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The ability to assess the degree of development of coordination abilities in students of grades 7-9 with the help of special tests

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Abstract

Purpose: The purpose of this study is to modify some tests conducted to assess the coordination of movements, and to determine their objectivity on the example of students in grades 7-9. In this article, using modified assessment tests of growth dynamics in traditional classes, the explosive force and variable speed of movement (running) as part of the coordination abilities of students in grades 7-9 studying in a comprehensive school are analyzed.

Methods: When developing, forming and evaluating coordination abilities, We developed and implemented modified tests and improved innovative game exercises in the study, and in the article, as an example, we used methodological tests and control exercises: jumping from place to place, right and left, as well as backward, jumping from place to place, running around sports cones for 3 times to 10 meters.

Results: In the 7th-9th graders, the explosive force, speed of movement and accuracy, which are part of the coordination ability, were determined using modified tests of signs of mutual differentiation. From the results of the experiment, it was found that the indicators (long jump from different sides, shuttle run), which were studied in both boys and girls who received education in all classes, were initially expressed at an extremely low level, by the end of the experiment, all indicators changed in a progressive direction.

Conclusion: In Modern research, based on the results of pedagogical observation, has established that high school students have long jumps from all sides, indicators of shuttle run, turning the "start-finish" point to the right and left, are formed extremely sluggishly, and the rate of their growth from class to class slows down. Unfortunately, it turned out that there is a noticeable asymmetric difference between these indicators.

Keywords: Coordination ability, dexterity, directions, assessment of coordination of movements, modified tests.

Introduction

It is carried out according to the laws of the unconditional (instinctive) and conditioned reflex, based on the psychophysical system, in accordance with all types of actions performed in a person's life, his lifestyle, household affairs, professional activities, physical culture and sports. If the formation of unconditional reflexes (movements) it begins with “mother’s day”, then conditioned reflexes are formed from the moment of birth of a person, up to all stages of ontogenetic development with the help of techniques and means (exercises) “copy-move”, “read-learn”, “teach-learn” and “perfection-perfectionization”.

Conditioned reflexes or various motor skills and abilities are aimed at a specific goal, and their implementation with a useful result is associated with sufficiently developed physical and psychophysical capabilities. If such capabilities are poorly formed, then the body will have a limited supply of energy, which means that the processual (coordination) accuracy of the performed action will also not give the planned result. Actions with this category and characteristics are based on genetic (hereditary) factors, and their regular formation throughout life from an early age is of paramount importance, primarily for health, as well as for professional and sports practice. But any physical or technical-tactical (sports, professional-technical) exercise also does not have a positive effect on health, coordination of movements and their accuracy. Each exercise is distinguished by its functional “service”, coordination property, “weightlessness” as a specific type of movement. Only if the functional purpose of the exercise used corresponds to the coordinate of the movement that must be studied and mastered, then both the reserve of health and the accuracy of the movement will acquire a gloss, if it corresponds to the physical and psychofunctional capabilities of the child (or athlete) that he is studying. Such lessons related to the laws of “Health and movement” or “movement and health” were proved by the results of the research described in the works of the Sultan of Medicine, the world-famous grandfather's “Medical Law”, and even today its new, modern facets of grace and develop-

ment are being studied (Abu Ali ibn Sina, 1954; Anokhin P.K., 2002; Bernshtejn N.A., 1990; Verkhoshyanskij Yu.V., 2014.)

It is known that the coordinate of the chain movement, its prosessual and final accuracy are determined in situational sports (sports games, boxing, fencing, martial arts, etc.) of extreme importance, priority. Therefore, the use of not standard meaningful exercises, but simulated and specialized game exercises based on situational or different situations when training specific movements in such sports and the processes of their formation gives an effective result.

In recent years our leader Sh. M. Mirziyoev is paying great attention to the sphere of physical education and Sports, on his initiative this sphere is developing within the framework of the priority directions of the policy of our state, unfortunately most of that initiatives are formed in educational institutions, sports schools and internationals, large sports clubs and national teams with the help of standard meaningful exercises and methods (Ukaz Prezidenta, 2020). Learning situational movements based on such a procedure will not only lead to the fact that the duration of their development is too long, but also the chronic use of standard meaningful exercises will lead to the fact that the movements will be polished in a push or in a narrow limited circle, and even in some cases this can also negatively affect health indicators.

