

Open Learning

Translation Department

Second Year

Second Term

# Phonetics

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مؤسسة الانوار التعليمية

Let's study!  
English

**GOOD MORNING!**

## Consonant Sounds

**Instructor:** Today, I have a good news. Let us read it together.

- /wi: həv ə 'tɛst/

**Student:** We have a test.

**Instructor:** Exactly! 😊 What do we call this?

**Student:** A transcription.

**Instructor:** That's right! Transcription is the reading of the symbols rather than the alphabets.

Of course, we are not going to have a paper test.

..... is the study of how sounds are put together.

- a) Phonetics
- b) Phonology
- c) Morphology
- d) Transcription.

**Student:** Phonology.

**Instructor:** Exactly!

A variety in pronunciation is called .....

- a) Dialect
- b) Phonology
- c) Accent
- d) Transcription.

**Student:** Accent.

**Instructor:** Excellent!

Now, what do you think differentiates vowels from consonants?

**Student:** Phonemes.

**Instructor:** No.

**Student:** The way of pronunciation.

**Instructor:** Ok. What else?

Actually, when we pronounce consonants, we need to obstruct air. So, we have obstructions of air. On the other hand, in vowels, we don't have any obstructions of the air. When we pronounce vowels, the air goes freely to the atmosphere.

Now, let's move to the next question:

The organ that provides air to produce almost all sounds is .....

- a) Trachea.
- b) Lungs.
- c) Larynx.
- d) none.

**Student:** Lungs.

**Instructor:** Exactly! Lungs provide all the organs of speech with air. With some differentiations in the articulation, we produce different sounds.

It consists of the oral and nasal cavity where all sounds are produced:

- a) The vocal tract.
- b) Pharynx.
- c) Larynx.
- d) none.

**Student:** The vocal tract.

**Instructor:** Excellent! It is the vocal tract (المجرى الصوتي).

Last lecture, we started classifying consonant sounds. We said that in order to describe consonants, we need to pay attention to three things:

**1. Place of Articulation:**

**2. Voicing.**

**3. Manner of Articulation.**

So, the first way of classifying consonants is 'the place of articulation'. For example, I want you to give me examples of bilabial sounds.

**Students:** /b/, /p/ and /m/.



**Instructor:** Yes. These are bilabial sounds: /b/ as in 'baby', /p/ as in 'spy' and /m/ as in 'moon'.

Now, the second way of classifying consonants is 'voicing'. For example, I want you to give me examples of bilabial sounds. We need to say whether the consonant sound is *voiced* or *voiceless*.

➤ When the sound causes vibration, we call the sound as *voiced sound* (e.g. /z/, /v/, /g/, /m/ etc.)

➤ When there is no vibration, we call the sound as *voiceless sound* (/s/, /f/, /k/, etc.).

	Bilabial		Labio-dental		Dental		Alveolar		Post-alveolar		Palatal		Velar		Glottal	
	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-
	b	p					d	t					g	k		ʔ
			v	f	ð	θ	z	s	ʒ	ʃ						h
									dʒ	tʃ						
	m						n						ŋ			
							l									
	w						r				j	w				

**NOTE:** /w/ is pronounced from two places. It has a double place of articulation. Hence, it can be considered a bilabial sound and a velar sound (**labial-velar**).

**Instructor:** So, this is the classification of consonants. We can say, for example, that /p/ is a **voiceless, bilabial consonant**. Still, we have another criterion or point that we can use in order to classify consonants, which is the '**manner of articulation**'.

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### 1) Manner of Articulation:

What do we mean by the word 'manner'?

Student: way.

**Instructor:** Yes. So, 'manner' is 'way'. Hence, 'the manner of articulation' is the way we produce sounds.

***The manner of articulation is the degree of constriction or obstruction of the airstream in the vocal tract.***

**Instructor:** So, previously in 'the place of articulation', we studied the places where we obstruct air. Now, in 'the manner of articulation', we are going to study 'how' we obstruct air. Is air fully blocked? Are we let a narrow passage to allow the air goes? So, this is what we are going to talk about today.

***The different manners of articulation are:***

***Plosive, Fricatives, Affricates, Nasals, Laterals, Approximants***

For example, compare between pronouncing the sound /t/ and /s/. As you may have notices, we can pronounce the sound /s/ for a very long time, whereas we can't do the same for the sound /t/. Why? This is because the manner of articulating the sound /s/ is different from that of the sound /t/.

