FORMS OF MOVEMENT IN TERMS OF ELEMENTARY GAMES AT PHYSICAL EDUCATION CLASSES

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UDK: 796.11;
796.411;
371.3::796

Abstract: A sample of 60 respondents was drawn from the population of students of the third grade of primary school in Nis, aged nine ± 6 months, male, who attend regular physical education classes. Subsample of 30 respondents worked on speed and strength development through elementary games at additional physical education classes (experimental group), while the control group had only regular physical education classes defined by primary school curriculum. The aim of this study was to determine the effects of work on speed and strength development within the framework of extra physical education classes in the third grade. Tests for the assessment of speed implied six tests: running at 20, 40 and 60 meters, hand tapping, foot tapping and feet tapping on the wall; tests for the assessment of strength implied five tests: push-ups, back lifting, squats, trunk lifting on Swedish bench and trunk lifting for 30 seconds. For determining the effects multivariate analysis of covariance was applied. The results indicated statistically significant effect of the work on the experimental group in both motor dimensions.

Keywords: forms of movement, elementary games, physical education, speed, strength.

1. INTRODUCTION

The essence of physical education classes, besides the optimal development of anthropological characteristics of students and the adoption of sport-technical education, is acting in direction of inclusion process of physical exercise in every daily life, ie. the systematic application of physical exercise becoming a part of the value system of students.

The contents of physical education classes are focused on acquisition of motoric skills, knowledge, habits and abilities, through implementation of the Curriculum as defined by the Ministry of Education. In addition to the contents of the program that have to be implemented, didactical-methodical guidelines for their implementation are defined as well. Based on these guidelines as well as on his own ingenuity, the educator has to plan and programme his school class considering the capabilities and characteristics of his students determined at the initial measuring and pretesting.

Exercise activities of the curriculum include so-called „elementary games“. They are not only the framework of educational process for the development of skills and qualities, but also for funny and enjoyable activity that spontaneously leads to joy and satisfaction, in which the students show themselves as they really are (Grandić, 1997). Application of elementary games in physical education classes is developing skills and qualities, acquisition of motoric abilities, emotional enrichment of life, volitional characteristics and personality traits. Using this form of exercise in addition to developing of their physical abilities, students have the opportunity to socialize and develop their creative skills.

Elementary games are kind of free (voluntary) selected activities, which are motivated by pleasure of participating in and self-realization. They are not the result of coercion or motivated by any financial gain. They are characterized by diverse rallies of pairs or small groups of students in order to satisfy the inherent needs for rectilinear, curvilinear and natural body

movements (Ivanović, 2002). Since the earliest times of mankind, the game had its place in physical activities of man. The game had its beginnings in production work and in social consciousness of certain groups of people (the magical play, ritual dances). The ancient philosophers in their theoretical discussions about society, talked about the game, considering it to be of great importance in raising and upbringing of new generations. It's the same with other ancient civilizations where physical education indicates that the ancient people had always practised the game for various purposes, especially because of its educational and artistic value and its impact on young people's health. The Middle Ages was a period of darkness in development of physical education, the period when it was completely neglected, and therefore all its forms. The only form of physical activity could be seen in the repertoire of chivalric tournaments, where they fought by strictly defined rules. The new century meant the return of physical education to the position it deservs, and therefore the game has become an important factor in education. Various forms of the game made an integral part of culture of all human communities in the course of their development. Therefore, it had always been the subject of study of historians, theoreticians of physical education (Ivanović, 2002; Nemec, 1999).

1.1. The concept and characteristics of elementary games

Elementary games are psychomotor activity based on natural way of movement and manipulation of own body, with or without equipment, with expression of various emotional states, intelligence, attitudes and behavior in accordance with moral ideals. At the beginning, they were simple, childish, funny, national games, and later, in modern terminology of physical education, they got the name - elementary games, all in order to differ from more complex sports games.

