

MANAGING COGNITIVE ACTIVITY STUDENTS WITH SPECIAL HEALTH NEEDS IN THE CONTEXT OF A BOARDING SCHOOL

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Abstract: The peculiarity of a child development with special health needs determines their education. This is a new option for the diagnostic testing, significantly influencing the choice of education for children with developmental disorders. In the last decade in special pedagogy it is conducted a study on the formation of cognitive activity of children with hearing difficulty. It should be noted that besides the formation of speech activity, the central focus in corrective work is done on the development of cognitive activity. To solve this problem the following methods were used: theoretical: an analysis of linguistic, psycholinguistic, psycho-pedagogical and methodical literature on the subject of research; empirical: biographical (the analysis of anamnestic data, study of psycho-pedagogical and medical records); psycho-pedagogical experiment (ascertaining, training, controlling stages); methods of processing of the obtained results: quantitative and qualitative analysis; correlation method; statistical data analysis by using the student's t-test. Under the study it was carried out the experimental work to ensure the management effectiveness of cognitive activity of students with special health needs under the conditions of a boarding school. The scientific novelty of the research is: 1. Theoretical view management of cognitive activity of children with disabilities in the context of a boarding school is refined. 2. Pedagogical conditions identified to ensure development effectiveness of cognitive activity of deaf and hard-of-hearing pupils in boarding schools in the midst of a specially designed system. 3. The necessity of managing cognitive activity of children with HIA in the midst of a boarding school is scientifically substantiated. 4. Technology organization of cognitive activity of children with disabilities in the context of a boarding school is defined. 5. The criteria and levels of cognitive activity of deaf and hard of hearing students are defined. The practical significance of the research: the research materials can be used by teachers, heads of educational institutions to enhance the cognitive activity of deaf and hard of hearing students, in general, and management of cognitive activity of children with disabilities in the context of a boarding school in particular.

Keywords: disabled children, children with hearing impairments, cognitive activity, boarding school, the learning process.

1 Introduction

Disabled students are different in their abilities of development. In accordance with the new law on education, the following categories of children with disabilities: children with hearing disabilities (deaf, hard of hearing, those who became deaf during the time, including children with cochlear implantation), visually impaired (blind, visually impaired), with severe speech disorders, musculoskeletal disorders, mental and brain retardation, autistic spectrum disorders, with other complex defects.

Special educational needs are the needs in the conditions which are necessary for the optimal realization of actual and potential opportunities that can show the child in the process of learning. It is allocated common special educational needs detected in all children with disabilities, and specific, manifested in different categories of children with disabilities (L. Cherkasova, 2016).

Specific special educational needs are identified at different categories of children with special health needs. For example, the children with hearing impairment have a need for a special sign-language communication system in the technical sound amplifying facilities. Special educational needs are not unified and constant, they manifest themselves in different extent in each type of violation, varying degrees of its manifestation; identify possible (Ribakova, 2016; Kolesnikova, 2017).

Object of study: children with disabilities.

Subject of research: children with disabilities in the context of a boarding school.

The purpose of the study: justify theoretically and demonstrate experimentally effectiveness in the management of cognitive activity of children with disabilities in the context of a boarding school.

Research hypothesis: focus on effective development of cognitive activity of children with disabilities in the context of boarding schools is as follows:

- 1) ground control cognitive activity of children with disabilities in the context of the school is the sum of the contents, forms, methods, techniques and means of education based on the specifics of the education of children with hearing impairments;
- 2) design features of a control system of cognitive activity of children with special health needs are reflected in the logic-a content model that includes: targeted, meaningful evaluation, technological and productive units;
- 4) efficiency of management model of cognitive activity of children with special health needs in the midst of boarding schools is determined by a complex of pedagogical conditions: forms and tools, principles and techniques and training methods of teaching and educational process management, aimed at the development of training and learning competency of deaf and hard of hearing.

To test a hypothesis and achieving the objective of the study had the following objectives:

1. Reveal the theoretical aspects of cognitive activity of children with disabilities in the context of a boarding school.
2. Develop a model for the management of cognitive activity of children with disabilities in the context of a boarding school.
3. Identify pedagogical conditions and test the effectiveness of the cognitive activity management of children with disabilities in the context of a boarding school.

