

STATE OF KNOWLEDGE OF ELEMENTARY SCHOOL STUDENTS ABOUT THE TECHNIQUE OF PHYSICAL EXERCISE

(Preliminary communication)

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Abstract

In order to establish the level of knowledge about the technique of exercise a research was conducted among 184 students from fourth grade. Photos with true and false starting positions of three exercises from the compulsory school material were used. One of respectively athletics, gymnastics and sports games. The students had the task to identify the correct exercise and argue their choice. Tables are presented with the results and analysis of students' knowledge of the elements of the technique of the exercises. For the entire four years of primary school the knowledge of the technique of the three major exercises are acquired from 26% to 79% of the students. This cannot be accepted as a good reference for the teachers who teach the surveyed students. Finally, it should be said that it is necessary to seek a rational ways of teaching affordable knowledge of the curriculum material.

Keywords: *sports games, athletics, gymnastics, long jump with two legs, ball exercise, questionnaire, physical exercise test*

INTRODUCTION

One of the objectives of the training and education of elementary school students, according to the curriculum in physical education and sport, in the first class they are acquiring accessible, for their age, knowledge about the importance, the terminology, the technical implementation and application of physical exercise. Taking into account the substantial disadvantage in school practice tendency to dominate the reproductive cognitive activity Koseva (Косева), 1999) says that “the higher the level of internal acceptance, understanding and motivation of this knowledge is, so much more will be the activity of the students”. Not different is the situation in sports coaching Yanev (Янев), 1999) criticized the model that intellectual and creative activity in mental plan for the construction and improvement of the motor actions of the sportsman are formed mainly by the coach. “In fact he, not the athlete practices “the rationalization “. For the athlete remains the perfect stereotyped motor performance”

Numerous studies (Dimitrova & Pirot (Димитрова & Пиротска), 1980); Norman, (Норман), 1985); Попов, Angelov & Dimitrova (Попов & Ангелов & Димитрова), 1979); and others, prove the link between the loco motor activity and mental activity between the practical action and understanding. “As far as physical education is related to the acquisition and development of motor skills, its interest is with respect to practical

knowledge and knowing how the majority of knowledge that is taught in the physical education is non-verbal and practical knowledge associated with the growth of kinesthetic intelligence “. (Lalova, (Лалова) (2014).

Children remember more quickly than adults, but in relation to other properties of memory (durability, completeness and rationalization), child memory is imperfect. They remember what they noticed, what they have seen, by what they have handled. This includes memory for the posture and body position. The reason is the dominance of the first signal system. What they remember faster are the object actions related to specific emotions and ideas. To remember the teaching motor activity related to the material of major importance is to have visibility, repetition and motives. Knowing the age characteristics of the student in the primary school and teachers' compliance with them represents the basics of successful motor learning to master the necessary volume of knowledge. For that a typical approach is the one in which In the initial stages of studying a representation predominantly is used. Before that, toward the students are given instructions on what to pay the attention:

- shortening the time between the representation and implementation
- exclusion of distracting irritants
- use of unificated comparisons when describing the exercises
- sufficient physical activity

- inclusivity in education

The study aims to determine the level of knowledge of students in the fourth grade in the technique of basic physical exercise.

METHODS

In the last school week in May 2015., by a qualitative study are obtained data from 184 students from the fourth grade, conducted in five schools in Sofia. The method used is a survey realized through an assignment to find the correct starting position of an exercise among the three images on one sheet and to make the choice in written. Three exercises of compulsory material in the curriculum: athletics, sports games and gymnastics were chosen. These are the "long jump with two legs", "submission of the ball with two hands from the chests" and "roll off". Every student is given three sheets (one for each exercise). On each sheet there are three photographs of a child at their age standing in the starting position for the implementation of the respective exercise. Only one of the pictures is right and the other two are incorrect. The errors on the pictures of improper implementation are relevant to several requirements. On the pictures with improper performance of "long jump" the child is standing with one foot forward and the other on the back, body bent severely or very upright, legs folded (to squat) or strained knee. On the pictures with improper performance of "submission of the ball with two hands from the breasts" the ball is either too close to the face or the stomach, elbows are strongly raised and pointing sideways or close to his body, or legs are stretched in the knees or severely bent. On pictures with "scroll" the child's hands are far ahead, or are in fists, the head is up and eyes look forward, the child is on his knees or the legs are back. The mistakes are many and are striking. In order to avoid accidental indication the students had to explain in written why they consider that exactly this photo is the correct position, and the other one is, incorrect

The study is implemented within a class. Additional information is not submitted. Students work without the presence of their teachers and recorded only their age, gender and school without noting the names. This was in order they are not concerned, that their knowledge will be opened and evaluated.

Analysis of the data is realized by selecting the key information output from the submitted sheets of the tested persons.