**Instructor:** Let us study them one by one.

### **1) Plosives / Oral Stop:**

***To make a plosive sound, there are four phases:***

***1) Closure Phase.***

***2) Hold Phase.***

***3) Release Phase.***

***4) Post-Release Phase.***

So, to produce plosive sounds, we have four stages. The first phase is the closure phase.

***1) Closure Phase: The articulators move to form a stricture or a closure such that no air escapes from the mouth.***



So, in the 'closure phase', we close everything.  
Now, the second phase is 'the hold phase'.

**2) Hold Phase: The compressed air is stopped from escaping.**

So, here I hold the air inside my mouth.

**3) Release Phase: The articulators used to form the closure are moved apart to allow air to escape.**

So, I let the air to go out in this phase.

**4) Post-Release Phase: A period in which the escape of air may produce noise loud enough to be heard like a small explosion and hence the name plosives.**

So, this is a period after releasing the air, and it gives a sound like an explosion. That's why these sounds are called plosive consonants.

The English plosives are six in number and they are:

/p, b/, /t, d/, /k, g/ & /ʔ/

Now, let us classify them according to three criteria.

Manner of articulation	Place of Articulation																
	bilabial		labio dental		dental		alveolar		post alveolar		palatal		velar		glottal		
	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	
voicing	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	
plosives	b	p					d	t							g	k	ʔ

/g/: voiced, velar, plosive consonant sound.

/ʔ/: voiceless, glottal, plosive consonant sound.

Now, let us move to the second manner of articulation.

## 2) Fricatives:

Fricatives are made when the articulators are brought together but not sufficiently enough to make a complete closure, hence there will be a small opening through which the air will escape producing a hissing sound (صوت صفير).



So, your articulators are brought close to each other, but they do not fully touch each other; they do not fully block the air. This forms a small opening, and that small opening will produce a hissing sound. For example, if we pronounce /s/ and /z/, do we have a sound of explosion?

**Students:** No.

**Instructor:** So, we have this hissing sound.

Also, when we pronounce /s/, for example, the air still can escape; the articulators are not fully blocking the air.

*The fricatives in English are nine in number:*

*/f, v/, /s, z/, /ʃ, ʒ/, /θ, ð/ & /h/*

So, we have 9 sounds.

	Bilabial		Labio-dental		Dental		Alveolar		Post-alveolar		Palatal		Velar		Glottal	
	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-
<b>Voicing</b>	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-
<b>Fricatives</b>			v	f	ð	θ	z	s	ʒ	ʃ						h

*/v/:* voiced, labiodental, fricative consonant sound.

*/f/:* voiceless, labiodental, fricative consonant sound.

*/ð/:* voiced, dental, fricative consonant sound.

*/θ/:* voiceless, dental, fricative consonant sound.

*/z/:* voiced, alveolar, fricative consonant sound.

*/s/:* voiceless, alveolar, fricative consonant sound.

*/ʒ/:* voiced, postalveolar, fricative consonant sound.

*/ʃ/:* voiceless, postalveolar, fricative consonant sound.

*/h/:* voiceless, glottal, fricative consonant sound.

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Now, let us move to the third manner of articulation.

### 3) Approximants:

An **approximant** is a consonant in which the articulators approach each other but do not get sufficiently close to each other.

Just like with fricatives, the articulators are brought close to each other to produce approximant sounds.

**Approximant** are also made with a greater opening in the vocal tract than that of fricatives and thus **friction is absent with approximants**.

So, here articulators don't touch each other. So, we don't have any hissing sound with approximants.

The approximants in English are three in number:

/r/, /j/, & /w/

So, here we have three sounds.

They are all voiced and /j, w/ are also known as **semi-vowels**.

So, sometime /j/ and /w/ are called **semi-vowels** because they are similar to vowels. For example, /j/ is similar to the vowel /i:/.

Now, let us classify these three sounds.

	Bilabial		Labio-dental		Dental		Alveolar		Post-alveolar		Palatal		Velar		Glottal	
Voicing	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-
Approximants	w						r				j					

**/w/:** voiced, bilabial/velar, approximant consonant sound.

**/r/:** voiced, alveolar, approximants consonant sound.

**/j/:** voiced, palatal, approximants consonant sound.

Now, let us move to the fourth manner of articulation.