The composition of the exercises, which are also used in the development, education and formation of coordination abilities (dexterity), is wide and diverse. The elements of jumping and running in different directions are vital movement skills, and are also of paramount importance in physical education and sports. It is worth noting that such motor skills are formed spontaneously until a certain period when the child is not engaged in physical education or sports or becomes older. But in the course of life and everyday life, including in a number of sports, jumping in different directions and running in the form of exercise serve as the basis for the effectiveness of the main technical and tactical actions. When students reach grade 7-9, they accumulate a certain reserve of elements of the same coordination ability. But, as is known from studies, even in high school students, when performing an action in a "new" direction, in a different way or according to a different requirement, the formed Coordination of movements is partially “disturbed” (Pulatov F.A. et al., 2017; Usmankhudzhaev T.S. et al., 2018).

Methods

In most situational sports, especially in sports games, the speed of jumping or jumping and running through various turns is of extreme practical importance. Maintaining the coordination of movements when performing such exercises serves to ensure the effectiveness of technical and tactical techniques of execution.

It is likely that the operational-power and coordination components of movements belonging to this category can be effectively formed with the help of situational-game means consisting of such movements. We have fully developed a new innovative meaningful game exercise to find out that this probability corresponds to a real possibility (we will look at this in more detail in our next articles, keep an eye on it).

Based on modern research, we not only studied the dynamics of the formation of jumping and running elements in various areas related to the skills of movement from the side, but also tried to determine the possibility of their more intensive formation with the help of specialized dynamic exercises and innovative game tools during 9 months of teaching experience. In the pedagogical experience, we studied the speed of these movements and their coordination characteristics, at what pace they are formed in the 7th and 9th grades. The current research was conducted in January-June 2018. In particular, pedagogical tests are organized in March-June for students of grades 7-9. Only 2-3 samples were taken during the day. The dates, times, and class of the students participating in the tests were given advance notice, and research tables were presented to them and their supervisors. In order to ensure the objectivity of the results of the study, students were tested on the day when there was no physical education lesson on the schedule.

The teaching experience was established in September-May of the 2018-2019 academic year, 12 boys and 12 girls of the control group (CG), 12 boys and 12 girls of the experimental group (EG) were involved in grades 7-9 (each class). Physical education classes for CG students were conducted on the basis of the current curriculum and the curriculum used in practice. Students of this group regularly engaged in sports clubs, which were introduced by a partic-

ular sport, both in the classroom and during extracurricular time and with students in the EG in the afternoon for 9 months 3 times a week for 90 minutes conducted training sessions aimed at developing coordination of movements.

Results and discussion

From the results of studies conducted on the experiment, it turned out that the long jump from a place in the right direction was expressed on average 174.1±10.3 cm before the experiment in boys of the 7th grade of education, 190.1±9.1 cm in the 9th grade, after the experiment, these indicators were respectively 188.7±3.8 cm. (Table 1)

From a comparative analysis of these indicators, the same thing was observed, the growth rate during the 9-month experiment of the ability to jump from the application site to the length as a traditional methodological test was almost twice as high as in the girls indicators. In particular, the jump length in the 7th grade in boys was 14.6 cm, in the 9th grade-15.6 cm. And in girls, these indicators are 8.2 and 7.8 cm, respectively.(Figure 1).

Jump from a place to the right, if the boys

Table 1. Dynamics of changes in the course of pedagogical experience of the results of jumping from place to place in students of grades 7 and 9 - $(\bar{X}\pm\sigma)$

№	Control exercises	Sex	Before the experiment		After the experiment		Indicators difference	
			7th grade	9th grade	7th grade	9th grade	7th grade	9th grade
1	Jump from place to length (cm)	M	174,1±10,3	190,1±9,1	188,7±3,8	204,7±8,6	14,6	14,6
		F	162,9±9,1	173,1±8,7	171,1±4,05	180,9±7,6	8,2	7,8
2	Jump from place to right (cm)	M	129,3±11,3	143,6±12,2	145,2±6,6	162,1±8,1	15,9	18,5
		F	116,9±10,1	126,7±11,5	135,1±5,9	139,1±8,3	18,2	12,4
3	Jump from place to left (cm)	M	128,5±10,6	140,1±11,05	139,6±5,8	151,9±8,5	11,1	11,8
		F	112,4±10,5	122,05±12,7	124,4±4,9	133,1±9,2	12	11,05
4	Jump from place to back (cm)	M	82,2±9,5	91,8±12,6	89,5±8,2	100,1±9,2	7,3	8,3
		F	72,2±10,8	79,1±11,9	86,2±9,2	91,2±9,3	14	12,1

