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Original article

THE INFLUENCE OF TEACHING MATERIALS IN THE EVOLUTION OF THE MOTOR SKILLS IN STUDENTS

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Abstract

Purpose: This study would highlight the importance of using teaching materials as widely as possible to achieve the objectives set by the teaching staff in physical and sports education.

Material and methods: The proposed study was carried out based on 50 students aged from 20 to 30, divided into two groups (experiment and control), the first with a number of 23 students and the second with 27 students. At the basis of this experiment was the testing of different methods specific to physical and sports education, using different sports materials, including strings, elastic band, medicine ball, gymnastics bank etc. The probes selected for carrying out the research were: 50m speed run with start from standing, start from standing length jump, 1000m long run, fixed-bar hanging arm trits and vertical torso lift from dorsal decubitus (30").

Results: The use of various teaching materials confirms the hypothesis from which this study started, the data presented showing that the use of these materials according to well-defined rules is aimed at the improvement of the demonstration level of the motor capacities and not only.

Conclusions: The design and planning of specific activities, based on the use of various teaching materials, leads to a faster achievement of the objectives of the proposed education and training process, which will facilitate the evolution of the individual in the submitted plans regarding the intervention of the teaching staff. The importance of the appropriate teaching materials used by the teaching staff ultimately leads to the knowledge acquisition by the individual, and skills acquisition needed for the individual in society. One can say that among the factors contributing to the achievement of the objectives of the educational training provided, teaching materials used by specialists are one of them.

Keywords: teaching materials, motor skills, students.

Introduction

This study would highlight the importance of using teaching materials as widely as possible to achieve the objectives set by the teaching staff in physical and sports education.

Physical and sports education, as well as other movement-based activities, is one of the main factors which aim to keep health within normal limits, which has a direct influence on the life expectancy of the population.

Suciu A. and Dumitru Gh. (1999, page 5) emphasized that "in the process of growth, development and maturity of the human being, predispositions and potential for movement adaptment, improvement or restructuring. With the evolution of society, human activities are increasingly being organized, driven by individual and social needs and, obviously, by the characteristics of the periods that humanity is going through."

General education has several components,

one of which is physical education, with specific tasks and content, which have an impact on the individual both physically, motrically and emotionally, intellectually, etc.

Dragnea A. and colab (2000, page 55) noted that "consequently, the concept of physical education should highlight multiple contributions of this activity to the quality of individuals' life; these values that physical education creates and promotes are represented, in the vision of Kretchmar (1994), by knowledge, fitness, motor skills and satisfaction (pleasure)".

Pestalozzi quoted by M. Dumitru (2003) considers that human personality development has a connection with intellectual education, moral education and physical education. The same author, quoted by M. Dumitru (2003, page 9) considers that "physical education is the first action of rational adults' influence on children. When the child enters school, physical education takes on a new and varied nature: achieving physical development, but also the

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skills that he or she will need later in his or her work, it prepares him or her for life."

If we recall the configuration of the physical methods and means used on the teenage segment, it can be said that they are confused with those for the adult age segment, because it is particularly desirable to increase the physical fitness level, but also to combat poor posture attitudes.

In addition to the beneficial effects of physical education, it favors the emergence of different positive emotional conditions, with the aim of shaping the behavior for the personality of the individual in the future.

Main objectives of physical education after St. Dragomir, A. Barta (1998) are: to ensure harmonious physical development, to maintain the health of individuals, to develop the motor qualities, to extend the range of skills and motor skills, to increase the organism's resistance to environmental factors, to improve the ability to practice sports, to promote natural processes of growth and development, education by specific means of positive personality traits, prevention/detection/correction of deficient attitudes and physical deficiencies of a light and medium degree, learning of different techniques necessary for the use of physical exercise for preventive, hygiene, curative, corrective, compensatory and recreational purposes, etc.

The effects of physical exercise on the body are complex, being basic components in the process of educating and preparing individuals, factors determining the continuous rise of their motor, functional and psychological capacities.

Material and methods

Experimental group	Table 1. Results for the experiment group/initial testing				
	Initial testing				
	50 m	SLL	1000 m	Tr	Abd
Arithmetic mean	7,02	200,35	5,01	4,89	23,89
Amplitude	1,4	45	41	12	14
Standard deviation	0,76	0,29	0,42	4,00	4,36
Variability coefficient	10,83	14,54	9,28	81,61	18,24

Experimental group	Table 2. Results for the experiment group/final testing				
	Final testing				
	50 m	SLL	1000 m	Tr	Abd
Arithmetic mean	6,77	208,25	4,48	5,11	25,37

The proposed study was carried out based on 50 students aged 20 to 30, divided into two groups (experiment and control), first with a number of 23 students and the second with 27 students. At the basis of this experiment was the testing of different methods specific to physical and sports education, using different sports materials, including strings, elastic band, medicinal ball, the gymnastics bank etc. These materials were used more in the experimental group than in the control group to see the importance of using them in the physical education class.