Violation of auditory function has a certain influence on the development of the individual with hearing pathology, that puts him in the special conditions in the social sphere, narrows the circle of communication, limits in social relationships.

2 Methods

In this work we used a variety of complex methods of research: analysis of pedagogical and psychological literature on the subject of the study; monographic research method of whole experience; the method of observation, conversation; research on the products of the educational activities of students, pedagogical experiment (diagnostic, formative, stages); testing; questionnaires; methods of mathematical statistics. The study was carried out experimental work (indicative, forming and controlling phases).

The study used the following techniques: identification of perception in cognitive activity, method "To discover who it is," the identification of the individual characteristics of the imagination and determining the rate of distribution and switching of attention - "S-test", the method "Memory for numbers", test of Lippmann "Logical patterns".

The theoretical and methodological basis of the research was psychological provisions for the systematic formation of mental functions in ontogenesis, determinism develop the language processes of cognitive structures.

3 Results

An empirical research for managing the learning of deaf and hearing-impaired pupils was held on the basis of SHCS «Boarding school of Nizhnekamsk for children with special health needs».

The study involved 40 deaf and hearing-impaired students including 23 boys and 17 girls. The subjects have varying degrees of hearing loss and cochlear implants. Hearing loss is defined as hearing impairment, which hindered communication with other people due to lack of perception of someone else's speech. Cochlear implant is a medical device, prosthesis, which can compensate for hearing loss of some patients with expressed or severe degree of neurosensory deafness (sensorineural). 50% of hearing-impaired junior students observed the second degree of hearing loss, i.e. students hear sounds louder 41-55 dB. They have difficulties in perception of quiet and distant speech and dialogue. 20% of test subjects have the fourth degree of hearing loss. They hear sounds louder 71-90 dB, hardly even perceive loud speech. Only cry is understandable or enhanced speech with headphones. 20% of deaf students have cochlear implants and 10% have the first degree of hearing loss, i.e. students hear the sounds louder 26-40 dB. Difficulties are appeared in perception of a quiet and distant speech.

An experimental study was carried out in several stages.

The problem of cognitive activity of deaf and hearing-impaired pupils is pressing issue nowadays, since the lack of the development of mental processes, the inability to control independently and plan their activities, inadequate response to failures, lead to the fact that students with pathology of hearing decrease own interest in studying, homework becomes formal.

4 Discussion

Let us analyze the results obtained on the found stage.

Survey analysis of the perception of deaf and hard-of-hearing pupils using techniques to «Find out who it is ?» showed that 20% of students succeeded with the task.

They were able to correctly identify that this drawing shows the dog portions of the image "a" and "b".

The number of students determined that the figure depicts a dog on the picture 'b', amounted to 42.5%. While 37.5% fulfilled the job less successfully. Students guessed that this dog is only fragment "g". Error analysis of subjects shows that deaf and hard of hearing students slowly compared with hearing peers recognize objects. This is due to the less detailed and synthetic items such past experiences with the slow formation of deaf and hard of hearing children have the arbitrariness of the process of perception. For example, upon presentation of fragments of "a" and "b" picture depicting a dog subjects believed that there is depicted a Fox, Wolf, etc.

Analysis of the results of the survey of imagination suggests that deaf and hard-of-hearing pupils have specific features, due to slow the formation of their speeches, in particular a kind of development of the meanings of words and thinking.

So, 17.5 per cent of schoolchildren fourth difficulty level of imagination, 30% of schoolchildren-friction level, 47.5% - second level and 5% -first level.

Orally challenged and hard of hearing students show a lack of flexibility in the use of ideas. For example, when you needed to smoothly simple geometric shapes, such as a circle, triangle and square were errors in which one and the same figure turned in

one and the same subject: circle-in dial square is, triangle-window at the road sign.

Analysis of the results of the survey of attention showed that children of this group experiencing some difficulty in shifting attention, they need more time on concentration, resulting in a reduced speed of executing activities and increasing the number of errors.

