Correction of attention disorders of children with special educational needs

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Abstract. The article is devoted to the problem of correcting the properties of arbitrary attention of younger schoolchildren with mental retardation and their underachieving peers. The essence and scientific definition of "attention", "attentiveness" and "properties of attention" is revealed. Specially created for children with mental retardation, the corrective program for the development of the properties of arbitrary attention is adapted to be used to correct the properties of attention of underachieving children in the mixed group. A comparative study of the correction of the properties of voluntary attention of younger pupils with mental retardation and their peers with low school performance was carried out. It was determined that the effectiveness of correcting the attention span of these categories of learners depends on a successful combination of group, individual, and pair work. Correctional group work is more effective for children with mental retardation if it is carried out together with underachieving children.

1 Introduction

There is a significant increase in the birth rate of children with developmental disabilities in Russia every year. According to Rosstat, their number has increased by 6% over the past three years. The largest category is children with mental retardation, which is characterized by impaired mental development where children have considerable potential. The problem of education and upbringing of children in this category is one of the most important and urgent problems of remedial psychology and pedagogy today. Attention is defined in this study as the concentration of the subject's activity at a given time on some real or ideal object (object, event, image, reasoning), while mindfulness is a property of consciousness based on an increased focus and concentration of attention on some object, phenomenon or activity [1].

Attention, therefore, as a universal condition for cognition, determines the success of the correction of the whole cognitive sphere of the child.

1.1 Analysis of recent research and publications

Researchers agree that attention is the foundation of any intellectual activity and that no mental process (memory, thinking, imagination) can proceed without it. [1–8]. The decreased attention span of schoolchildren may be due to the mass digitalization of education, the eventful life of children (with most children attending additional lessons and sometimes more than one), and the large number of toys during the preschool period (resulting in attention deficits). Most children have a phone, a tablet, a PC, or a personal computer – these hobbies often become addictive and the younger pupil gets bored in class because his attention and thinking are used to fast-changing, colourful pictures. Children with special educational needs or with a low level of academic performance are more easily absorbed by the world of pictures and computer characters because they have the opportunity to prove themselves there, to distinguish themselves in contrast to real life, sometimes even to the detriment of their health.

Such researchers as U.V. Ulenkova, E.L. Indenbaum, K.S. Lebedinskaya, I.A. Korobeinikov, G.R. Novikova, V.I. Lubovsky emphasize that this disorder is temporary and can be compensated for with the earliest possible diagnosis and correction [1, 4–6, 8].

Correction takes the leading and most effective position in the structure of the work of the educational psychologist; diagnostics, education, psycho prophylaxis, and counselling are in this case ancillary. Diagnosis is meaningless without corrective influence, and correction is impossible without the diagnosis. As part of preventive and educational work, an educational psychologist can prevent disadaptation in a child's development and, by advising parents on their children's problems, can often change the pattern of behaviour in the family, thereby helping the child and avoiding corrective intervention [5].

The theoretical basis for the development of the research problem is I.M. Sechenov, I.P. Pavlov, and A.A. Ukhtomsky's teaching on the physiological foundations of attention; applied research on the age-specific characteristics of attention by M.C. Matyukhina, M.N. Volokitina, and S.Y. Rubinstein; L.S. Vygotsky's teaching on the genesis, psychological foundations and stages of attention development; studies of attention in different types of activity by E.I. Ignatyev, A.G. Kovalev,

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1.2 The aim of the research

The high relevance and low level of study of the problem led to the formulation of the aim of the research which is to develop and test a correctional and developmental programme for the development of arbitrary attention. The programme is adapted for use in collaborative work with primary school-age children with mental retardation and their underachieving peers. The object of the study was primary school children with special educational needs; the subject of the study is the correction of the voluntary attention of such children. The research objective is to identify the level of research on the problem of attention correction in primary school children with mental retardation. To achieve the goal of the study, theoretical and empirical tasks were set. Theoretical objectives: to determine the level of knowledge of the problem of attention correction in younger schoolchildren with mental retardation and the main approaches to the study of this problem, to establish the role and place of correctional work in the structure of other areas of psychological and pedagogical support for children with attention disorders. Empirical tasks: determination of the level of development of the properties of attention of primary school students with mental retardation and their underachieving peers, development, and testing of a correctional program for the development of properties of voluntary attention in accordance with the results of diagnostics; establishing the degree of effectiveness of the correctional program for both categories of subjects.

2 Materials and Methods

The base of research is the municipal state educational institution “Average secondary school № 9” with advanced study of selected subjects and “Average secondary school № 32” of Nalchik.

The number of respondents: 56 primary school-age children, aged 8–9, of whom: 28 with low school achievement and 28 with mental retardation (Synopsis of the psycho-medical-pedagogical committee).

The following research methods were used: analysis and synthesis of psychological and pedagogical literature on the problem of research, observation, testing, mathematical methods, and psychological and pedagogical experiment.

The following methods and techniques were used for comprehensive diagnostics of quality of attention: observation of children during the lessons and after school hours (during the breaks), the Toulouse-Pieron test modified by L.A. Yasyukova [8], diagnostic exercise “Two things to do” of E.K. Lyutova, G.B. Monina.

It was assumed that a correctional program specially designed for children with mental retardation would also be effective in working with children with poor school performance if it met several requirements. Namely: the unity of correction and development, the unity of age-related and individual development, the unity of diagnosis and correction of development, the activity principle of correcting, and approaching each child as gifted. Correction should be carried out in specially created conditions, successfully combining groups, as well as alternating group and individual work with work in pairs.

