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THE DEVELOPMENT OF ELECTIVE COURSES OF THE ADDITIONAL PHYSICAL EDUCATION PROGRAM FOR 11-12 YEARS OLD MENTALLY RETARDED SCHOOLCHILDREN IN THE "SKI RACING" PROGRAM

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Key terms: adaptive physical culture, sports for people with intellectual disabilities, ski racing, mentally retarded schoolchildren, physical education.

Annotation. The purpose of this study is the development of the program's elective courses and the annual scheduled plan of the athletic training for 11-12 years old mentally retarded schoolchildren, who participate in ski racing in the first year training group in the program of sports for people with intellectual disabilities. Activities, which were included in the annual scheduled plan, are swimming, speed skating and cycling. In order to improve the learning of the program material of the subject "The world around us", knowledge about environment, which was provided by the subject's curriculum, was included in the content of the "Theoretical training" section.

The approbation (the pedagogical experiment) of developed program's elective courses and the annual scheduled plan of training load distribution among 10 mentally retarded schoolchildren, who were training in the "Ski racing" program of sports for people with intellectual disabilities, has shown an improvement in motion tests. In the average, the growth rate in tests of general physical preparedness was 10,4%, in tests of special physical preparedness – 1,3%. Additional physical culture and sports classes in the "Ski racing" program of sports for people with intellectual disabilities with the use of the developed "Theoretical training" section have improved the students' performance in the "The world around us" subject up to 60%.

Introduction. Increased attention to the issue of mentally retarded children can be explained by the fact that among all functional disorders in child's development, this defect, according to social consequences, is the most severe [1,2]. One of the main tasks of personal development of education of children with mental development disorders is the acquirement of knowledge, abilities and skills (including those related to motion) of such level, which could allow them to adapt to social norms and future independent life [3-5].

It was shown in experts' studies [6-12], that special attention should be given to the development of program and normative, organizational and methodical support of additional forms of physical education of mentally retarded schoolchildren aimed to develop and correct their movements. One of directions of additional form of physical education is a specialized athletic training. N.V. Astafyev [6,13] pointed out the fact that the athletic training is available to a half of students of special schools.

Ski racing is available to all types of physical culture and sports activities. Ski racing support a balanced development of the body. Moreover, skiing gives an opportunity to work individually, which is efficient during training and education of mentally retarded children.

The purpose of this study is the development of the program's elective courses and the annual scheduled plan of athletic training for 11-12 years old mentally retarded schoolchildren who participate in ski racing in the first year training group (TG-1) in the program of sports for people with intellectual disabilities (sports for people with ID).

Methods and organization. Research was conducted on the base of the Public General Education School for Orphans and Children without parental care "Adaptive boarding school № 5". 11-12 years old schoolchildren with a diagnosis "mild mental retardation" participated in the pedagogical experiment. The amount of examined students is 10.

On the basis of the developed earlier athletic training program of mentally retarded schoolchildren [13] and methodological basics of training for young ski racers, we have developed the program's elective courses and the annual scheduled plan of training loads distribution according to types of preparedness for students of the first year training group (TG-1).

For the purpose of implementing the annual working scheduled plan, we used the main pedagogical experiment, during which motor skills of 11-12 years old mentally retarded schoolchildren, who participate in ski racing in the program of sports for people with ID, were pedagogically tested. The duration of the pedagogical experiment was 1 year.

To determine the level of general physical preparation of students next tests were used: 30m running (seconds), push-ups (amount of times), sit-ups (amount of times), standing long jump (cm).

To determine the level of special physical preparation next tests were used: 600m running (seconds), 2 km race: classic style skiing (min.sec), free style skiing (min.sec), 3 km race: classic style skiing (min.sec), free style skiing (min.sec), 5 km race: classic style skiing (min.sec), free style skiing (min.sec). The effect of classes of the subject "The living world" on students' performance was also examined. The amount of cases of performance improvement was taken into account.

The statistic processing of data of the pedagogical testing and experiment results involves a calculation of growth rate using a formula developed by S. Brody.

Results and discussion. Literature analysis has shown that one of the features of work with mentally retarded children is a combination of a general motor operation and special correction exercise, which means that individual work with students should be highly prioritized. A comprehensive physical development, determination of sports potential and abilities to participate in ski racing, learning the basics of skiing were noted on the stage of initial preparation. Means of general physical preparedness, and games and exercises for developing speed were used [14,15].

Contents of the program's elective courses and the annual teaching scheduled plan of training loads distribution include a development of those courses and inclusion of knowledge of program materials on the subject "The world around us" into the "Theoretical preparation" section. The use of means suggested by the elective courses improves the emotional state of mentally retarded schoolchildren and supports the development of general physical preparedness of students and special qualities of ski racers.