Among the used research methods are remembered the measurement method, the statistical-mathematical method and the graphic method. Also, the statistical-mathematical indicators that were used in the conduct of the study were: arithmetic mean, amplitude, standard deviation and coefficient of variability.

The sport tests selected for carrying out the research were:

1. 50 m speed run with start from standing (50 m);
2. Stationary length jump (SLL);
3. Resistance run 1000 m (1000 m);
4. Hanging arm pull-down to fixed bar (TR);
5. Vertical torso lift from dorsal decubitus (30") – (Abd).

Results

The obtained data were processed and interpreted as shown in the below tables and graphs. The conclusions were drawn by comparing the results obtained in the two groups (experiment and control) after the initial and final measurements were taken.

Amplitude	1,3	40	43	10	11
Standard deviation	0,47	1,25	1,24	4,00	2,67
Variability coefficient	6,92	11,85	13,23	78,32	10,53

Table 3. Results for the control group/initial testing

Control group	Initial testing				
	50 m	SLL	1000 m	Tr	Abd
Arithmetic mean	6,99	201,25	4,59	4,51	23,06
Amplitude	1,5	39	47	7	11
Standard deviation	0,44	0,26	0,45	3,03	3,78
Variability coefficient	6,29	13,09	14,91	67,44	16,39

Table 4. Results for the control group/final testing

Control group	Final testing				
	50 m	SLL	1000 m	Tr	Abd
Arithmetic mean	6,93	205,64	4,49	4,87	24,32
Amplitude	1,3	40	48	6	12
Standard deviation	0,30	0,20	0,77	2,67	3,22
Variability coefficient	4,37	9,92	15,98	45,74	13,22

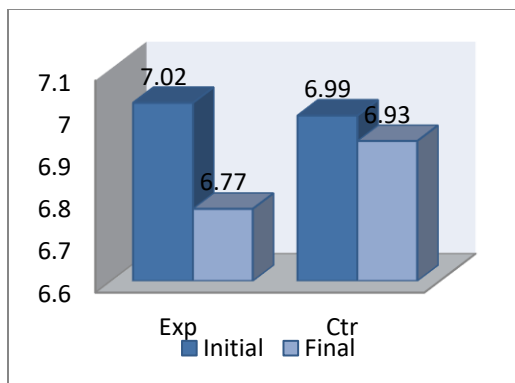


Figure 1. Average values of 50 m

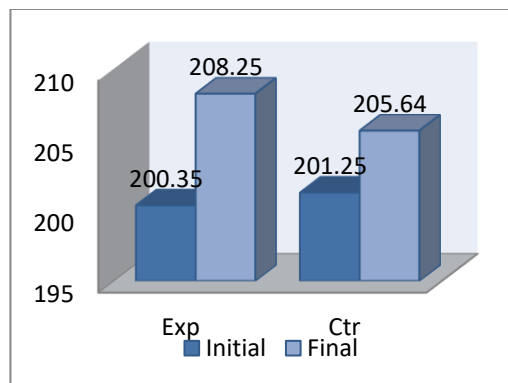


Figure 2. Average values of SLL.

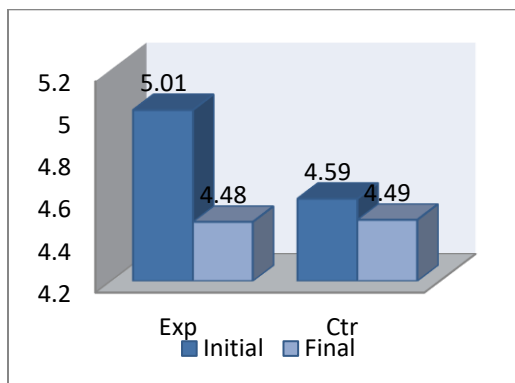


Figure 3. Average values of 1000 m

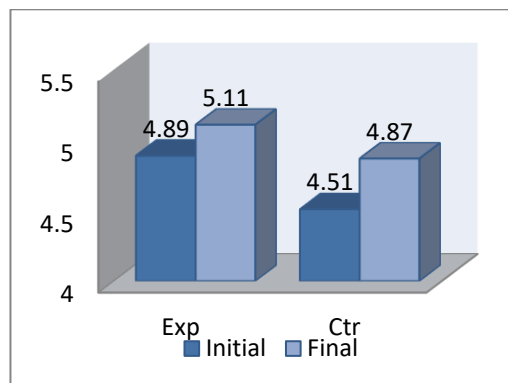


Figure 4. Average values of Tr.