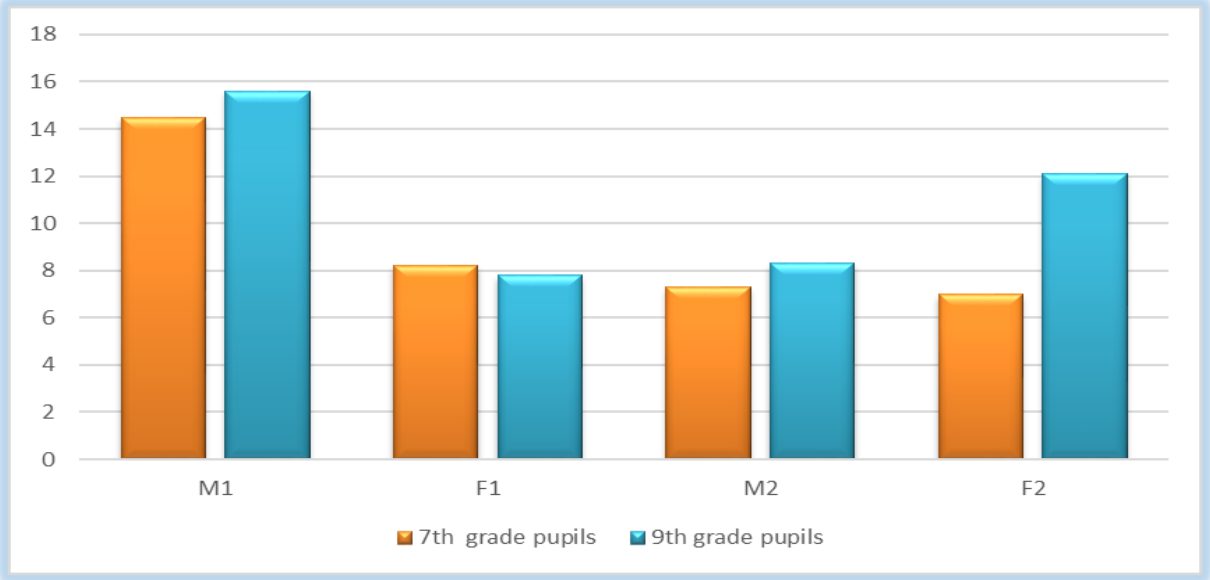


Figure 1. The dynamics of growth in the results of long jumps from a spot among pupils in grades 7 and 9 for 9 months. Note: M-male pupils; F-female pupils.

of the 7th grade increased the interval by 15.9 cm, then in the 9th grade by 18.5 cm. (Figure 2)