RESULTS AND DISCUSSION

A review of the results presented in the Tables 2., 3. and 4. shows that the students from fourth grade most easily recognize the correct execution of the exercise "scroll". Perhaps this is due to the organization of learning in this exercise. Since it is dangerous and is performed on a mat, generally one or two mats are used in between of which stands the teacher and helps the students one after another to realize the exercise. Namely the time spent to help each student, the guidance and adjustments seems are helping the children toward learning and understanding the technique of performance. The biggest gender differences in the responses are precisely in this exercise. In girls, the results are as follow: both correct answers (91%), and well-motivated responses (83%) which is better than that of boys (82% and 73% respectively). It is assumed that the reason for this difference is that boys show more interest in speed-strength exercises in which they can compete and sur-

Table 1. Number of respondents

School	Girls	Boys
20th school	20	17
31th school	5	6
35th school	16	13
49th school	50	37
119th school	10	10
Total for all schools	101	83

Table 2. Answers (in number and%) to exercise " long jump with two legs "

Sex	Correct answers	Correct motivated answers	Incorrect answers	Incorrect motivated answers	Not responded
Girls	79 (78%)	74 (73%)	21 (21%)	17 (17%)	1 (1%)
Boys	66 (79%)	59 (71%)	15 (18%)	12 (14%)	2 (2%)
Total	145 (79%)	133 (72%)	36 (20%)	29 (16%)	3 (2%)

Table 3. Answers (in number and %) to exercise "Submit ball with two hands from the chests "

Sex	Correct answers	Correct motivated answers	Incorrect answers	Incorrect motivated answers	Not responded
Girls	27 (27%)	26 (26%)	71 (70%)	58 (57%)	3 (3%)
Boys	26 (31%)	22 (26%)	56 (67%)	45 (54%)	1 (1%)
Total	53 (29%)	48 (26%)	127 (69%)	103 (56%)	1 (0,5%)

Table 4. Answers (in number and %) to exercise “rolled off”

Sex	Correct answers	Correct motivated answers	Incorrect answers	Incorrect motivated answers	Not responded
Girls	92 (91%)	84 (83%)	8 (8%)	7 (7%)	1 (1%)
Boys	68 (82%)	61 (73%)	14 (17%)	11 (13%)	1 (1%)
Total	160 (87%)	145 (79%)	22 (12%)	18 (10%)	2 (1%)

Table 5. Types of reported errors (and %) to exercise “long jump with two legs”

Type of errors	Number of girls and %	Number of boys and %	Total number and %
Squatting or insufficient squatting	53 (52%)	40 (48%)	93 (50%)
Could fall or be hurt	9 (9%)	5 (6%)	14 (8%)
Will lose balance	8 (8%)	6 (7%)	14 (8%)
Feet are not on the same line	13 (13%)	6 (7%)	19 (10%)
Head or body are very lean forward	16 (16%)	16 (19%)	32 (17%)

Table 6. Type of reported errors (and %) to exercise “Submission of ball with two hands from the chests”

Type of errors	Number of girls and %	Number of boys and %	Total number and %
The ball is too high or too low	27 (27%)	20 (20%)	47 (25%)
Position of hands /elbows/	18 (18%)	8 (10%)	26 (14%)
Position of feet	15 (15%)	8 (10%)	23 (12,5%)
Others /not determined/	21 (21%)	5 (6%)	26 (14%)

Table 7. Type of reported errors (and %) to exercise “Scroll”

Type of errors	Number of girls and %	Number of boys and %	Total number and %
Hands into fists put on the mat	55 (54%)	36 (43%)	91 (49%)
Position of hands (forward)	3 (3%)	4 (5%)	7 (4%)
Position of head	28 (28%)	17 (20%)	45 (24%)
Position of knees (knees)	21 (21%)	20 (24%)	41 (22%)
Distance to the mat	17 (17%)	10 (12%)	27 (15%)
Others (not determined)	8 (8%)	0 (0%)	8 (4%)

pass. Exercises from gymnastics look like “feminine styled”.

Most difficult for the respondents is to find the proper execution of the exercise “submission of ball with two hands from the chests.” From both sexes only ¼ of the students give a motivated answer to selecting a picture with the correct starting position. Taking into account that this element is from the compulsory school curriculum content and essential to basketball, ignorance of the established technique of exercise raises doubt about the ability of students to perform. It should be mentioned that the program includes for learning also the technical element shooting with two hands from the chests of place. The technique of this type of shooting is very close to passing the ball with both hands from the chests, but with a higher parabola. Because of this similarity, it can be deemed that as the technique of passing the ball is not familiar to them, they are also not familiar to the

technique of shooting. Although at first glance the result which shows that 72% of all studied indicate well motivated proper performance of “long jump from a place with two feet,” is acceptable, it is necessary to consider the following facts:

1. This exercise is taught at preschool in the kindergarten. Taking into account the mandatory nature of the one-year preschool education of the children in the kindergarten, actually at the time of the survey (fourth grade) the students have studied it and performed already 5 years.

It is a test to measure the strength of the lower limbs twice (fall and spring) in a year the students are evaluated on this test.

The exercise is not with a complex technique.

After taking into account these facts, it can be said that after 5 years of study of the exercise there should be no students who do not know how to perform it.

