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Justification Of The Method For Developing Accuracy Of Throwing A Tennis Ball At The Target In III – Class Students

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Introduction.

Proposals of President Sh.M. Mirziyoyev that "we will mobilize all the forces and capabilities of our state and society so that our youth can become independent thinkers, have high intellectual and spiritual potential, and become people equal to their peers in any field of activity" in on a global scale and be happy" and effective organization, in particular, the education of primary school students as independent thinkers with high intellectual and spiritual potential, is one of the urgent tasks of our time[1].

After all, the time has come to improve the content, goals and objectives, forms and methods of education in modern new Uzbekistan. The emergence of such changes in society increases the efficiency of the use of innovative technologies in the educational process [2].

The importance of physical education during the school period of a person's life is to create the foundation for comprehensive physical development, health promotion, and the formation of a variety of motor skills.

This leads to the emergence of objective prerequisites for the harmonious development of the individual. The full development of school-age children without active physical education activities is practically unattainable. It has been revealed that a lack of physical activity seriously worsens the health of a growing human body, weakens its defenses, and does not ensure full physical development.

Due to the fact that the peak of natural development, as a rule, occurs during high school age, basic physical abilities and functional capabilities can be effectively improved during school age.

This period is sensitive in relation to all physical qualities of a person. Later, it is difficult to develop certain qualities. In addition, school age is considered the most favorable for learning a variety of motor skills, which allows one to adapt much faster in the future to perform mastered movements in a variety of conditions of motor activity [3].

One of the priority directions of modern state policy is to solve problems of improving and maintaining the health status of students in general education institutions, by increasing the level of their physical activity, and developing in them a conscious attitude towards their own health as the main value of life.

State educational standards stipulate that physical education classes should become lessons in knowing yourself, your body, your moral and volitional qualities, spiritual and physical capabilities.

The targeted use of physical education in the education of school-age children and youth involves solving the following problems.

Promotion of health, promotion of normal physical development: formation of correct posture, development of various muscle groups of the body, correct and timely development of all body systems and their functions, strengthening of the nervous system, activation of metabolic processes [5].

Increasing the body's resistance to adverse environmental influences. Whenever possible, it is advisable to conduct physical education classes, including physical education lessons, in the fresh air rather than in the gym.

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At school age, a certain level of physical and mental performance is achieved, which in general allows one to successfully master the program material of theoretical academic disciplines and physical education training programs.

The rational use of leisure, in which elements of physical education are an effective remedy against passive pastime, allows one to eliminate the negative manifestations of a number of antisocial behaviors (hooliganism, drug use, alcohol, etc.).

And finally, physical activity during the period of rapid development of the body significantly facilitates the solution of general educational problems (moral, labor, aesthetic). The targeted use of physical education in the education of school-age children and youth involves solving the following problems.

Wellness tasks

1. Promotion of health, promotion of normal physical development: formation of correct posture, development of various muscle groups of the body, correct and timely development of all body systems and their functions, strengthening of the nervous system, activation of metabolic processes.
2. Ensuring the optimal harmonious development of physical qualities for each age and gender. At primary school age, it is necessary to pay attention to the comprehensive development of physical qualities, but emphasis is placed on developing coordination abilities, as well as speed of movement. In middle school age, much attention is paid to the development of speed abilities in all its forms, and speed-strength training is also added, which is not associated with the maximum stress of the strength component. At high school age, it is advisable to work on developing speed-strength and actual strength qualities, as well as general and anaerobic endurance.
3. Increasing the body's resistance to adverse environmental influences. Whenever possible, it is advisable to conduct physical education classes, including physical education lessons, in the fresh air rather than in the gym.
4. Increasing overall performance and instilling hygiene skills. These tasks require that schoolchildren perform physical exercises every day, take water, air, and sun treatments, follow study and rest regimes, sleep, and good nutrition. This especially applies to primary and secondary school age, since it is during this period that the most intensive development of all systems and functions of the body takes place.

Educational objectives

1. Formation and improvement of vital motor skills. Schoolchildren need to develop the following five groups of motor skills:

1) skills and abilities with which a person moves himself in space (walking, running, swimming);

2) skills to control static postures and body positions when moving (stands, starting positions, various poses, drill exercises, etc.);

3) abilities and skills to perform various movements with objects (balls, jump ropes, ribbons, dumbbells, sticks);

4) skills to control the movements of the arms and legs in combination with movements in other parts of the body (somersaults, flips, lifts, hangs, stops, balances);

5) the ability to perform complex movements to overcome artificial obstacles (vault jumps, climbing, long and high jumps).

