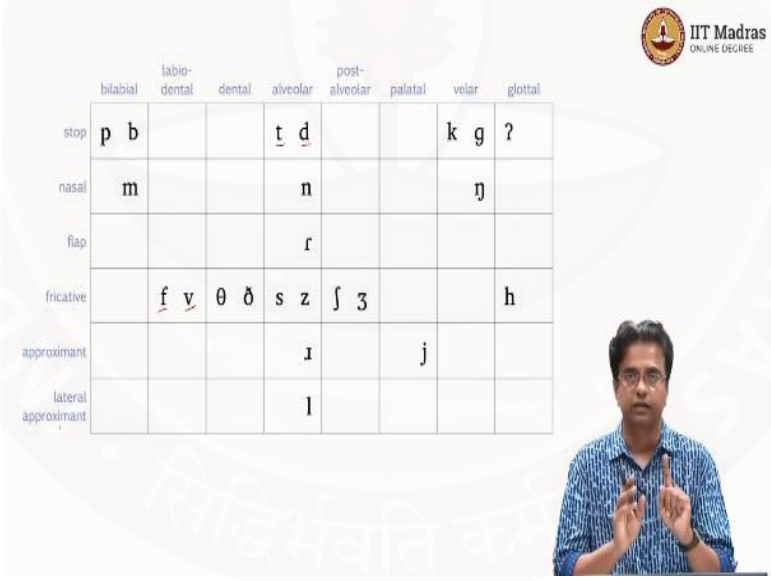

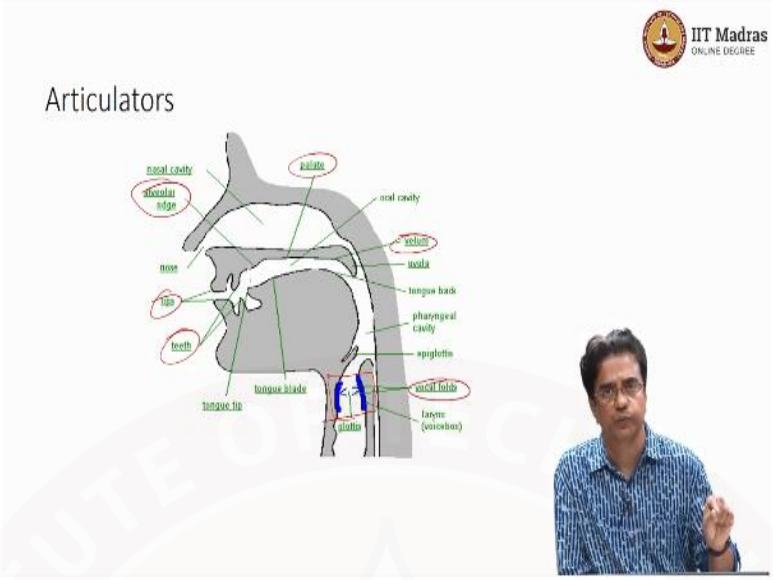

So, when we go to the English consonant chart and try to look at different places of articulations and we try to understand the way they are produced that is their manners of articulations, then we get this idea that ‘p’ and ‘b’ are labial sounds and they are both stop but one is non-voiced the other is voiced. ‘m’ is a nasal sound. Now, rest of it you can you can figure out. I want you to look at carefully is this one ‘t’, ‘d’ specifically. We do not have retroflex sounds in English. English ‘t’ and ‘d’ are alveolar sounds.

So, let us go back to this picture one more time. How do we produce English alveolar sounds? Tip of the tongue without getting folded and without this folding and unfolding gently touches the alveolar edge ridge and we get ‘t’. So it is not retroflex, it is a straight simple alveolar sound without retroflexion. For many of us, it becomes tough because a close, a set of sounds that are very close to our languages are retroflex sounds. So when we speak English, we tend to bring retroflex sounds in our English whereas retroflex sounds are not available in English and this creates a big difference in the way we speak and the way others speak.

It happens, it is not a problem, it happens to us because most of our languages have retroflex sounds in them. If you are a speaker of Dravidian language like Tamil, Telugu, Malayalam, or Kannada they are full of retroflex sounds. At the same time, if you are

speakers of Indo-Aryan languages like Hindi, Punjabi, Bhojpuri, Magahi, Odia, Bangla and numerous of them, these languages too have a lot of retroflex sounds. Please take a note here, not as many retroflex sounds as we have in Dravidian languages but Indo-Aryan languages do have retroflex sounds. So, at this point everybody is in the same bracket and because of availability of retroflex sounds in our languages, we tend to speak English in a particular way which is sometimes called, or most of the time called Indian English because one particular feature of Indian languages gets in our English.