This is clearly not just a problem of primary school. Milenska & Peneva (Миленска & Пенева), 1992) through a survey conducted among 291 students from fourth to tenth grade, establish the following: "Knowledge related to the development of physical properties are relatively good. Knowledge of indicators bearing information about the technique of a motor activity and knowledge of the rules of the studied sports games are at a satisfactory level".

For the purpose of the study of great importance is the issue for the arguments of the students in determining the image with the correct starting position. Most often children indicate one or two mistakes without depleting all. Only one girl from the 20th school has given a complete answer for all images.

For exercise "long jump with two legs" in general more active are the girls. Only for one type of mistakes boys were more observant. Individual students have avoided a straight answer with phrases like: "This way there is no power to jump", "He have wrong standing," "It is inconvenient", "They can hurt themselves this way or can jump sideways", "You can hurt yourself."

Table 5. presents the designated errors. Most of the rest have seen and reported only one error. Most (50%) have reported excessive folded legs in knee joints (on one image) or fully stretched (on the other image). Much less are the children (17%) who have commented on the position of the body and head. And surprisingly small is the percentage (10%) of those who have noticed that both feet are not on the same line (the sole of one foot is further back than the other). Already at the initial stages of studying of this exercise they should have been running it with both feet touching their fingers to the line. When evaluating the performance, which is done twice a year, this is also a requirement. Generally it is difficult to jump if both feet are not on the same level. This has remained in the background in their perceptions of the technique of implementation.

For the exercise like "submission of ball with two hands from the chests" attempts to avoid specific answers are visible in expressions like "This way they will drop the ball", "He will "nail" the ball." "He do not throw the ball this way". It is inconvenient" "He ca not submit well", "Hands are positioned in an ugly way", "He'll break his nose", "It will fall too far" or "Hands are back way".

Most students (25%) have commented on the height of the holding of the ball, and the least (12.5%) - the position of the feet. Only (14%) have found the error in the position of the elbows. This unfortunately is an error in the children's performance, which is often seen in school and is not students' fault. I have repeatedly come across teachers, most of them professionals, who show and require performance with elbows sideways. If during studying these teachers have failed to learn the proper technique, if they want to, they could benefit from the available literature (Peltekov, (Пелтеков), 1978); Dilova, Davidov, Davidova, Aleksieva & Dimkova

(Дилова, Давидов, Давидова, Алексиева & Димкова, 2004); Tsvetkov et al. (Цветков et al., 2005), in which the description of the technique is specifically addressed to the situation of elbows. Lifting of the elbow engages a change in the position of the wrists and fingers, thus the technique becomes worse.

To avoid specifics in the indication of the errors in the exercise "scroll" " , some of the studied children use phrases such as: "This is the way to stand", "This is not the way to stand", "Ideal", "Correct", "Incorrect", "Will fall on his face", " He cannot roll off", "On photos 2 and 3 he is positioned in a low start". The last answer is very surprising for two reasons. In the curriculum from grade I to IV the study of exercise "low start" is not planned. The second is that the position of the children on the photos has nothing to do with the position to start. Association could occur only because of the ground posture and the position of the body. But the decision the student to "get away" from specific answer incorrectly comparing two exercises is interesting.

Table 7. shows that even in this exercise girls are more active and give more detailed descriptions to the situations.. Half of all surveyed students noticed the mistake of positioning on hands into fists. Exercises with positioning of the hands, are studied by elementary school students and are implemented by always the same way - with positioning of the palms and gathered fingers. The difference is only in the direction of the fingers. In some situations they point forward (in support, knee support, squatting support), while in others - back (shoulder seat, occipital support). It is good that at least half of the children have learned the way of support. Double less are the students who have seen the wrong position of the head. If the head is not closed to the chest the exercise cannot be implemented.. Ignorance of this element of the technique could cause serious injuries. As the "scroll" is performed from squatting support and not from knee support, 22% of students reported as a mistake the positioned on the floor knees. The most difficult for the respondents is to grasp the connection between the support and the center of gravity. .Only 4% of children's noticed that with hands positioned far ahead in support it is impossible for the pelvis to be moved over, and then against the fulcrum so that the "scroll" to be implemented. A girl without giving the distance of the hands as a reason, in her own way described one of the faulty positions: "You will need someone to push the scroll ." She has concluded that the support and the center of gravity are too far back from the support.

CONCLUSIONS

1. For the entire four years of primary school the knowledge of the technique of the three major exercises are acquired from 26 % to 79 % of the students. This cannot be accepted as a good reference for the teachers who teach the surveyed students.

2. Of all three exercises, the students showed best knowledge of the technique of the exercise "scroll" and

have least knowledge about “submission of ball with two hands from the breasts.”

3. As regards to the identification of the correct cases, the results of boys and girls are similar. Just for exercise “scroll” with 10% more the correct answers are from the girls.

4. In their arguments the girls showed more knowledge about the elements of the technique.

Finally, it should be said that it is necessary to seek a rational ways of teaching affordable knowledge of the curriculum material. This will increase the interest and activity of students and make them more confident.

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