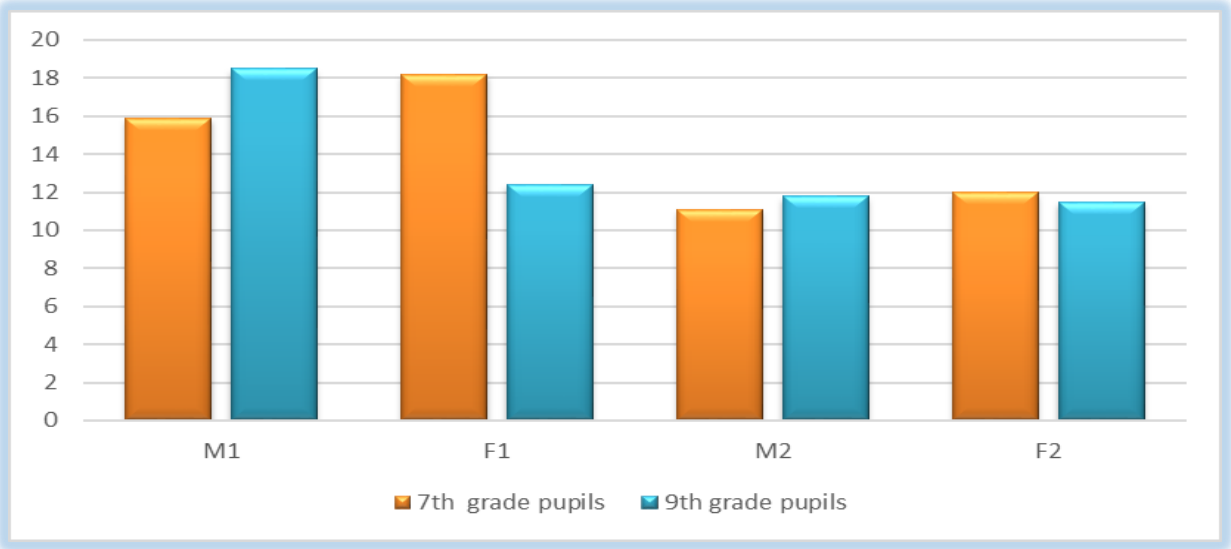


Figure 2. The dynamics of growth in the results of jumping to the right and left from a place among students in grades 7 and 9 for 9 months. Note: M-male pupils; F- female pupils.

In boys, the girl is represented by 18.2 and 12.4 cm, respectively. It can be seen that in girls of the 7th grade, these indicators were higher than in boys, and in boys of the 9th grade, the growth was higher than in girls. The rate of growth of the ability to jump from place to left was relatively calm in both boys and girls.

From a comparative analysis of the above results, the same thing was observed, the 9-month growth rate of spasmodic indicators in different directions was sluggish. In addition, the actual performance of the results obtained before and after the experiment, especially the jumps from the place to the right and to the left, and the asymmetric difference observed between them, mean that the coordination of jumps or coordination abilities in high school students are relatively sluggish. So, we can assume that the amount of exercises used in the formation of the ability to jump in different directions, it is desirable to increase by 1.5-2 times for students of large classes. In this regard, the ability to jump in convenient and inconvenient directions develops a symmetrical order, which is important to pay special attention to.

One of the great elements is the continuation of the movement by turning the "start - finish" border to the right, or to the left at each turn, a shuttle run aimed at teaching speed and coordination of movements to students in grades 7 and 9 who took part in the pedagogical experiment. To assess this possibility, we can use the "3x10 meter shuttle run tests", bypassing the sports cones from left and right.

The results of the research conducted on the experiment showed that the speed of shuttle running, running from the left of the sports cone at 3x10 meters, was on average 8.8±0.0 seconds for boys of the 7th grade before the experiment, 8.2±0.2 seconds - in the 9th grade. After the experiment, these parameters were presented for 8.3±0.1 and 7.7±0.2 seconds, respectively. In girls, these indicators were recorded as follows: 9.2±0.1 and 8.9±0.9 seconds: 8.7±0.0 and 8.5±0.1 seconds. The speed of the shuttle run, to the right of the sports cone, was 9.5±0.2 seconds for boys of the 7th grade, 9.0±09 seconds for the 9th grade (before the experiment), after the experiment, these results were recorded at the level of 8.5±0.0 seconds and 7.96±0.1 seconds, respectively (Table 2).

In girls: 9.7±0.0 before the 7th grade of experience; 9.4±0.2 in the 9th grade. After the experiment - 8.95±0.2 and 8.8±0.07 seconds (Figure 3).

From the presented results and figures, it can be seen that the running speed on the left side of the sports cone as a result of regular performance of the experimental exercises used in the experiment is the 7th and 9th grades, the real results were shorter than the running speed if the sports cone was run from the right. But it

Table 2. Dynamics of changes in the course of pedagogical experience of the results of running in the right-hand and left-hand turns according to the method of shuttle running in grades 7 and 9 at 3x10 meters $(\bar{X}\pm\sigma)$

№	Methodic tests	Sex	Before the experiment		After the experiment		Indicators difference	
			7th grade	9th grade	7th grade	9th grade	7th grade	9th grade
1	Left-hand shuttle run around the cone at 3x10 meters (sec)	M	8,8±0,07	8,2±0,2	8,3±0,1	7,7±0,2	0,5	0,5
		F	9,2±0,1	8,9±0,9	8,7±0,05	8,5±0,1	0,5	0,4
2	Right-hand shuttle run around the cone at 3x10 meters (sec)	M	9,5±0,2	9±0,09	8,5±0,05	7,96±0,1	1	1,04
		F	9,7±0,085	9,4±0,2	8,95±0,2	8,8±0,07	0,75	0,6