At times, people do not like the term Indian English but trust me there is nothing offensive about it. Indian variety of English, that is the kind of English spoken in different parts of India, is named as Indian English, just as English spoken in America is called American English or English spoken in Britain is called British English or English spoken in Australia or Africa are called African English or Australian English. Just like these varieties, we have Indian variety of English that most of us speak and these are the reasons why our variety has a specific distinction of India in and this is called Indian-ness in our English

One more time: there is nothing bad or offensive about it. I want you to understand this in a very clear fashion that this happens to us because we speak our own languages, because the vocal tract that we are discussing here matures before 12 years of age, and if we learn a language after 12 years then we can still learn, we can practice sounds of a new language but because our vocal tract has already matured according to the sound patterns of our native languages it does not change and therefore we speak the way we speak and thus there is scientific foundation for how and why anyone speaks the way they do; and this is the reason why we need to understand it to sound very confident about how we speak.

Having said that, it is also possible with regular practice to imbibe other sounds, certain special sounds of other languages like non-retroflex variety of ‘t’ and ‘d’ which are alveolar sounds. As I mentioned in the beginning the purpose of this description is for us to know the distinction between our ‘T’ that is retroflex our ‘D’ that is retroflex and English ‘t’. Once we know this, it is easier for us to work on it and make it sound alveolar

when we speak English and may keep it the way when we keep it retroflex when we speak either Tamil or Hindi or Punjabi.

Same way, I will give you one more example. Please look at this: ‘f’ and ‘v’, these are two specific sounds in English which are very rarely available in our variety of languages. For example, Hindi. The ‘ph’ sound in Hindi which was here, which is aspirated, non-voiced bilabial ‘ph’ as in ‘phal’, ‘phool’ is different from labiodental ‘f’ of English as in ‘father’, ‘French’, ‘fat’, ‘friend’. All these words at the initial position have got a sound ‘f’ which is labiodental, where we have upper teeth and lower lip coming together and thus we get labiodental sounds and this creates the distinction between ‘ph’ and ‘f’.

So, the idea is when you go through the two separate charts of consonant sounds that I have described here with you, you can clearly see the difference between certain specific sounds of English and the way we speak certain sounds which may not be available in English.

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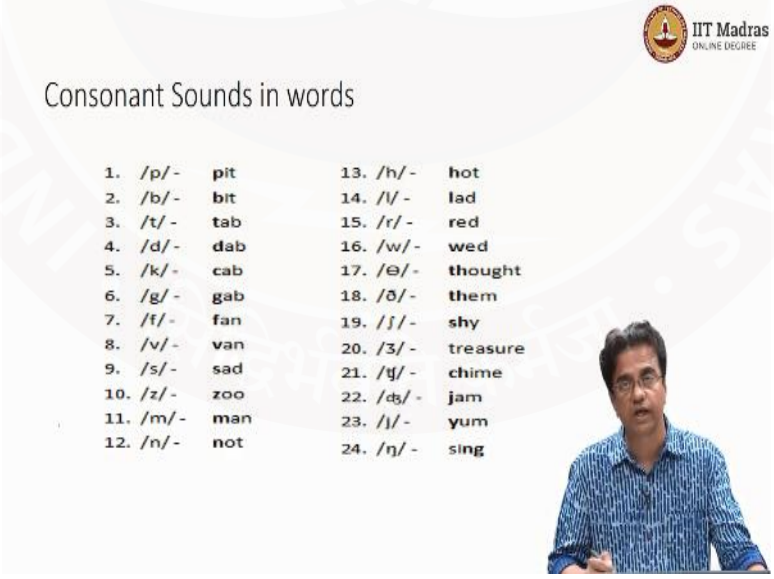

To come to conclusion, these are the 24 consonant sounds of English and these 24 words have got 24 consonantal sounds in them which you can practice for yourself and it is important and imperative for us who are trying to improve, who are trying to make it

sound better, it is imperative for us to do this practice to understand the differences between different sounds and to be familiar with 24 consonant sounds of English and 20 vowel sounds of English vis-a-vis the vowel sounds and consonant sounds that we have in our languages. While doing so, you will also get to underline it for yourself that lot of such consonant and vowel sounds are common as well.

So, do this maths, you will come up with a very small set of sounds, and working on those sounds make us very, it becomes important, it becomes clearer to us that if we work on these sounds, we can sound the way we want to in English. With this, we stop here. We expect you to do this practice and then we come up with this exercise as well and bring the questions to us which may arise out of this and then we will address them. Thank you so much.