



مقطع تحصیلی: کاردانی □ کارشناسی ■ رشته: مترجمی همزمان ترم: ۲ سال تحصیلی: ۱۳۹۸ - ۱۳۹۹
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جزوه درس: آواشناسی (سه شنبه ساعت ۴-۸؛ ۲۷ خرداد) مربوط به هفته : دوازدهم ■
text: دارد □ ندارد ■ voice: دارد □ ندارد ■ power point: دارد □ ندارد ■
تلفن همراه مدیر گروه :
کلاس حضوری طبق برنامه دانشگاه برای رفع اشکال و تمرین تشکیل
خواهد شد. ویدئو آموزشی نیز دارد!

خلاصه ای از مهم ترین مطالب ارائه شده در جلسات قبلی!

❖ What is PHONETICS?

Phonetics is the general study of the characteristics of speech sounds (phonemes).

So, when we study how humans produce or perceive sounds of a language/languages (for example, how we produce /p/ like in پارک or /s/ like in

سمنان in Persian or /θ/ in English like in THINK), we are doing phonetics!

1. Articulatory phonetics: This branch of phonetics studies how we produce speech sounds (for example, consonants and vowels). So, it deals with the articulation (=production) of human speech sounds.

2. Acoustic phonetics: This branch of phonetics studies speech sounds as sound waves in the air! It studies speech sound waves and their physical acoustic characteristics in advanced laboratories.

3. Auditory phonetics: It is also called perceptual phonetics because it studies how we understand and perceive speech sounds by our ears and



mental mechanisms. For example, what happens in our ears and brain capacities that we hear the sound /s/ as /z/ and not as /d/ or /z/!

❖ There are TWO types of speech sounds in every language:

Consonants: Consonants are those speech sounds (phonemes) that there is an obstruction (either complete or incomplete) of air somewhere in the vocal tract when they are produced. For example, when we produce the phoneme /t/ in the word TEACHER, the air is stopped completely behind our tongue and alveolar ridge, then suddenly released. Some English consonants are: /p/, /t/, /k/, /b/, /d/, /g/, /s/, /n/, /m/, /w/, /v/ and /θ/.

- We can categorize consonants based on THREE aspects:

1. **Voicing:** If the vocal folds vibrate while producing a consonant, we say the consonant is **voiced**; if not, we say it is voiceless. For example, /p/, /t/ and /k/ are **voiceless** but /b/, /d/ and /g/ are voiced. **See Video-3**

2. **Place of articulation:** Where is a consonant produced in the vocal tract? Which articulators (lips, teeth, tongue, alveolar ridge, hard palate, soft palate, glottis, nasal passage) are involved? For example, when we produce /b/, our upper lips and lower lips touch each other to stop the airflow and release it to produce this phoneme (that is



why it is called bilabial = two lips!). Or when we produce /s/, the blade of your tongue touches the upper alveolar ridge to make the friction necessary to produce this phoneme (that is why it is called an alveolar phoneme!). See Figure 1 for articulatory organs involved in the production of consonant phonemes.

3. **Manner of articulation:** How consonant phonemes are produced?

What happens to the airflow when they are produced! Is the airflow completely stopped, is it stopped in the mouth but open in the nose, is it released with friction or very roughly restricted at all? These questions are answered based on the manner of articulation. For example, when we produce /z/, the air is pushed out with a friction creating a continuous sound (that is why it is called a fricative consonant). When we produce /d/, the airflow is completely stopped (so it is called a STOP consonant).

❖ Categorization of Consonants based place of articulation

1. Bilabials (دولبی): Consonants made by the two lips! In English /p/, /b/, /m/ and /w/

Park, Bar, Mother, Window

در این همخوان ها (consonants)، هوا پشت دو لب گیر کرده یا با سایش از پشت دو لب خارج می شود برای همین دو لبی نامیده می شوند.

2. Labiodentals (لبی-دندانی): Consonants made by upper teeth and lower lip. In English /f/ and /v/.

Farsi, Video

در این همخوان ها، هوا بین دندان های بالا و لب پایین گیر کرده و با سایش خارج می شود.



3. Dentals (دندانی): Consonants made by the tip of the tongue placed between the teeth. In English /θ/ and /ð/
Think, Father

در این همخوان ها، زبان میان دو دندان جلو قرار می گیرد و هوا با سایش خارج میشود.