Basic characteristics of elementary games are free actions, demonstration of abilities, skills, ingenuity, creativity, perseverance, pal outwittings, expression of status and desire for mobility, simplicity and accessibility, simple means, play area, game rules and unlimited number of participants. Elementary games can be classified according to various criteria. According to motoric content: games with running, jumping, catching and throwing, pushing games with dragging and wearing. Elementary games can also be divided according to its influence on certain physical fitness: strength, speed, endurance, agility, volubility, etc. Based on equipment and devices they can be: games with and without equipment and appliances; according to location and climate they are divided into indoor games (gym) and outdoor games (playground with hard court, grass, sand, snow, ice). Regardless of the characteristic of free activities in the implementation of elementary games, it should be noted that they are used in education, and that students need to indicate the type and the way the game should be applied. All habits acquired in lifetime are the result of numerous and sometimes boring repe-titions, so in elementary games it should be known when, how and how many of them to use. Elementary games can generally be administered to all students regardless of their age and gender, along with paying attention to duration and intensity of efforts, size and shape of equipment and playgrounds.

How to choose a game and how to apply it, depends on needs, available space, equipment and weather conditions. In order to perform the game the right way, first of all it has to be well-designed, well-prepared and the structure of its performance with a certain number of repetitions sholud be learnt. All the props and means, if the game requires them, should be prepaerd on time in order to

keep everything running smoothly. Before the beginning, students should be briefly informed about the content and rules of the game.

2. WORKING METHOD

The aim of this study was to determine the effects of work on speed and strength development within the frame-work of extra physical education classes in the third grade. A sample of 60 respondents was drawn from the popu-lation of students of the third grade of primary school in Nis, aged nine ± 6 months, male, who attended regular physical education classes. Subsample of 30 respondents worked on speed and strength development through elementary games at extra physical education classes (experimental group), while the control group attended regular physical education classes determined by primary school curriculum.

Tests for the assessment of speed implied six tests: running at 20 meters (RA20), running at 40 meters (RA40), running at 60 meters (RA60), hand tapping (HTAP), foot tapping (FTAP) and feet tapping on the wall (FTW); tests for the assessment of strength implied five tests: push-ups (PUSH), back lifting (BLIFT), squats (SQUAT), trunk lifting on Swedish bench (TLIFT) and trunk lifting for 30 seconds (TL30). Applied set of motor variables was taken from research of Kurelića et al. (1975)and Šoša and Rađe (1998).

For the purpose of this study, analysis of variance was used in the case when the experimental and control groups are significantly different at the beginning of the treatment; also when the experimental and control groups do not differ significantly, but their treatments are conducted under varying objective conditions.

2.1. Elementary games for speed development

As the content of elementary games for speed development, various forms of running can be distinguished (forward, backward, laterally, skip, high skip, skip laterally). These are mostly running and catching tasks.

Catching its pair, Race of numbers, Speed hand, The prisoners, Protected helpers, The wolf and the sheep, Funny catching, Who catches the fastest?

2.2. Elementary games for strength development

Elementary games for strength development refer to various pulling, pushing, standing, squatting, sitting, carrying on back and in arms, games like "who can more" (sit-ups, push-ups, squats).

Crabs playing, Šmall scabies at squat, Lying relay, Lobster, Stations, Caterpillars.

Table 1. An example of an additional physical education class for speed and strength development

The introducto-ry part of the class	• slow runninge • lateral running step-by-step • children's jump • running with high skip • running with lower leg throwing back • jumpings from leg to leg • jumpings on one leg

	• running backwards
The preparatory part of the class	• stretching exercises (5-10x) - S.P. foot by foot, arms in front of the body with crossing, arms of the body with rising of toes. - S.P. straddle, arms at hip – lateral position of the body - S.P. straddle, arms of the body - standing upper-body rotation - S.P. straddle, arms up - orbiting trunk - S.P. spetni, arms to the body - squat-lying resistor - S.P. lying on back – arms in front of body and step forward, endure - S.P. lying on belly, arms up. Rotate with trunk, endure. - S.P. resistor from squat position – high jump-sprawled body
The main part of the class	• elementary game for speed development: *Race of numbers* Students are arranged in two circles of the same numbers. Each student has its own number and when it is called out, student runs around its circle in a clockwise direction. The student who arrives first at his place, makes one point to his circle (team). • elementary game for strength development: *Stations* Several teams are competing. On a given signal, the first from the column run to the turnstile and back. On that path there are a few stations with stretching exercises. For example: 1. station - three squats, 2. station - five push-ups, 3. station - five sit-ups. The number of cells and the choice of design exercises are arbitrary. The time is measuring and it is insisted on proper exercise form.
The final part of the class	• the formation of a semi-circle, breathing exercises in order to establish the normal state of physiological functions.