2. Formation of necessary knowledge in the field of physical culture and sports. Students should know:

1) conditions and rules for performing physical exercises;

2) the impact of physical exercise on the main systems of the body;

3) rules for independent training of motor abilities;

4) basic techniques of self-control during physical exercise;

5) the role of physical education in the family, etc.

Educational tasks

1. Fostering the need and ability to independently engage in physical exercise, consciously using it for the purposes of recreation, training, improving performance and improving health. The solution to this problem

in the activities of a physical education and sports teacher involves the creation of the necessary prerequisites for students' independent physical education activities, and this necessitates: increasing the physical education literacy of schoolchildren; stimulating positive motivation for physical education; formation of the foundations of the correct technique for performing vital motor skills; the formation of organizational and methodological skills that give the student the opportunity to correctly organize his own independent studies, dose the load, apply an adequate method of developing physical qualities, carry out the simplest self-control, etc.

2. Nurturing personal qualities (aesthetic, moral, etc.), promoting the development of mental processes. The listed tasks are presented in official documents regulating physical education in general educational institutions (school, college, lyceum, college, etc.). They play the role of indicative guidelines for all aspects of the targeted use of physical education during school age. However, for different educational institutions, depending on the age and forms of use of physical education, they must be specified. This specification is partially presented in official documents, in the programs of compulsory courses, programs of sectional classes of physical education groups and youth sports schools [4].

Currently, a scientifically based system of physical education has been developed, designed to introduce the entire younger generation to physical education. The basis of this system is a compulsory course of physical education, carried out according to the state program. It is combined with diverse forms of using physical education in the school day and home life, with occasional mass and regular physical education classes of the personal choice of students in their physical education team, in children's and youth sports schools and other out-of-school institutions.

The social and pedagogical significance of physical education at school age is as follows:

- the foundation for harmonious physical development, health promotion, physical education and upbringing is created, the prerequisites for successful mastery of production, labor, military and other special motor actions are accumulated;
- current physical and mental performance is maintained, ensuring academic success in classes, and in the future, the effectiveness of any socially useful activity;
- children's leisure time is rationally organized, elements of physical education are introduced into everyday life through gradual involvement in sports activities;
- the moral, intellectual, aesthetic and labor culture of the younger generation is consistently improving.

Physical education is one of the areas of activity of general education and special schools, a component of the entire system of upbringing, training, education and health improvement of children 6-17 years old [3].

The specifics of the pedagogical process of physical education are determined by:

- predominant effect on human motor abilities;
- direct creation of a healing effect.

Objectives of physical education for school-age children [5]:

1) Strengthening health, increasing the level of vital activity, and the body's resistance to adverse environmental influences.
2) Increasing the functional capabilities of the body to a safe or proper level, the formation of motor abilities, skills, and the development of physical qualities.
3) Communication of knowledge in the field of physical culture and training in their applied use to improve your body.
4) Formation of motivational guidelines for physical and spiritual self-improvement of a person.
5) Formation of worldview, ethical and moral education.

Particular methodological tasks of individual processes of physical education follow from the main (general) tasks and are formed specifically taking into account gender, age, health status, level of physical fitness, period or stage of the actual pedagogical process, conditions for its implementation, etc.

At primary school age, it is necessary to develop in children all physical qualities in terms of general physical fitness (GPP). Active muscle activity stimulates autonomic functions that affect metabolism, growth and development of all systems and organs. This age can be considered the best, because all indicators of physical abilities show high growth rates. Developing dexterity should primarily come from performing new and varied movements.

Mastering new skills contributes to the formation of new coordination connections. In grades 3-4 and subsequent ones, dexterity as the ability to quickly perform a motor task in a changing environment is developed regularly, updating and varying with exercises in new and more complex conditions. The exercise

is effective until it becomes memorized. A major component of agility is motor coordination. In the lower grades, it is necessary to give exercises to perform given parameters (direction, amplitude, tempo, time) for its development. It is also necessary to use exercises that become more difficult from class to class, and also on the development of accompanying functions: accuracy and eye, vestibular stability, muscle relaxation.

