COGNITIVE DEVELOPMENT AND INTERRELATIONS OF LEARNING PROCESSES IN PRESCHOOL CHILDREN WITH SPEECH DELAY

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Abstract. *The article examines the development of cognitive processes in preschool children with speech delay. The study analyzed the interrelation between speech, thinking, perception, attention, and memory, as well as the uneven development of these processes and their impact on cognitive functioning. Using observation, psychological-pedagogical diagnostics, and pedagogical correctional activities, the characteristics of cognitive processes in children with speech delay were identified. The results showed that speech delay is not only a communicative problem but also a complex factor affecting the overall psychological development of the child. Specially organized developmental activities were found to be effective in stimulating speech, thinking, and other cognitive processes. The article has scientific and practical significance for designing individualized developmental programs in preschool education and enhancing children's readiness for school.*

Keywords. *children with speech delay, preschool age, cognitive development, cognitive processes, thinking, perception, attention, memory, pedagogical-correctional approach.*

Preschool Age as a Critical Stage in Cognitive Development of Children with Speech Delay. The preschool period is the most responsible and intensive stage in a child's psychological development. During this period, the child actively explores the environment, learns to differentiate the characteristics of objects, communicates through speech, and gradually develops logical thinking. The main components of cognitive activity - perception, attention, memory, thinking, and speech - develop interdependently. A disruption in any of these elements negatively affects the development of other psychological processes.

Currently, the number of children with special educational needs in preschool education is increasing. In particular, delayed speech development is one of the most common problems. Speech is not only a means of communication but also a crucial psychological mechanism for thinking, accumulating experiences, and socialization. Therefore, insufficient speech development has a complex impact on a child's cognitive development. Research shows that speech and thinking processes are closely interconnected. According to L. Vygotsky, a child's mental development occurs through interaction with the social environment, and external speech later becomes an internal mechanism for thinking. Initially, the child thinks through external speech, which later transitions to internal speech, forming logical reasoning. Consequently, speech delay leads to slower development of cognitive processes.

J. Piaget identifies preschool age as a critical period in cognitive development. Children aged 2 - 7 are in the preoperational stage, where imaginative and symbolic thinking predominates, and speech is the main external expression of thought. If speech is insufficiently developed, children face difficulties in generalization, comparison, and understanding cause-and-effect relationships.

Children with speech delay often exhibit the following psychological characteristics:

- Difficulty generalizing objects and events;
- Slow development of visual - perceptual activity;
- Low stability of voluntary attention;
- Weak meaningful memory;
- Slow formation of logical operations;
- Difficulties in engaging in social interactions.

These features indicate uneven development of cognitive processes. In particular, the imbalance between speech and thinking significantly affects a child's readiness for educational activities. Therefore, speech delay should be studied not only as a speech-language issue but as a complex problem affecting overall psychological development. Early identification of such children in preschool institutions and providing appropriate pedagogical - correctional support enhances adaptation to subsequent school education.

Research Methods

1. Observation - Children's behavior during free play, activities, and communication was regularly observed. Speech activity, attention stability, object-oriented activity, and peer interaction were assessed.
2. Psychological - Pedagogical Diagnostics - Special tasks were used to identify cognitive processes:
   - Perception: distinguishing shape, color, size; grouping objects;
   - Attention: finding extra items, completing tasks continuously;
   - Memory: recalling and retelling images;
   - Thinking: comparing, generalizing, identifying cause-and-effect relationships;
   - Speech: vocabulary, sentence formation, storytelling.
3. Pedagogical Experiment – Speech - activating games, sensory - development exercises, logical thinking tasks, and visual - practical activities were conducted three times a week for 20 - 25 minutes.

Data were analyzed qualitatively, comparing initial and final indicators.

Results

- Perception: Children distinguished colors and shapes relatively well but had difficulty grouping objects by key features; generalization operations were insufficiently developed.
- Attention: Voluntary attention was low, tasks were not completed fully, and children were easily distracted by verbal instructions.
- Memory: Mechanical memory was relatively preserved, but meaningful memory developed slowly, and establishing connections was difficult.
- Thinking: Generalization was difficult; children could not explain cause-and-effect relationships, often gave random responses when identifying extra items, and relied on a single feature for comparison.
- Speech: Vocabulary was limited, sentences were grammatically simple, and independent storytelling was challenging.

Specially organized developmental activities led to:

- Increased understanding and completion speed of tasks;
- Improved attention stability;

- ❖ Development of object-grouping skills;
- ❖ Emergence of simple cause-and-effect reasoning;
- ❖ Increased speech activity.

These results demonstrate that speech development activates not only communicative but also overall cognitive development.

Discussion. The findings confirm uneven development of cognitive processes in children with speech delay. While visual-practical activity is relatively preserved, verbal-logical tasks remain challenging. This aligns with L. Vygotsky's theory that speech initially emerges as a tool of communication and later becomes a mechanism for thinking. Additionally, J. Piaget's preoperational stage shows slower development in children with insufficiently developed speech.

Conclusion. Speech delay should be considered not only as a speech-language problem but as a complex factor affecting overall psychological development. An integrative pedagogical approach targeting simultaneous development of speech, cognitive, and social activity is effective for children with speech delay. The results are practically significant for developing individualized developmental programs and enhancing preschool children's readiness for school.

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