### 4) Affricates:

**Affricates** are sequences of plosive plus fricative. They begin as plosives and end as fricatives.



So, an Affricate sound is a mix between two manners (a plosive and a fricative).

*There are only two affricates in English:*

*/tʃ/ and /dʒ/*

As you can see, /t/ is plosive, and /ʃ/ is fricative. Also, /d/ is plosive, and /ʒ/ is fricative. So, an affricate is a mix between a plosive sound and a fricative sound.

Now, let us classify them.

	Bilabial		Labio-dental		Dental		Alveolar		Post-alveolar		Palatal		Velar		Glottal	
Voicing	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-
Affricates									dʒ	tʃ						

*/dʒ/: voiced, post-alveolar, affricate consonant sound.*

*/tʃ/: voiceless, post-alveolar, affricate consonant sound.*

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Now, let us move to the fifth manner of articulation.

### 5) Nasals:

*The basic characteristic of a nasal consonant is that the air does not escape through the mouth because there is a complete closure at some point in the oral cavity. Instead, the air escapes through the nose.*

To pronounce a nasal sound, there is a complete closure in your oral cavity. This allows the air to escape from your nose.

*For this to happen, the soft palate or the velum must be lowered, allowing the compressed air to pass out through the nasal passage.*

So, the velum should be closed so that it can allow the air to reach the nose. So, the velum closes the oral cavity to allow the air to go through the nasal cavity.

*The sounds /m, n, ŋ/ are called nasals.*

So, we have three sounds here.

Now, let us classify them.

	Bilabial		Labio-dental		Dental		Alveolar		Post-alveolar		Palatal		Velar		Glottal	
Voicing	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-
Nasals	m						n							ŋ		

*/m/*: voiced, bilabial, nasal consonant sound.

*/n/*: voiced, alveolar, nasal consonant sound.

*/ŋ/*: voiced, velar, nasal consonant sound.

Now, let us move to the sixth manner of articulation.

### 6) Laterals:

Here, the air escapes from the sides of your tongue.

In English, we only have one lateral sound, which is /l/ (as in 'large').

	Bilabial		Labio-dental		Dental		Alveolar		Post-alveolar		Palatal		Velar		Glottal	
Voicing	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-
Laterals							l									

*/l/*: voiced, alveolar, lateral consonant sound.

Actually, we have two realizations of /l/ sound. We have clear /l/ and dark /l/.

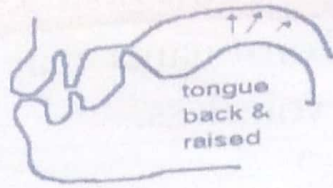
*Clear /l/* always occurs before vowels, as the /l/ in the words clear and law, but *dark /l/* always occurs after vowels, as the /l/ in the words dull and fill.

So, if the /l/ is before the vowel, then it is pronounced as a clear /l/ (as in play). If the /l/ is after the vowel, then it is pronounced as a dark /l/ (as in 'cold').

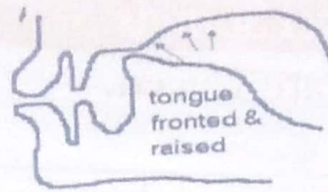
*Clear /l/* has a quality rather similar to an /i:/ vowel, with the front of the tongue raised. *Dark /l/* has a quality rather similar to an /u:/ vowel, with the back of the tongue raised.



So, I use the front part of my tongue when I pronounce the clear /l/. On the other hand, I use the back part of my tongue when I pronounce the dark /ɫ/.



[ɫ]



[l]

So, these are the different six manners of articulation. Now, you can see the full picture:

Place of Articulation	Bilabial		Labio-dental		Dental		Alveolar		Post-alveolar		Palatal		Velar		Glottal	
	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-
Voicing	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-
Plosives	b	p					d	t					g	k		ʔ
Fricatives			v	f	ð	θ	z	s	ʒ	ʃ						h
Affricates									dʒ	tʃ						
Nasals	m						n						ŋ			
Lateral							l									
Approximants	w						r				j					

Now, let us move to vowels.

## Vowels

Let us go back to the same question that I raised when we start discussing the consonants. What is the difference between consonants and vowels?

