

Distinguishing Speech and Non-Speech Sounds Through Phonemic Hearing

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Received: 23 April 2026; **Accepted:** 18 May 2026; **Published:** 11 June 2026

Abstract: This article analyzes the role of phonemic hearing in shaping the sound culture of children's speech, the stages of differentiating acoustically similar phonemes, and modern pedagogical technologies used in correcting speech defects. The purpose is to provide teachers and speech therapists with a collection of didactic games and methodological recommendations that serve to develop students' speech perception, thereby helping to improve the quality of education and students' spelling literacy.

Keywords: Phonetic, phonemic, speech sounds, non-speech sounds, game, perception, attention.

Introduction: Phonemic hearing is a person's ability to distinguish speech sounds (fonemas) from one another, perceive them correctly, and understand them. This process plays an important role in understanding speech and pronouncing it correctly. If phonemic hearing is well-developed, a person can clearly distinguish speech sounds, hear words correctly, and understand them according to their meaning.

One of the main functions of phonemic hearing is distinguishing between speech and non-speech sounds. Speech sounds are sounds pronounced by humans that form words and sentences. For example, phonemes like [a], [b], [m], and [s] are considered speech sounds.

These sounds combine with each other to form words with specific meanings.

Non-speech sounds, on the other hand, are sounds heard in the environment that do not belong to the language system. For example, the sound of the wind, raindrops, a creaking door, a car horn, or birds chirping are classified as non-speech sounds. These sounds do not convey structural meaning, but they are perceived through human auditory senses.

In the process of developing phonemic hearing, a child

or individual first perceives various sounds in a general, undifferentiated way, and later learns to categorize them. The ability to distinguish between speech and non-speech sounds is an important stage of speech development. If this ability is insufficiently developed, it can lead to mishearing words, pronunciation errors, and difficulties in understanding speech. Special exercises are used to develop this skill. For example, activities such as having children listen to various sounds and categorize them into "speech" and "non-speech" groups, repeating words upon hearing them, and working with minimal pairs are considered highly effective.

One of the urgent tasks facing modern special education and speech therapy is the early detection and elimination of defects in children's speech development. The formation of speech activity directly depends on the functional state of the auditory analyzer. In this process, it is not just physical hearing that matters, but phonemic perception—which differentiates speech units based on meaning—that plays a decisive role.

Phonemic hearing is the ability to perceive the phoneme system of a language and analyze the

sequence of sounds within a word along with their differential features (voiced-voiceless, hard-soft, plosive-fricative). As the Russian linguist L.S. Vygotsky pointed out, phonemic development is the "core" of the formation of a child's speech thinking.

Pedagogical practice shows that the basis of many speech defects (such as dyslalia, dysarthria, and general speech understatement/underdevelopment) lies precisely in a weak ability to differentiate sounds. When a child cannot distinguish between sounds that have similar articulation or acoustic characteristics (for example, [s]-[sh], [r]-[l], [g]-[k]), it results in persistent errors in written speech. This, in turn, negatively affects the student's academic performance.

Developing phonetic and phonemic hearing and speech perception

Phonetic and phonemic processes play an essential role in the formation of human speech.

Phonetic hearing is the ability to hear speech sounds correctly, distinguish their acoustic characteristics, and perceive subtle nuances in pronunciation. Through this process, a person perceives the pitch, strength, and tone of sounds.

Phonemic hearing, however, is a more complex psychological process, representing the ability to distinguish and analyze speech sounds (phonemes) as meaningful units. While phonetic hearing focuses on the physical properties of a sound, phonemic hearing serves to isolate their meaning-distinguishing aspects. For example, distinguishing between the sounds [b] and [p], or [s] and [sh] is achieved specifically through phonemic hearing.

In the speech process, speech sounds are those produced by humans to form words. They are the core units of the language system and are directly involved in expressing meaning. For instance, sounds like [a], [m], [k], and [l] are speech sounds.

At the same time, humans hear various non-speech sounds in the environment. These consist of different noises in nature and society—the wind blowing, rain falling, a knock on the door, a car horn, or birds chirping. These sounds do not carry linguistic meaning, but they play an important role in the development of auditory perception.