The development of flexibility (the ability to perform movements with greater amplitude) at this age must be started carefully, because muscles are stretchable. The development of flexibility should be alternated with exercises that develop strength, due to greater flexibility of the spine and muscle weakness. The development of flexibility is achieved through stretching exercises (multiple repetitions with increasing amplitude). These exercises are usually used in an active motor mode: swings, bends, circular movements. The development of speed in the lower grades is aimed at developing reaction, speed of individual movements and tempo of movements. The main method in developing speed is high intensity of movements. Using outdoor gear, games, running, students are asked to perform exercises with a gradual increase in speed (throws - catching a ball, relay races with running, etc.).

Endurance in children 6-7 years old is rapidly progressing due to an increase in the reserve capabilities of the cardiovascular and respiratory systems. Developing endurance improves a student's performance, reduces the incidence of illness, and promotes speed and strength training. It is recommended to use a steady run of moderate intensity (40−60% of maximum speed) by 1-1.5 km and running over terrain up to 2 km. Developing endurance, first of all, promotes the development of the myocardium and eliminates the discrepancy between body size and heart volume.

Indicators of muscle strength in the lower grades are low. It is necessary to develop the strength of the muscles of the torso, back and abdomen (especially static), which is of great importance for the formation of a muscle corset and maintaining correct posture. The skeleton at this age is distinguished by significant elasticity, especially the spine 1 with its characteristic curves that are not yet established.

To develop muscle strength, it is recommended to use outdoor gear with objects, climbing on an inclined bench, and exercises with self-weights . Children tolerate short-term speed-strength exercises well : jumping, acrobatics and apparatus. At middle school age, the most rapid, but disproportionate growth of the body in length occurs with unequal rates in boys and girls. During puberty, adolescents' movements become less precise and poorly coordinated, and poor posture is observed.

It is necessary to influence the muscles in a variety of ways. Muscle mass increases, but muscle strength increases unevenly. In boys, strength gains are faster; girls experience a relative decrease in strength, which makes it difficult to perform exercises. It is necessary to develop strength in terms of general physical fitness, and by the end of the age period, special exercises for initial strength training can be used in classes. For girls, exercises with weights using their own body predominate; the guys - with limiting the weight of weights and the volume of power load to 60-70%, the use of the "to failure" method is not allowed.

In recent years, methods of mathematical statistics have been used very fruitfully in solving many theoretical and practical problems of sports pedagogy. At the same time, it can be said that when solving specific methodological issues of school education, the method is not used enough.

Hence the weak objectivity and evidence of those recommendations that are proposed for a wide range of teachers. In your opinion, the reason for this situation is the inability to apply the mathematical apparatus in a complex methodological situation.

The purpose of this article is to show by example how the effectiveness of a training regimen can be revealed in developing the ability for accurate throwing in third- grade schoolchildren.
The experimental research model consisted of six modes selected from a large number used in school. Each of the six experimental groups (11 people in each, see Table 1) mastered the training program of the corresponding regime.
At the same time, it was found that an objective criterion for the success of training can be erroneous actions when throwing 10 throws at a target, and the evidence of the decision will be revealed based on comparison: the initial result in six groups, the final test at the end of the experiment, tests a week after the end of training and after 3 months, as well as individual shifts in these tests.

EXPERIMENTAL MODEL

Table 1: (research on a method for developing accuracy when throwing at a target for third grade students

Mode	Conditions of experience	Motor mode	Amount of days
A	Throwing at the target: below, in front-down, in front, in front-up, above. Distance respectively: nearby, 7 m, 8 m, 9 m, 4 m. Tennis balls filled with water.	Perform 10 throws per session: 2 at each target. Three sessions a day. Sessions daily.	23 days
B	The conditions are similar to mode 1, but the balls are ordinary.	Likewise	23 days
IN	Throwing at the target (in front) with maximum effort from two positions - 5 and 6 m, alternating light and weighted balls.	There are 25 throws per session: 12 – from the m. 13 – from 6 m. daily.	28 days
G	Throwing light balls at a distance.	There are 40 throws per session: 10x4 repetitions. Sessions day.	35 days
D	Throwing at a target at a height of 4 m from a distance of 4 m. Weighted balls.	50 throws per session: 10x5 repetitions. Sessions in 2 days.	42 days
E	Throwing at a target at a height of 4 m from distances sequentially - 3 m, 4 m, 5 m, 6 m, 7 m. Regular balls.	There are 50 throws in a session: 10 throws from each starting position (5 positions). Sessions in 2 days.	42 days

Note. 1. Number and composition of subjects – 11 people. (5-6 boys and 6-5 girls).
2. Group assignments are random.
3. During the experiment, everyone performs 600 throws.