As we can see in figure 3, 25% of children have a high level of attention, and the next group of children (32.5%) - observed average level and 42.5% - low level.

Analysis of the success of the memory task indicates that 17.5% of children memory is developed at a high level, and the following 50% of subjects are on the average. A 32.5% of children are at a low.

Research of features of arbitrary memorizing the numeric table revealed that deaf and hard of hearing students are less likely to use indirect techniques of memorization, which has a negative impact on retention numbers, images, words in memory. When memorizing the numeric table the similarities in writing between numbers made it difficult to memorize each of them led to the fact that instead of a certain number of deaf and hard of hearing a student wrote that remotely resembled this. For example, instead of 65, 23, 87 numbers children recorded - 63, 28, 37.

Analysis of the survey results of thinking revealed that 10% the level of thinking is high enough. A 35% were observed an average level of thinking, while in 55% of subjects were low.

Studies have shown that in connection with later deadlines for forming a visual-figurative thinking with slow development of verbal speech, the transition to the stage of verbal-logical thinking in children with hearing pathology occurs over a longer period of time than hearing. This is manifested in the development of mental operations.

Analysis of the execution of the task on the methodology of «Name words» revealed that 15% a high enough level of speech development, a 37.5% - average and 47.5% - low.

Analysis of the survey results of speech shows that school-age children with hearing problems forming verbal speech and grammatical formalization of speech, limited vocabulary.

During a control experiment, we used the same methodology as in the conduct of the experiment in order to assess the changes, dynamics of development of cognitive activity of children with HIA. Repeated diagnosis showed that children have undergone significant changes. Most of the children observed progressive dynamics of development of mental processes.

According to the results of the control experiment was found out that some of the children have changes in their amount of memory. Children become better memorize mathematical and physical concepts, which is very important for subjects of natural-mathematical cycle. If prior to forming experiment was 67.5% of subjects with high and middle level of development of memory, after implementation of the model of organization of educational-cognitive activity of students with high and medium level was 75%.

Thus, the reduction in the number of children with a low level of development of memory, up to 25%, and therefore, we can say that the model of organization of educational-cognitive activity of children with hearing impairment contributes to the development of memory.

The results are shown graphically in Figure 1.

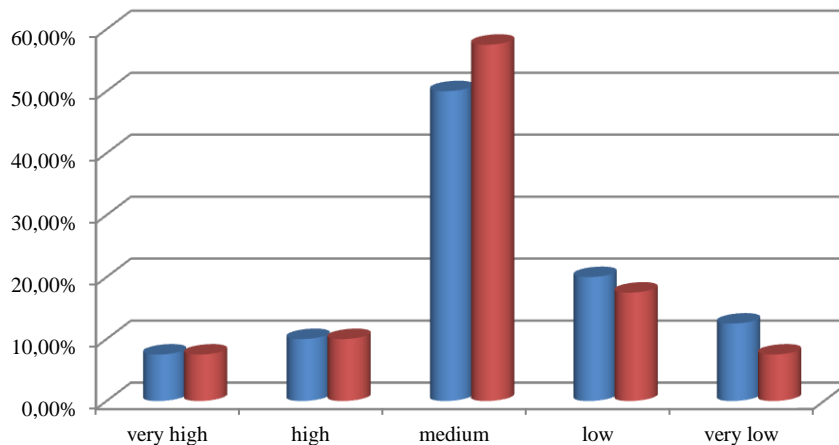


Figure. 1. The results of a survey of memory

Significant changes have occurred in the development of verbal-logical thinking hard of hearing and deaf students. So, the survey

thinking showed that after controlling experiment children have better perform mental operations.