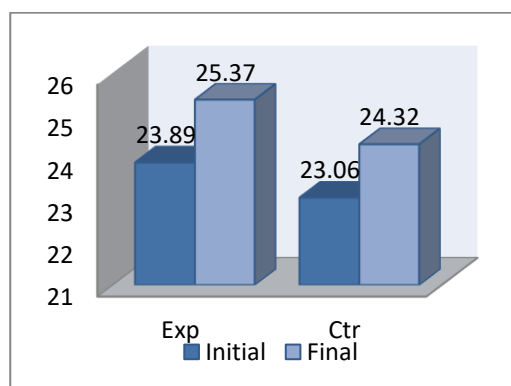


Figure 5. Average values of Abd.

Discussions

From the data from this experiment it can be observed that in the 50 m speed test with the start from standing, the evolution of the experimental group is 0,25 sec compared to the control group which had a development of only 0,06 sec. The arithmetic mean calculated for the two groups after the initial test is approximately equal. From the point of view of the progress of the two groups, the experimental group is evoked, which has a 0,19 sec better progress compared to the control group. The test group should show a small spread of data in both the initial and the final tests, the homogeneity of the collectivity being average at the first test and high at the final test. The control group is characterized by a small spread of data and high homogeneity of the collectivity.

The spot length jump exercise shall be shown with approximately equal results of the arithmetic mean of the two groups after the initial test. At the same time, the progress achieved by the experimental group is 7,90 cm, compared to the control group which has a development of only 4,39

cm. The first group has a higher progress compared to the second group with a value of 3,51 cm. From the point of view of data spread it is noted that in both groups, both initial and final testing, the extent of the values spread is low, the homogeneity of the groups being average in both groups subjected to the research, except for the control group at the final test where the homogeneity of the group is high.

The resistance run over the 1000 m distance is not characterised as the two tests previously presented with relative close-mean values, the progress of the first group being 13 sec compared to the reference group with a 10 sec. The difference in progress is 3 sec in favor of the experiment group. The data spread is small in both groups, both in the initial and final testing, the homogeneity of the groups is average for both groups except for the experimental group where the initial homogeneity of the group is high.

In the fixed-bar arm pull test, a reversal of the trend is observed, the control group having a progress of 0,36 repp compared to 0,22 repp in the experiment group. The difference in progress is 0,14 rep. in the control group. For both the initial and final

test, the two groups should be seen with a small spread of data, with a slight homogeneity of the collectives in both the first and final test.

The last test presented is the vertical rise of the torso from dorsal decubitus, which maintains the trend of the previous test with approximately similar mean values in the two groups under the test. From the point of view of the progress of the two groups, the experimental group is evoked, which has a progress of 1,48 repp compared to the control group which is distinguished by a progress of 1,26 repp. The difference in progress is 0,22 repp in favor of the experimental group. For both the initial and final test, the groups are exposed to small data scatter, the homogeneity of the collectives being averaged in both tests.

Conclusions

The use of various teaching materials confirms the hypothesis from which this study started, the data presented above showing that the use of these materials according to well-determined rules has as finality the improvement of the level of manifestation of motor skills and more.

The design and planning of specific activities, based on the use of various teaching materials, leads to the faster achievement of the objectives of the education and training proposed, which will facilitate the evolution of the individual in the plans submitted by the intervention of the teaching staff.

The importance of the appropriate teaching materials used by the teaching staff ultimately leads to the acquisition by the individual of knowledge, skills and motor skills needed for the individual in society. One can say that among the factors contributing to the achievement of the objectives of the educational and training provided are the teaching materials used by specialists.

Physical education, by the methods it uses, together with teaching materials and the equipment used, has a beneficial impact on the health of the individual, increasing hours would benefit people at

their school ages and even university ages, with the current trend of young people to practice sport in society declining, with the risk of diseases that are also caused by sedentary emerging in the future.

Improvement of motricity can be achieved adequately using appropriate methods, means and materials, in accordance with the individual's degree of development.

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