**Student:** The obstructions of air.

**Instructor:** Exactly! This is the first difference between consonants and vowels.

Vowel Sounds	Consonant Sounds
The air goes freely from the organs of speech to the atmosphere without any kind of obstructions.	Obstacles are needed in front of the air in order to produce a consonant sound.

The second point is that consonant sounds can be voiced or voiceless, whereas vowel sounds are only voiced. All vowels are voiced; we don't have voiceless vowels.

Vowel Sounds	Consonant Sounds
All vowels are voiced.	Consonants may be voiced or voiceless.

Now, how can we classify vowels?

*Vowels have traditionally been taught via the **Cardinal Vowel System**.*

So, with vowels, we need a system. This system is called the **Cardinal Vowel System**.

What does this system mean?

*This system does not belong to any language and is based on a set of auditory reference points.*

So, first of all, this system is not related to any language; it is a standard, and you can apply it to any language.

*The vowels of any language are described in terms of how close they are to these reference points.*

So, this system specifies some reference points, and we describe the vowel based on how close it is to these reference points. So, this is how we describe a vowel.

Now, let us try to understand these reference points.

Vowels can be measured by three things: the **heightness**, the **backness**, and the **roundness**.

So, to describe vowel sounds, we have three things to consider:

### 1. **The Heightness:**

What do we mean by the height?

It is the distance between the roof the mouth and the surface of the tongue.



So, when we want to describe any vowel sound, we have to mention the distance between the roof of the mouth and the surface of the tongue.

We have:

- Close
- half-close / mid-close
- half-open / mid-open
- Open

When the distance between the roof of the mouth and the tongue is far while producing the vowel, then we describe the vowel that we produce as "open" (e.g. /a:/ as in 'art').

On the other hand, when the distance between the roof of the mouth and the tongue is near, then we describe the vowel that we produce as "close" (e.g. /i:/ as 'eat').

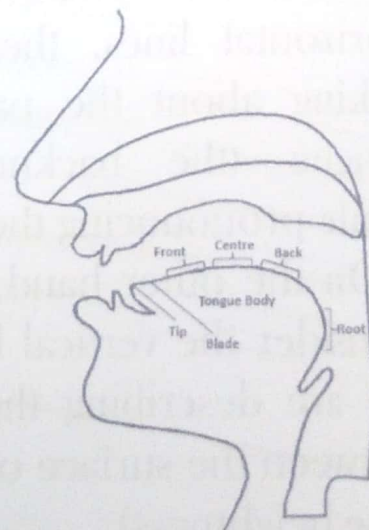
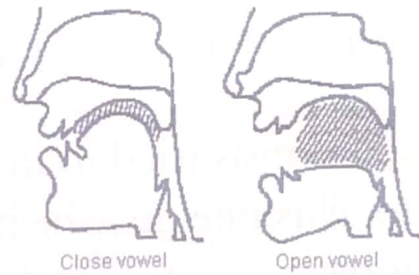
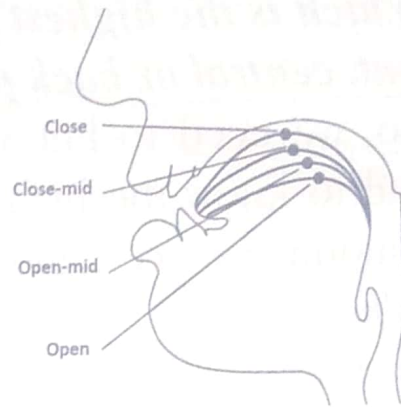
Some vowels are in-between (neither far nor near). In this case, we call these vowels as half-close or half-open.

## 2. The Backness (The Part of the Tongue):

Now, the second thing that we need to consider while describing the vowel is which part of the tongue we use while pronouncing the vowel.

We need to mention which part of the tongue we are using in pronouncing the vowels:

- Front
- Centre
- Back



*In order to classify a vowel according to the shape of the tongue, we need to know:*

*Which is the highest part (peak) of the tongue? Is it the front, central or back part of the tongue?*

So, we need to know the 'peak' point of the tongue; we need to know the highest point the tongue can reach while pronouncing a certain vowel.