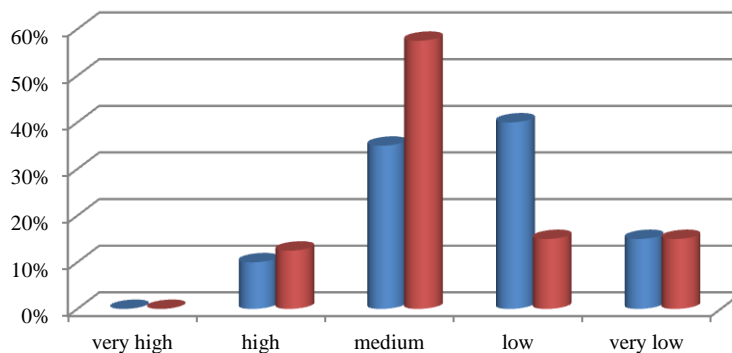


Figure. 2. The results of a survey of thinking

Figure 2 reflects the quantitative indicators that most students become better verbal-logical thinking (12.5%), increased the number of pupils with an average level of development thinking to 57.5% and reduced the number of students with low level of

up to 30%. After controlling experiment observed changes in the development of speech.

Diagnostic results are presented in Figure 3.

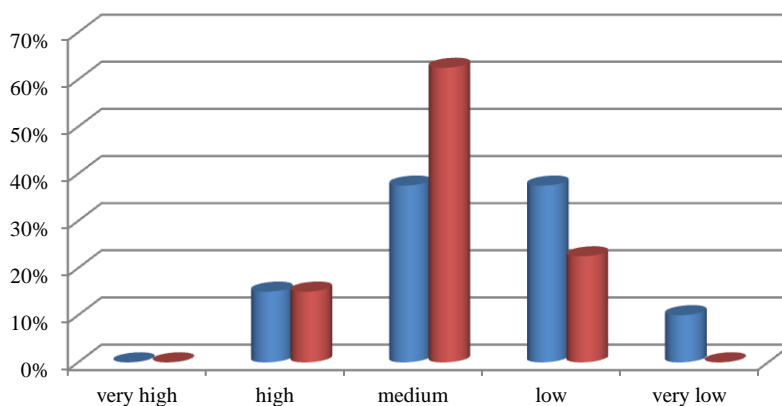


Figure. 3. The results of a survey of speech

As we can see in Figure 3, the number of deaf and hard of hearing students, with well-developed speech at the same level (15%), while the number of pupils with an average level of

speech development increased to 62.5%, and students with low level of speech development fell to 22.5%.

Thus, the results of the launched experiment corroborated hypothesis of research.

4 Conclusion

The main problem of hearing disorders are speech disorders:

1. slowed down the tempo of speech formation;
2. expressed underdevelopment of sounds and letters analysis that leads to disruption of the phonetic side of speech;
3. poor vocabulary and associations;
4. long words are not used as a way of communication (pecial psychology: textbook for students of higher,2013).

The result of underdevelopment of speech, less knowledge accessible for hard-hearing and deaf children compared with hearing fellows, as well as the lack of communication with other people is slow paced personality with hearing impairments. This is reflected in the relative narrowness of the cognitive interests, lack of awareness of the various aspects of society (Fahrutdinova,2014; Special Psychology: a textbook for students of higher educational,2013).

Violation analyzation reduces the fullness of listening, hampered the development of its understanding.

In the process of training and education of these children improved thinness and differentiating visual perception, including facial expressions, movements of the lips, faces and gestures of communication partner (Rimma et al,2017).

With great difficulty deaf children memorize connected texts, especially the stories, including cause-and-effect relationship between events. The success of memorizing affects level of deaf children grammatical structure proposals, as well as the depth of understanding of the text.

Thinking of such children formed in stages, starting with visually effective, then visually imaginative and concluding the verbal-logical (abstract conceptual) thinking. Learning verbal designations of items, their relationship, the child masters the ability to perform mental acts with images of objects. It serves as a form and as a means of mental activity.

Thus, the formation of abilities of pupils with hearing impairment falls under the general laws of mental development of children. Voice communication difficulties, deficiencies in speech development, slow formation of conceptual thought, creating a significant feature in the formation of all abilities can thrive only when filling those units in mental development, which remain underdeveloped (Auhadeeva et al,2016). When working with hard of hearing and deaf students require a deep understanding of their mental development when this defect and

the modalities of their compensation, the mastery of an individual approach to each child and potentially to many capable (Iskander, 2016; Kondrateva et al, 2016).

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