4. Alveolar (لثوی): Consonants made by the blade of the tongue place on the upper alveolar ridge. In English /t/, /s/, /d/, /n/, /z/, /l/ and /r/
Tank, Size, Doctor, Nice, Zoo, Lips, Run

در این همخوان ها، تیغه زبان بر روی لثه پشتی دندان ها بالا قرار می گیرد و هوا یا با سایش و یا با گیردن و سپس انفجاری خروجی خارج می شود.

5. Palatals (سخت کامی): Consonants made by the tongue placed on the roof of the mouth. In English /ʃ/, /tʃ/, /ʒ/, /dʒ/ and [j]
Shop, Chart, Casual, Gem and Yet

در این همخوان ها، قسمت جلویی زبان و گاهها بالای زبان به سقف دهان برخورد می کند و هوا با سایش و یا گیر و سایش خارج می شود.

6. Velars (نرم کامی): Consonants made by the back of tongue touching the velum. In English /k/, /g/ and /ŋ/
Car, Gun, King

در این همخوان ها، قسمت عقبی زبان قسمت انتهایی سقف دهان (نرم کام) را لمس کرده و هوا با گیر و رهش یا از دماغ خارج می شود.

7. Glottals (چاکنایی): Consonants made in the glottis (space between vocal cords).
In English /h/
Who, Hospital

❖ Categorization of Consonants based manner of articulation

1. Stops (انسدادی)



In these consonants, the airflow is **completely stopped** and then **suddenly released**. English has three voiceless stops (/p/, /t/, /k/) and three voiced stops (b/, /d/, /g/). Remember that when we say voiced, it means that vocal folds are vibrating in the larynx.

/p/ = park, opt

/t/ = talk, interest

/k/ = quick, key

/b/ = barking, abrupt

/d/ = dog, indeed

/g/ = gun, rug

2. Fricatives (سایشی)

In these consonants, a **narrow passage** forms between two articulators (for example between upper teeth and lower lip to produce /v/ and /f/) and the airflow is forced to **pass with a friction**. Unlike Stops, you can continue making fricative consonants. English has five voiceless fricatives (/f/, /θ/, /s/, /ʃ/, /h/) and four voiced fricatives (/v/, /ð/, /z/, /ʒ/).

/f/ = free, different

/θ/ = think, athlete

/s/ = receive, sink

/ʃ/ = ship, perish

/h/ = hollow, hill

/v/ = vendetta, vest

/ð/ = mother, breathe

/z/ = cloze, zigzag



/ʒ/ = measure, usual

3. Affricates (انسایشی: انسدادی + سایشی)

In these consonants, first the airflow briefly stops but then it is released through a narrow gap. So, it is similar to Stops (the airflow is blocked) and similar to fricatives (passing through a narrow gap with friction). English has one voiceless affricate (/tʃ/) and one voiced affricate (/dʒ/).

/tʃ/ = church, peach

/dʒ/ = judge, jungle

4. Nasals (خیشومی)

In these consonants, the airflow is stopped in the oral cavity (mouth) but passes through the nasal cavity (nose!). English has three voiced nasals (/m/, /n/, /ŋ/).

/m/ = mother, drama

/n/ = afternoon, nurse

/ŋ/ = king, think

5. Liquids (روان)

In these consonants, the airflow passes freely through the oral cavity although there is a sort of obstruction! English has two voiced liquids (/l/ and /r/). In /l/, the tip of the tongue touches the alveolar ridge but the airflow passes freely from the sides of the tongue. In /r/, the tip of the tongue is raised up getting very close to the alveolar ridge but the airflow passes freely out.

/l/ = ladder, clip



/r/ = run, car

6. Glides (غلطان)

These consonants are called glides because they are produced with the tongue in motion to or from the position of a vowel. Indeed, these consonants are very similar to vowels in characteristics. In both of these consonants, the air is flowing freely out of the mouth (like vowels and liquids). English has two voiced glides (/w/ and /j/).

/w/ = window, wind

/j/ = jusual, yet

Vowels: Vowels are those speech sounds (phonemes) that there is NO obstruction of air in the vocal tract when they are produced. The air passes freely out of lungs, through the mouth and finally out of the lips. For example, when we produce the word *FATHER*, we produce the vowel /a:/ by freely passing the air out of our lungs and mouth. Some English vowels are: /a/, /e/, /i/, /I/, /u/, /ɔ/ and /ə/.

