

Speech Development Factors in Surdopedagogy

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	Abstract Speech development in children with hearing impairments is one of the most complex yet crucial areas of special pedagogy. Surdopedagogy – the science of educating and developing children with hearing loss – emphasizes the systematic integration of linguistic, cognitive, social, and technological factors that promote communication competence. This paper analyzes the main internal and external factors that influence speech development among deaf and hard-of-hearing learners, focusing on psychological, linguistic, environmental, methodological, and technological determinants. It also discusses the pedagogical implications for modern surdopedagogical practice in inclusive and specialized settings.
Keywords: Surdopedagogy, speech development, hearing impairment, communication, linguistic competence, pedagogy, speech therapy, inclusive education.	

Introduction

Speech development represents a cornerstone of human communication, social adaptation, and cognitive formation. In the field of surdopedagogy, it plays a particularly vital role because hearing impairment disrupts the natural mechanism of speech acquisition through auditory perception. Thus, the process of developing speech in children with hearing loss is not spontaneous but guided – it requires pedagogical correction, psychological support, and methodological adaptation. The importance of this topic stems from the growing number of children with various degrees of hearing impairment integrated into mainstream education. According to the World Health Organization (WHO, 2023), approximately 430 million people worldwide live with disabling hearing loss, and among them, a significant proportion are children. Therefore, the problem of speech development within surdopedagogical practice continues to be of global relevance.

Theoretical Foundations of Speech Development in Surdopedagogy. Speech development in surdopedagogy is based on interdisciplinary principles that combine linguistics, psychology, neurophysiology, and pedagogy. Scholars such as L.S.Vygotsky, R.M.Boskis, and S.A.Zykov have emphasized the role of social interaction and sign-symbolic mediation in the development of verbal communication among deaf children.

From a linguistic perspective, speech formation is the acquisition of phonetic, lexical, and grammatical systems through auditory and visual channels. For children with hearing impairments, the auditory pathway is limited, and thus visual and kinesthetic modalities (lip reading, dactyl alphabet, gesture signs) compensate for auditory deficiency.

Psychologically, speech development relies on the activation of cognitive processes such as attention, memory, and imagination. Vygotsky's concept of the zone of proximal development applies strongly here – indicating that social mediation (interaction with teachers and peers) accelerates speech formation even in the absence of full auditory input.

Modern surdopedagogical practice is built on the principles of individualization, visualization, systematic correction, and multimodal communication. Teachers must design instruction that activates residual hearing, integrates gesture and oral forms of communication, and develops understanding through practical, emotionally meaningful contexts.

Factors Influencing Speech Development in Children with Hearing Impairments. The process of developing speech in hearing-impaired learners depends on a wide range of interrelated factors. These can be classified into five main groups: biological, psychological, social, pedagogical, and technological.

The degree and type of hearing loss (congenital or acquired, partial or total) directly determine the possibility of spontaneous speech development. Early diagnosis and medical intervention are crucial for preventing secondary speech and cognitive delays. According to auditory rehabilitation studies, children who receive cochlear implants or hearing aids before the age of two show significantly better speech outcomes than those with late intervention.

Psychological Factors. Motivation, emotional stability, and self-esteem play decisive roles in speech learning. Children with positive emotional environments and supportive relationships with adults tend to demonstrate stronger persistence and interest in communication. Speech development should thus be closely tied to psychological correction and emotional regulation programs.

Social Factors. The family environment is a key determinant in the formation of communicative competence. Parental involvement, consistent communication at home, and emotional acceptance foster verbal and non-verbal expression. Conversely, social isolation or overprotection can delay language progress. Peer interaction, inclusive educational settings, and social modeling enhance speech learning opportunities.

Pedagogical and Methodological Factors. Effective surdopedagogical instruction combines structured linguistic exercises, auditory training, and expressive activities such as storytelling, dramatization, and dialogic interaction. Teachers must apply differentiated approaches, considering each learner's auditory capacity and communicative level. Methods include: Lip-reading training, Phonetic rhythemics, Visual-auditory articulation exercises, Reading aloud and expressive reading, Speech therapy games and modeling situations.

Technological Factors. Modern technology serves as a transformative tool in surdopedagogy. Digital hearing aids, cochlear implants, and visual speech recognition software provide new opportunities for interactive communication. Multimedia programs, captioned educational videos, and speech training applications support both individual and group learning. Virtual reality and artificial intelligence are also being integrated into modern speech therapy tools to simulate real communication environments.

Pedagogical Strategies for Enhancing Speech Development

The earlier the child is exposed to systematic speech and auditory training, the more successful the outcomes. Early intervention centers should focus on stimulating residual hearing, developing visual perception of speech, and forming a positive attitude toward communication. Speech should be taught as a functional system – not only as pronunciation but as a tool for expressing thoughts, feelings, and social intentions.

Integration of Multimodal Communication. Surdopedagogy recognizes various communication systems: oral speech, finger spelling, sign language, and writing. Modern approaches advocate for bimodal communication – combining oral and sign systems to ensure mutual reinforcement. This integrative method enhances comprehension, vocabulary acquisition, and syntactic skills.

Use of Game and Art-based Learning. Play, music, and artistic expression are powerful means of activating speech motivation. Speech games, rhythmic exercises, and visual art activities create an emotionally safe and stimulating environment. For example, role-playing dialogues and dramatized stories allow children to use speech in context, improving both vocabulary and expressiveness.

Inclusive Educational Practices. In inclusive classrooms, speech development is supported through cooperative learning, peer mentoring, and differentiated instruction. Teachers must coordinate with speech therapists, psychologists, and audiologists to ensure consistency of correctional and developmental objectives. Inclusion fosters social interaction, which naturally motivates verbal communication.

The Role of the Teacher in Surdopedagogical Speech Development. Teachers play a decisive role in managing the complex process of speech formation among hearing-impaired learners. Their competence includes:

- Diagnosing speech and hearing levels;
- Designing individualized development programs;
- Implementing multimodal instructional techniques;
- Collaborating with families and specialists;
- Using assistive technology effectively.

Pedagogical empathy, patience, and creativity are essential traits. A surdopedagogue must constantly monitor and adjust teaching strategies according to each child's progress and needs.

Challenges and Future Directions. Despite the progress in technology and methodology, challenges remain:

- Limited access to modern assistive devices in developing regions;
- Insufficient teacher training in inclusive communication methods;
- Lack of standardized speech development curricula in special schools;
- Societal stigma and misunderstanding of deafness.

Future research in surdopedagogy should focus on developing integrative assessment systems, AI-based speech recognition tools, and cross-modal teaching methods that merge auditory, visual, and tactile feedback.

Conclusion

Speech development in surdopedagogy is a multi-factorial and dynamic process requiring coordinated efforts among educators, psychologists, families, and medical specialists. Effective development depends on early diagnosis, pedagogical innovation, emotional support, and technological advancement. Modern surdopedagogy, grounded in humanistic and interdisciplinary principles, aims to enable every child with hearing impairment to achieve full communicative competence and social integration.

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