Contents of elective courses include next means: swimming (11 hours), speed skating (7 hours) and cycling (10 hours). The amount of time provided for the accomplishment of elective courses is 28 hours.

Contents of the "Theoretical preparation" section include next topics: "Seasonal changes in nature" – 4 hours, "Animate and inanimate nature" – 1 hour, "Human world" – 3 hours. The amount of time provided for learning natural phenomena is 8 hours. Theoretical material was implemented during the whole learning process (excluding wintertime), at the beginning of the training exercise, the duration is 15 minutes long.

Testing of motor qualities of mentally retarded schoolchildren before and after the pedagogical experiment has shown that there was an improvement of results of all indicators in tests of both general (Table 1) and special (Table 2) physical preparedness.

Table 1

Indicators of general physical preparedness among mentally retarded schoolchildren before and after pedagogical experiment

Test name	Indicators		
	before the experiment	after the experiment	growth rate, %
	n=10	n=10	
	X ± σ	X ± σ	X ± σ
30 m running, seconds	5,8±0,2	5,7±0,2	2,6±0,01
Push-ups, amount of times	11,9±4,6	14,5±5,6	19,9±0,06
Sit-ups, amount of times	19,0±6,8	22,3±8,2	16,0±0,03
Standing long jump, cm	172,3±6,5	177,7±6,7	3,1±0,01

The highest grow rate in tests of general physical preparedness (Table 1) was noted in the push-ups test – it was 19,9%. The average result was shown before the beginning of the experiment – 11,9±4,6 times, after the experiment the result was 14,5±5,6 times. In the sit-ups test the growth rate was 16%. Before the beginning of the experiment the average result was 19,0±6,8 times, after the experiment – 22,3±8,2 times. In the standing long jump test the growth rate was 3,1%. Before the beginning of the experiment the average result was 172,3±6,5 cm, after the experiment – 177,7±6,7 cm. In the 30m running test the growth rate was 2,6%. Before the beginning of the experiment the average result was 5,8±0,2 sec, after the experiment – 5,7±0,2 sec.

Table 2

Indicators of special physical preparedness among mentally retarded schoolchildren before and after pedagogical experiment

Test name	Indicators		
	before the experiment	after the experiment	growth rate, %
	n=10	n=10	
	X ± σ	X ± σ	X ± σ
600 m running, min.sec	2.32,1+19,6	2.27,6+20,4	3,1+0,03
2 km race: classic style skiing, min.sec free style skiing, min.sec	 13.31,8+40,6 14.58,8+58,8	 13.20,8+89,2 14.46,6+66,6	 1,5+0,02 1,4+0,01
3 km race:			

classic style skiing, min.sec free style skiing, min.sec	19.44,4+84,7 20.39,4+118,7	19.32,3+90,7 20.30,3+122,9	1,1+0,01 0,8+0,02
3 km race: classic style skiing, min.sec free style skiing, min.sec	30.07,2+84,4 30.09,1+72,5	29.57,2+88,3 28..26,2+78,1	0,6+0,0 0,7+0,0

The highest grow rate in tests of special physical preparedness (Table 2) was noted in the 600m running test – it was 3,1%. The average result before the beginning of the experiment was 2.32,1+19,6 min.sec, after the experiment – 2.27,6+20,4 min.sec. In the test of 2 km race: classic style skiing the growth rate was 1,5%; growth rate of the test of 2 km race: free style skiing was 1,4%. In other tests grow rates were lesser. Thus, better improvement was shown in tests of general physical preparedness.

Analysis of dynamics of students' performance in "The world around us" learning program has shown an improvement of performance in this subject among 6 students.

Practical guidelines based on the results of the research were developed. In order to conduct additional physical culture and sports classes for 11-12 years old mentally retarded schoolchildren, we recommend using the annual scheduled plan of sports training in ski racing developed by us, which include next sections: general physical preparation – 227 hours, elective courses – 75 hours, sports technical and tactical preparation – 38 hours, theoretical preparation – 16 hours, educational activities – 24 hours, admission and shift standards – 4 hours, medical surveillance – 4 hours. During exercise lessons, it is also recommended to use the scheduled plan of distribution of program material of the "Theoretical preparation" section, which include next topics: "Safety measures, freezing and injuries prevention" – 2 hours, "Equipment of the ski racer" – 3 hours, "Hygiene, cold exposure training, daily routine and nutrition of the ski racer" – 3 hours, "Learning about natural phenomena during lessons of ski racing" – 8 hours.

Conclusion. For the more efficient use of training means of preparation in the "Ski racing" program of sports for people with ID we have developed the program's elective courses and the annual scheduled plan, which include next sections: swimming, speed skating and cycling. In order to improve the learning of the program material of the subject "The world around us", knowledge about environment, which was provided by the subject's curriculum, was included in the content of the "Theoretical training" section.

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