*When the peak is the front of the tongue, we get a front vowel, when the peak is the central part of the tongue, we get a central vowel and when the peak is the back of the tongue, we get a back vowel.*

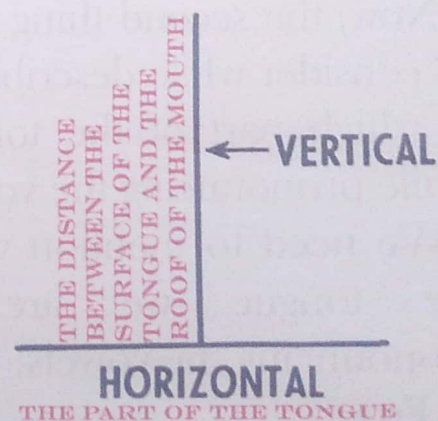
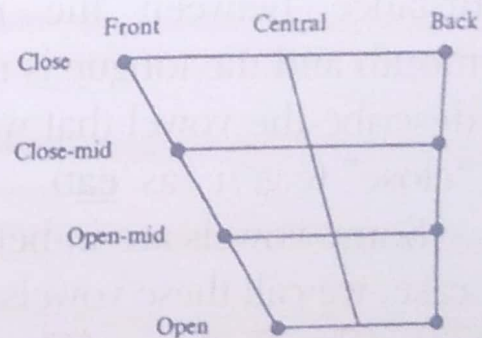
So, I have to mention whether the peak happens in the front, center or back part of the tongue.

\* \* \*

Linguists tried to draw a diagram to illustrate in which part of the tongue each vowel occurs, and how much the distance is between the tongue and the roof of the mouth. So, they come up with the following diagram:

So, when we take the horizontal lines, then we are talking about the part of the tongue (the backness) used while pronouncing the vowel.

On the other hand, when we consider the vertical lines, then we are describing the distance between the surface of the tongue and the roof of the mouth (the heightness).

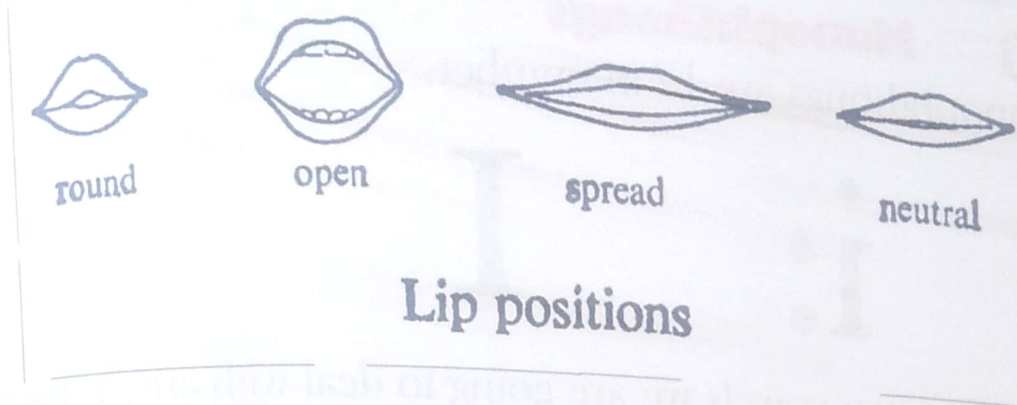




Now, let us move to the third criterion, which the roundness.

### 3. The Roundness (the Shape of the Lips):

This criterion has to do with the lips. We have four shapes of the lips:



- Spread lips:** It is just like when we smile. An example of sounds with spread lips is /i:/ as in (eat).
- Neutral lips:** this is the normal shape of lips. An example of sounds with neutral lips is /ə/ as in (heater).
- Open lip-rounding:** An example of sounds with open lips is /a:/ as in (car).
- Rounded lips:** An example of sounds with open lips is /u:/ as in (moon).

So, these are the three criteria of describing vowels: the heightness and the backness have to do with the tongue, while the roundness has to do with the lips.

Next lecture, we are going to describe each vowel depending on these three criteria.

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Now, let us review the vowels.

Vowels in phonetics are of two types:

1. Monophthongs

2. Diphthongs

What do we mean by a 'monophthong'?

**Student:** One vowel.

**Instructor:** That's right! It is a one voiced vowel.

What do we mean by a 'diphthong'?

**Student:** Two vowels.

**Instructor:** That's right! It consists of two voiced vowels.

## (1) Monophthongs

Monophthongs are 12 in number.

i: I

The first two vowels we are going to deal with are /i:/ (as in eat) and /I/ (as in 'in').