For mathematical analysis of throwing accuracy indicators (errors), it is necessary to obtain the following working components for each group separately. These include:
- variation series of indicators for each test;
- variation series obtained based on the calculation of shifts - differences between individual indicators of control tests 2 and 1, 3 and 1, 3 and 2, 4 and 2;
- arithmetic averages for each test in the group;
- differences between the arithmetic averages of tests 2 and 1, 3 and 1, 3 and 2, 4 and 2 (finding the delta);
- variation series obtained on the basis of calculating the difference between individual shift indicators in tests 2 and 1, 3 and 1, 3 and 2, 4 and 2 and distances ;
- the sum of squares of the above individual difference indicators for each row;
- standard deviation (sigma) for these series (determined by the formula: square root of a fraction, where the numerator is the sum of the squares of the difference, and the denominator is the number of subjects minus 1);
- working indicator (in Russian transcription - mp) for each series, which is obtained by dividing the corresponding sigma expression by the square root value by the number of subjects (this indicator is necessary to calculate the normalized deviation);
- normalized deviation (in Russian transcription - t) for indicators of differences in test shifts in rows 2 and 1, 3 and 1, 3 and 2, 4 and 2 (“t” is found by the ratio of “its” delta to the same “ mp ”) ;
- significance level – P (find in the table for “t” values).

For the convenience of using statistical analysis materials, it is advisable to place all the data in a summary protocol, in which the first column will indicate motor modes from A to E. The next four columns will contain the arithmetic average indicators for four tests. The next four columns present the delta values for the series with the difference in the 2nd and 1st tests, in the 3rd and 1st, 3rd and 2nd, 4th and 2nd tests. Then you need to enter sigma indicators in four columns for the same rows, then indicators “mp”, “t” - differences and reliability of differences “P”.

In our study, for 11 subjects, it was enough to obtain “t” = 2.23 to consider changes in 95% of 100% reliable. Tables for the “t” difference criterion are available in every textbook on mathematical statistics.
Thus, having carried out a full analysis for each group, it is possible to determine which mode of motor activity is more rational and effective in developing the accuracy of throws when throwing at a target.
From the resulting analysis of errors when throwing at the target, it was found that in the group with mode A, the significance of the differences was less than 0.02. This circumstance gives grounds to consider mode A effective for developing throwing accuracy. But the question remains unclear how long this effect lasts over time. The answer to this question was to be given by tests in a week. So, if the average number of errors in group A after the experiment was 4.1, now it has become even less and amounted to 3.2. The significance of

the differences between the third and second measurements was less than 0.05. From this it became clear that mode A is reliable in a short period of time. Moreover, the minus sign for the "t"-difference criterion indicates a reduction in errors.

However, the researcher's interest did not end there. It was necessary to find out the stability of skills over a long period of time. When measured for the fourth time after 3 months, the average group errors were found to be 5.9. In other words, the process of skill deterioration began. When determining the reliability of the differences, it turned out to be significant (P less than 0.02), and the plus sign at "t" indicates the direction of movement towards worsening accuracy. This means that we can now conclude that mode A gives an effect only instantly and in a short time, and after 3 months it is lost.

A similar analysis needs to be carried out for other modes. In the study, modes B, C, D, D turned out to be ineffective. Here the dynamics of change are less favorable and stability is low.

But the shifts in group E were very interesting. Thus, during all four control tests, arithmetic mean group shifts of the following nature were obtained: 6.7 - 4.9 - 3.1 -4.4 errors. Already from these indicators it can be judged that the experimental regime turned out to be effective both at the end of the experiment, and after a week's break, and after three months. Moreover, in the third dimension we find a positive effect of consequence when there is no training, but the skill improves. But the effect of the regime was so profound that even after three months the skill was stable (cf. errors 4.9 and 4.4). These conclusions are confirmed when establishing the significance of the differences: for the third test, P is less than 0.05 and the same in the fourth test.

Thus, as a result of a comprehensive analysis of six training modes, it turned out that the most effective mode in developing the accuracy of throwing at a target is mode E (see table). Accurate throwing abilities in this case are stable and reliable over time. The closest to mode E is mode A. The remaining modes should be rejected as unsuitable for solving these educational problems.

We believe that this method of scientific processing of factual research material is suitable for all cases in which the effect of educational work in physical education and sports is being studied.

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