Booklets with recommendations on how to train attention at home, which games can be played with children at home, and which exercises contribute to the development of the properties of arbitrary attention were given to parents of children in the experimental groups as part of the educational and advisory work. Work with educators was carried out through counselling and recommendations based on the results of the diagnosis. It was assumed that the use of the remedial programme, backed up by recommendations for teachers and parents, would help to develop the level of arbitrary attention, and that joint activities in group form (children with mental retardation and low achievers in third grades) would be more productive for children with mental retardation.

In the selection of games and exercises for this programme, literary sources were used, the authors being M.A. Panfilova, T.P. Tryasorukova, and L.Y. Subbotina. L.A. Yasyukova, N.D. Sokolova [8–12]. In the experimental group of school No. 32, the classes were organised in group form and in a mixed group, which included children with mental retardation and underachieving pupils.

3 Results

The results of the input and output diagnostics of the pupils' attention in this school are shown in Table 1.

The following symbols are used in the table: H. – high level of development; M. – medium level of development; L. – low level of development; P. – pathology; In. – input diagnostics at the establishing stage of the study; Out – output diagnostics at the checking stage of the study.

The table shows that the subjects in the experimental and control groups have the same level of development of the studied attentional properties at the stage of entrance diagnostics. Namely, a high level of development is observed in 14 % of respondents only for such a characteristic as "Finished work by the command "Stop". One-third of students (28–35–36 %) have a low level of development of attention span, distribution, concentration, and understanding of the experimenter's instructions. Low developmental scores on the indicator "Speed of information processing". More than half of the children had an average level of attention.

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<th>Attention characteristics</th>
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Table 1. Results of the correction of the properties of attention of pupils with mental retardation who study in a group setting
In the experimental group, the number of children with a low level of development on all properties of attention has decreased (28–14 %, 36–29 %, 35–21 %, 42–36 %, 28–21 %), increased with a medium level of attention distribution and speed of information processing (65–79 %, 58–64 %). Children with high attention span levels (7–7 %) appeared, and the number of children able to finish work on the "stop" command increased from 14 to 21 %.

Observation of the respondents' activities showed that most children had made personal progress in the development of arbitrary attention. According to the results of diagnostics in both schools, experimental and control correctional groups were formed. The correctional program is aimed at developing such properties of attention as volume, distribution, concentration, and stability, and switching the attention of younger students with mental retardation and poorly performing students. The program includes a set of games and exercises to develop attention in both categories of subjects, which is designed taking into account their age characteristics. It is designed for 20 lessons with a frequency of meetings 2 times a week. The duration of the lessons is 20–30 minutes. Form of work: group, individual, in pairs. Corrective work lasted from January to April 2022. The results of the input and output diagnostics of the attentional properties of the pupils in this school are shown in Table 2.

When observing the activities of younger pupils, it has been found that children with mental retardation and low achievers are characterised by features such as low volume, difficulties in distribution and reduced concentration, and frequent distractions;

Children with mental retardation have an a dynamic attention span that manifests itself in difficulty in attracting attention to the right sides of an object.

Children who do not perceive aloud instructions the first time have been identified. Some pupils experienced fatigue during the test.

The results of output diagnostics of properties of attention of younger pupils show that in the experimental group, the number of children with a low level of development on all properties of attention has decreased (28–14 %, 36–29 %, 35–21 %, 42–36 %, 28–21 %), increased with a medium level of attention distribution and speed of information processing (65–79 %, 58–64 %). Children with high attention span levels (7–7 %) appeared, and the number of children able to finish work on the "stop" command increased from 14 to 21 %.

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group had no change in the percentages of subjects with weak, medium, and high levels of development of voluntary attention.

4 Discussion

A comparative analysis of the results of output diagnostics of the properties of arbitrary attention of primary school pupils in the two experimental groups, in which correction was carried out in different forms, showed greater effectiveness of the combined sessions.

A major role in the remedial work played pair work, involving a child with mental retardation and a pupil with low levels of school achievement. In each pair, there was a child with a higher index of attentional development as measured by the diagnosis, at a faster pace, and more motivated to work together. By developing the cognitive sphere, and personality traits of children with low learning achievement, as well as empathy, tolerance, and readiness to help and explain the unknown and ask for help, the remedial work was more successful. Life in society involves constant human interaction, the success of which often depends on the ability to negotiate, communicate and compete – an opportunity that was given to the children in the exercises and tasks [2, 3]. The attention span of children with mental retardation is better corrected in group work, together with children who are less able to succeed, by creating special comfortable conditions and properly matched pairs for remedial exercises.

5 Conclusion

Comparative analysis of the diagnostic results at the ascertaining and controlling stages of the experiment shows an increase in the level of development of attention properties in the experimental groups and allows us to draw the following conclusions:

1. In the experimental groups, the number of children with low levels of attention decreased and increased with medium and high levels, which proves the effectiveness of the remedial programme.

2. The attention span of children with mental retardation can be better corrected by working with low achievers, and results are better with a combination of individual, group, and pair work.

3. Not all properties and levels of arbitrary attention are equally amenable to correction in the process of applying for a specially designed programme. The volume and concentration are more flexible, and the distribution of attention is less flexible. It is easier to raise a low level to a medium level than a medium level to a high level.

4. In the structure of effective remedial work to develop the properties of voluntary attention of children with mental retardation and their peers with low school performance, the role of the group, individual, and pair work is different.

The above conclusions lead to the conclusion that lessons aimed at correcting students’ arbitrary attention are effective. The hypothesis is that a correctional programme to develop the properties of arbitrary attention specifically developed for children with mental retardation, which meets the requirements of unity of correction and development, unity of age and individual development, unity of diagnosis and development correction, activity-based principle of correction, approach to each child as a gifted child, will also be effective in work with underachieving children if it is conducted under specially created conditions, successfully combining groups, as well as with children who are not successful.

The correctional programme can be recommended for use in the practice of psychological and pedagogical support for children with attention deficit disorders.

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