Notice that my lips are spread while pronouncing these two vowels.

### NOTE:

*The two dots in /i:/ indicate that it is a long vowel. Hence, we can say that /i:/ is a long vowel, while /I/ is a short vowel.*

/i:/	/I/
<u>eat</u>	<u>if</u>
<u>tea</u>	<u>lip</u>
<u>free</u>	<u>his</u>
<u>tree</u>	<u>tip</u>
<u>meet</u>	<u>ridge</u>
<u>clean</u>	<u>ship</u>
<u>heat</u>	<u>will</u>
<u>seat</u>	<u>miss</u>



u:      ʊ

So, the third vowel is /u:/ (as in 'food /fu:d/')

The fourth vowel is /ʊ/ (as in 'foot /fʊt/')

/u:/	/ʊ/
<u>t</u> ooth	b <u>o</u> ok
sp <u>o</u> on	h <u>o</u> ok
<u>c</u> ool	<u>c</u> ook
<u>f</u> ood	w <u>o</u> od
<u>s</u> oon	<u>g</u> ood
<u>m</u> oon	<u>p</u> ush
<u>r</u> oot	<u>t</u> ook

Now, the fifth vowel is /e/ (as in 'egg').

/e/
egg
end
edge
leg
send

e

The sixth vowel is /æ/ (as in 'cat').

/æ/
add
ant
rat
man
black

æ

The seventh vowel is /ɜ:/ (as in 'urge').

/ɜ:/
<u>b</u> ird /bɜ:d/
<u>g</u> irl /gɜ:l/

ɜ:

<u>f</u> irm
lea <u>r</u> n
ea <u>r</u> n
wo <u>r</u> k
fi <u>r</u> st

The eighth vowel is /ə/. It is called the schwa sound.

/ə/
<u>a</u> bout /ə'baʊt/
wri <u>t</u> er /'raɪ.tə/
<u>m</u> atter
<u>a</u> fter
do <u>c</u> tor



The ninth vowel is /ʌ/ (as in 'up').

/ʌ/
<u>c</u> t
h <u>u</u> t
<u>r</u> n
j <u>u</u> mp



The tenth vowel is /ɔ:/ (as in 'oar').

/ɔ:/
<u>o</u> ar /ɔ:/
<u>l</u> aw
w <u>a</u> lk
w <u>a</u> ter
w <u>a</u> r
h <u>a</u> ll
t <u>a</u> ll



The eleventh vowel is /ɒ/ (as in 'on'). This is the short vowel of /ɔ:/.



/ɒ/
<u>o</u> x
h <u>o</u> g
h <u>o</u> t
t <u>o</u> p
ch <u>o</u> p
g <u>o</u> t

ɒ

Of course, we are dealing here with British English.  
Now, the last vowel is /ɑ:/ (as in 'arms').

/ɑ:/
car / <b>kɑ:</b> /
ask / <b>ɑ:</b> sk/
dar <u>k</u>
<u>ar</u> t
ba <u>r</u> n
sta <u>r</u>

ɑ:

So, these are the monophthongs in English.

Next time, we are going to describe these vowels in detail based on the three criteria we mentioned previously.

Whenever you want to check the pronunciation of any word, I advise you to go to an online dictionary. You will have both the British and the American pronunciation of the word.

NOTE: In this course, we focus on the British pronunciation only.

That's all for today.

*See you next Friday!*

Dear students,

*There are certain apps that you can install in your phones which can help you understand this course fully. I will list them bellow with their icons. You can either download them or ask the employees in al-Anwar bookshop to send them to you.*

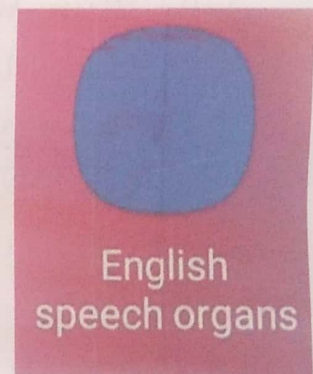
1. *Learn English Sounds Right* (highly recommended): It shows you the sound, its pronunciation and examples of it.



2. *English Pronunciation*: This app is similar to the previous one. The only difference is that the previous one is in British accent, whereas this one is in the American accent (At this point, you are required to learn British accent).



3. *English Speech Organs*: This app is helpful to have a second look on the organs of speech:



Study Smart..