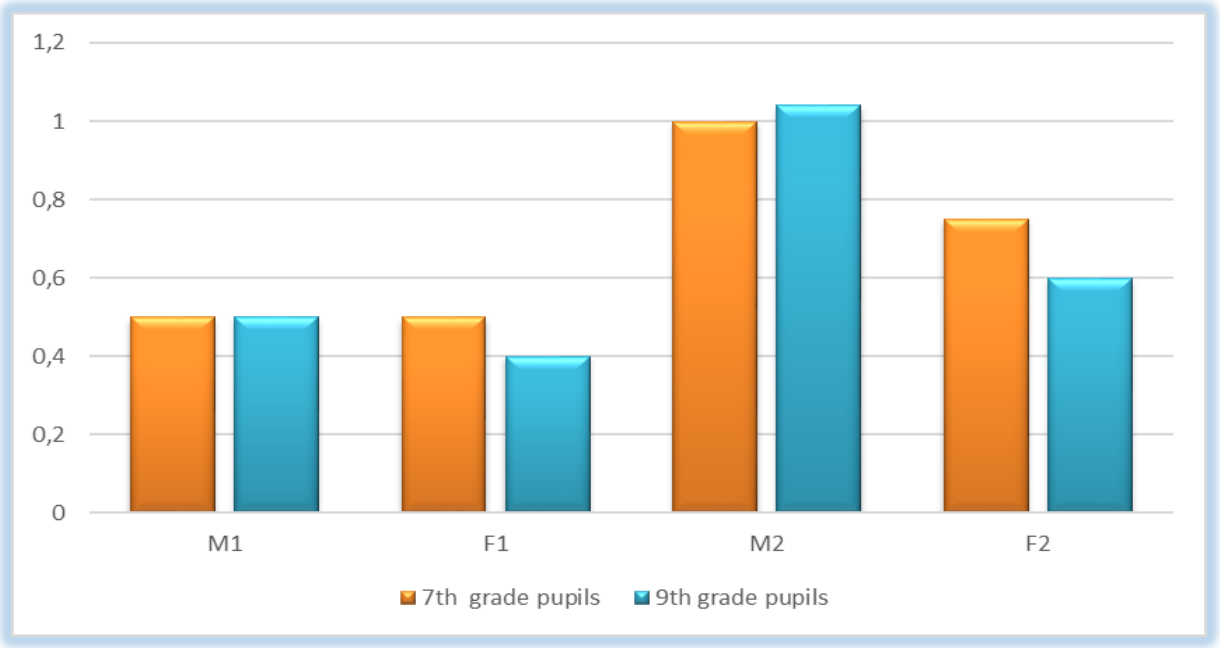


Figure 3. The dynamics of the growth of the speed of the shuttle running bypassing the counter from the right and left by 3x10 meters among the pupils of the 7th and 9th grades in 9 months.

turned out that the 9-month growth rate of running speed is clearly greater, both in boys and girls.

As a result of regular performance of the experimental exercises used in the experiment, the speed of running around the sports cone on the left side was reduced to 0.5 seconds in the 7th and 9th grades, the real result was shorter than the speed of running around the sports cone on the right side. But it turned out that the 9-month growth rate of running speed is clearly greater, both in boys and girls.

Conclusion

Based on the results of the pedagogical experience conducted to determine the effectiveness of the formation of speed-strength qualities and coordination of movements in schoolchildren with the help of innovative game exercises, as well as their comparative analysis, the following generalizations can be given:

1. The study found a significant asymmetric difference between the right and left jumps and the right and left turns of the mokkishimon on treadmills in all students who took ishtrok. This situation manifests itself in the fact that in physical education classes and sports clubs, measures should not be taken to apply symmetrical proportions of jumps and mokkisim running exercises from all sides, reflecting the ability to coordinate. Perhaps it is worth formulat-

ing such a meaningful coordination ability with the help of mobile games, which are played in a changing direction and in extreme situations, starting from an early age.

2. From the results of pedagogy, it was found that the indicators of the length of jumps in different directions (forward, backward, sideways) by the end of the experiment in boys grew more than in girls. But they had a significant asymmetric presence between the intervals of jumps to the right and left sides.

3. It was noted that in students belonging to EG, jumping in different directions and the speed of shuttle running increased rapidly by the end of the 9-month experience, and the asymmetric difference between right-hand and left-hand performance of such movements also decreased. In other words, the observed asymmetric difference between the indicators of shuttle running 3x10 meters to the right and left, jumping while standing still on the right and left sides in them was as symmetrical as possible by the end of the experiment. Thus, it can be noted that the experimental and meaningful game exercises used in the training of this group are important for the formation of coordination abilities in all directions.

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