Game-based methods hold a special significance in

developing children's ability to distinguish between speech and non-speech sounds. During a game, the child participates actively, listens to sounds carefully, and learns to classify them. For example, activities like listening to various sounds and dividing them into "speech" and "non-speech" groups, or performing an action corresponding to the sound heard, are highly effective.

Such activities activate the child's perceptual processes. Perception is the process of holistically receiving sounds, objects, and events from the environment into consciousness. As phonemic hearing develops, the child perceives sounds more clearly and can analyze them correctly.

Attention also plays an important role in this process. Focused attention allows the child to isolate the sounds being heard, remember them, and respond correctly. If attention is weak, phonemic analysis becomes difficult as well.

The purpose of this article is to outline a systematic methodology for educators and speech therapists to form sound differentiation by developing phonemic hearing, integrating theoretical knowledge with practical didactic games.

Educational and didactic games

Game: "Figure out what to do"

- Purpose of the game: To act while listening carefully to sound and to develop movement coordination.

- Equipment: 2 circles, flags, or rattles for each child.

- Procedure: Children stand or sit in a semicircle. Each child holds two flags. When the speech therapist plays the tambourine/drum loudly, the children raise their hands high and wave the flags. When the speech therapist plays it softly, the children lower their flags.

Children must also be able to determine where the sound is coming from.

- Note: Monitor whether the children are performing the movements correctly.

Game: "Be attentive"

- Purpose of the game: To strengthen the connection between letters and sounds in students.

- Procedure: The speech therapist pronounces open

and closed syllables containing the sounds [B] and [P]. When students hear a sound, they display the corresponding cutout letter: Ba, po, ab, ip, ob, pe, be, ib, ob, ... Students who participate actively are rewarded with paper fish tokens.

Task: Read the words written on the board, insert the missing letter in place of the dot, and read the word fully. Then, find the corresponding picture among the object cards and place it in its correct spot on the fish skeleton diagram.

Words to complete: Kito. (Kitob - book), yo'lars (yo'lbars - tiger), .iyola (piyola - bowl), axta (paxta - cotton), .eshik (beshik - cradle), rubo. (rubob - rubab).

Game: "The magic letter" (Written differentiation)

- Purpose of the game: To prevent dropping or swapping letters in writing.
- Procedure: Words are written on the board or worksheets, but the letters being differentiated are replaced with ellipses/dots. The student must insert the correct letter based on the meaning.

Example (P - B pair): ...ola (bola - child), ...ol (pol - floor), ki...o... (kitob - book), ma...ta... (maktab - school).

Game: "Outside the circle"

- Purpose of the game: To teach children to differentiate non-speech sounds.
- Procedure: Participants initially stand in a circle. Pictures of various animals are attached to the backs of the children standing in line without showing them. Then, the children are invited to a colored ring layout. Circles of various colors are placed around the area, including one black circle. The children begin moving around the circle to the sound of music. When the music stops, whichever child ends up on the black circle must describe the animal pinned to the back of the child in front of them using mimicry and imitation.
- Impact: This exercise helps develop children's imitation skills and serves to assess the development of their auditory and visual perception. A participant who fails the task steps outside the circle and remains there until the end of the game. Children of preparatory age possess a strong desire to participate individually and win, alongside teamwork. By utilizing this trait effectively, we can check their aforementioned development indicators.

CONCLUSION

It is recommended that primary school teachers dedicate 5–7 minutes of every native language and reading literacy lesson to a "Phonetic Minute." This helps reduce students' spelling errors by 30–40%. Furthermore, it allows children to form skills in identifying non-speech sounds by ear and reproducing non-speech sound patterns using their articulatory organs.

The development of phonemic hearing is an essential condition for speech formation, serving as one of the key factors ensuring a child's intellectual development, social adaptation, and academic success. Therefore, organizing systematic work aimed at developing phonemic hearing during preschool and primary education stages, and strengthening cooperation among educators, speech therapists, and parents, remains an urgent task.

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