❖ **Three Main Features Distinguishing Vowels:**

1. The Height of the Tongue: Is the tongue HIGH, Mid or Low?!
2. The Backness of the Tongue: Is the FRONT part of the tongue, the



CENTRAL part or the BACK of the tongue involved?!

3. The Shape of the Lips: Are the lips ROUND, NEUTRAL or SPREAD?!

Round: /u:/ = pool, cool; /ɔ:/ = for, door

Neutral: /e/ = bed, bread

Spread: /i:/ = feel, sheep

English Vowels:

Table 3.3

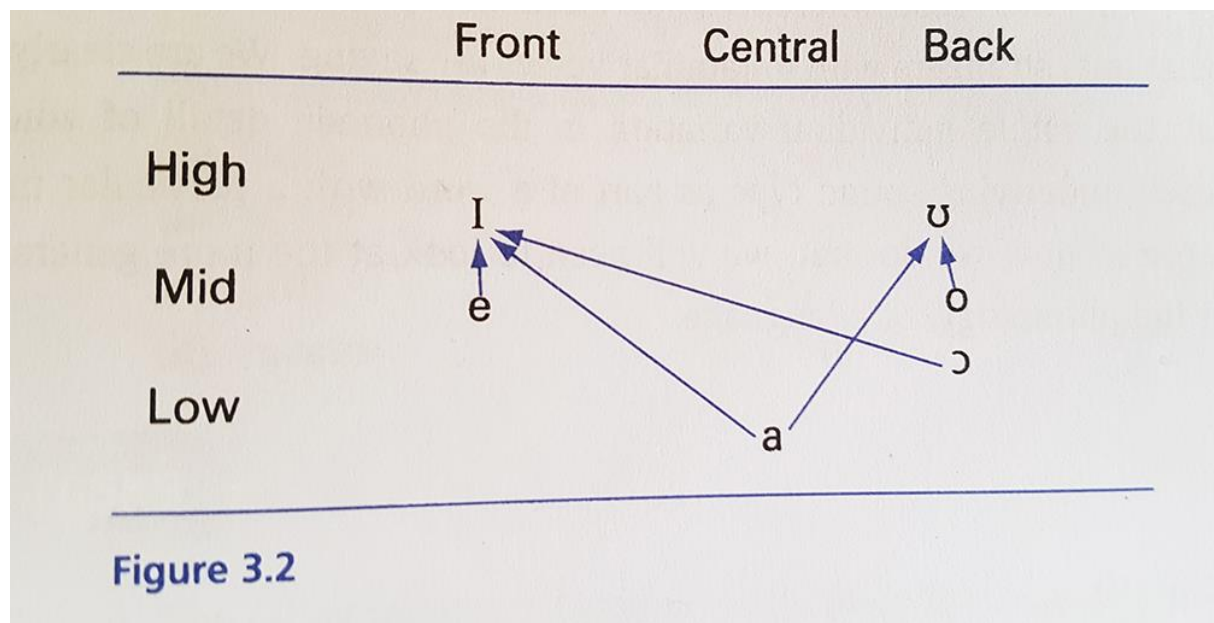
	Front	Central	Back
High	i		u
Mid	ɪ e	ə	ʊ o
Low	ɛ æ	ʌ a	ɔ ɑ



Table 3.3

	Front	Central	Back
High	i sheep, feel		u fool, move, pool
Mid	ɪ ship, women e bed, dead ɛ	ə above, oven ʌ cut, but, dove	ʊ full, pull, put o * ɔ for, born, fall
Low	æ bad, cap	ɑ *	ɑ car, cot

Diphthongs: Diphthongs are a combination of two consecutive vowels pronounced in one syllable. For example, in the one-syllable word bait /beɪt/, there is a diphthong (compound vowel) between the two consonants, starting from the vowel /e/ and finishing with the vowel /ɪ/.





Diphthongs

[aɪ] *buy, eye, I, my, pie, sigh*

[oʊ] *boat, home, throw, toe*

[aʊ] *bough, doubt, cow*

[ɔɪ] *boy, noise*

[eɪ] *bait, eight, great, late, say*

Extra Picture:

