

In linguistics, the classification of **consonants and vowels** is based on how speech sounds are produced in the vocal tract. The fundamental distinction lies in the degree of obstruction to the airflow. While both are speech sounds produced by the organs of speech, they differ in articulation, function, and phonological behavior.

I. Vowels

A **vowel** is a speech sound produced **without any significant obstruction** to the airflow as it passes through the vocal tract. When pronouncing a vowel, the air flows freely from the lungs through the larynx and out of the mouth. Vowels are typically voiced, meaning the vocal cords vibrate during their production.

1. Classification of Vowels

Vowels are classified mainly on three criteria:

(1) Height of the Tongue (Vertical Position)

This refers to how high or low the tongue is raised in the mouth:

- **Close (High) vowels** – The tongue is raised close to the roof of the mouth (e.g., /i/ as in “see”, /u/ as in “food”).
- **Mid vowels** – The tongue is positioned midway (e.g., /e/, /ə/).
- **Open (Low) vowels** – The tongue is lowered (e.g., /a/ as in “father”).

(2) Frontness or Backness of the Tongue (Horizontal Position)

This describes which part of the tongue is raised:

- **Front vowels** – Produced with the front of the tongue raised (e.g., /i/, /e/).
- **Central vowels** – Produced with the central part of the tongue (e.g., /ə/).
- **Back vowels** – Produced with the back of the tongue raised (e.g., /u/, /o/).

(3) Lip Position (Rounding)

- **Rounded vowels** – Lips are rounded (e.g., /u/, /o/).
- **Unrounded vowels** – Lips are spread or neutral (e.g., /i/, /e/).

(4) Length

Some languages distinguish between **short and long vowels** (e.g., /ɪ/ vs. /i:/ in English).

Thus, vowels are primarily classified by tongue height, tongue position, lip rounding, and length.

II. Consonants

A **consonant** is a speech sound produced **with some degree of obstruction or closure** in the vocal tract. The airflow is partially or completely blocked at some point during articulation. Consonants may be voiced or voiceless.

1. Classification of Consonants

Consonants are classified according to three main factors:

(1) Place of Articulation

This refers to where the obstruction occurs in the vocal tract:

- **Bilabial** – Both lips (e.g., /p/, /b/, /m/)
- **Labiodental** – Lower lip and upper teeth (e.g., /f/, /v/)
- **Dental** – Tongue and teeth
- **Alveolar** – Tongue and alveolar ridge (e.g., /t/, /d/, /s/, /z/)
- **Palatal** – Tongue and hard palate
- **Velar** – Back of tongue and soft palate (e.g., /k/, /g/)
- **Glottal** – At the glottis (e.g., /h/)

(2) Manner of Articulation

This refers to how the airflow is obstructed:

- **Plosives (Stops)** – Complete closure and sudden release (e.g., /p/, /t/, /k/)
- **Fricatives** – Narrow passage causing friction (e.g., /f/, /s/)
- **Affricates** – Combination of plosive and fricative (e.g., /tʃ/)
- **Nasals** – Air passes through the nose (e.g., /m/, /n/)
- **Liquids** – Lateral or flowing sounds (e.g., /l/, /r/)
- **Glides (Semivowels)** – Sounds like /w/ and /j/, which resemble vowels but function as consonants

(3) Voicing

- **Voiced consonants** – Vocal cords vibrate (e.g., /b/, /d/, /g/)
- **Voiceless consonants** – No vibration (e.g., /p/, /t/, /k/)

III. Major Differences Between Vowels and Consonants

Feature	Vowels	Consonants
Airflow	No obstruction	Partial or complete obstruction
Function	Form the nucleus of syllables	Occur at syllable margins
Voicing	Usually voiced	Voiced or voiceless
Classification	Based On Tongue height, position, lip rounding	Place, manner, voicing

Vowels typically form the **core (nucleus) of a syllable**, whereas consonants occur at the beginning or end of syllables. For example, in the word “cat,” /æ/ is the vowel nucleus, and /k/ and /t/ are consonants.

Conclusion

The classification of consonants and vowels in linguistics is based on articulatory principles. Vowels are produced with an open vocal tract and are classified according to tongue position and lip shape, while consonants involve obstruction and are classified by place and manner of articulation and voicing. Understanding this distinction is fundamental to phonetics and phonology, as it helps explain sound systems, pronunciation patterns, and language structure across different languages.