3. RESEARCH RESULTS

Table 2. Multivariate analysis of covariance between exsperimental and control group in terms of speed at final measuring with a neutralization of the differences from the initial measuring

Wilks' Lambda test	*Rao F aproximation*	*P-level*
.458	5.98	.000

Multivariate analysis of covariance (Table 2) between experimental and control groups at the final measuring with neutralization of differences from initial measuring, indicates a statistically significant effect of the program on speed development through elementary games at additional physical education classes. The level of significance P/level = .000, and the value of F-ratio 5.98 point out that difference.

Table 3. Univariate analysis of covariance between exsperimental and control group in terms of speed at final measuring with a neutralization of the differences from the initial measuring

Speed tests	Adj. Mean (e)	Adj.Mean (k)	F-ratio	P-level
RA20	3.60	3.90	3.48	.000
RA40	6.50	7.00	4.19	.000
RA60	9.15	9.30	1.48	.153
HTAP	43.59	42.89	1.58	.120
FTAP	32.65	30.14	2.59	.016
FTW	21.48	19.65	3.45	.000

Table 3 shows the values of individual tests at analysis of covariance between the experimental and control groups at the final measuring with neutralization of differences from initial measuring of speed. There is a statistically significant intergroup difference (P <.01) in favor of the experimental group at the level of four from six speed tests: running on 20 and 40 meters (RA20 .000; RA40 .000), foot tapping (FTAP .016) and feet tapping on the wall (FTW .000).

Table 4. Multivariate analysis of co-variance between exsperimental and control group in terms of strength at final measuring with a neutralization of the differences from the initial measuring

Wilks' Lambda test	Rao F aproximation	P-level
.552	7.96	.000

When it comes to strength development through elementary games, multivariate level of analysis of covariance (Table 4) points out a statistically significant effect of the program on strength development through elementary games on the additional physical education classes, as indicated by the level of significance P/'evel = .000 and value of F-ratio 7.96.

Table 5. Univariate analysis of co-variance between exsperimental and control group in terms of strength at final measuring with a neutralization of the differences from the initial measuring

Strength tests	Adj. Mean (e)	Adj.Mean (k)	F-ratio	P-level
PUSH	14.45	13.51	9.07	.000
BLIFT	16.12	14.07	54.00	.000
SQUAT	16.01	14.29	24.42	.000
TLIFT	20.22	20.77	78.67	.000
TL30	16.96	16.93	20.51	.000

The values of individual tests at analysis of covariance (Table 5) show a significant intergroup difference (P < .01) in favor of experimental group at the level of all strength tests: push-ups (PUSH, 000), back lifting (BLIFT .000), squats (SQUATS .000), trunk lifting on the Swedish bench (TLIFT .000) and trunk lifting in 30 seconds (TL30 000).

4. DISCUSSION AND CONCLUSION

Physical education should be well organized and it should provide the opportunity to students for having quality practice as well as for having fun. Among other things, this can be achieved by applying elementary games. They are very simple, but rich in motor and emotional content, which develop and improve natural abilities and qualities of the child, as a manifestation of their great need for self-expression. The games make it possible for them to experience the environment actively, to adapt quickly to new situations and to gain new life experiences more effectively. Some games teach children mastering complex efforts, development of personal preferences and adapting to possible failure, what is a positive effect on development of character. That's how children build up their own criteria of acceptance of positive personality by comparing abilities (consciously or unconsciously) with the abilities of other participants. But it is important to emphasize that priority is given to health and proper physical and spiritual development of students.

The world of games, which is the closest and the most interesting to the child, is a great starting point for the development of mental and physical skills necessary for including into all spheres of everyday life. The game appears as „the first school of life" (Nemec, 1999) in which the child expresses its potential received as genetic heritage. Imitating life

of the adults, children emulate the actions that are registered with their senses, and in that way they are actually preparing themselves for real life that awaits them.

Elementary games allow joint realization of all pedagogical aims of children's education. Versatility of elementary game can be seen in the following example: by improving its motor status through the game, the child is able to make a significant impact on its social status, because skillful and agile child can easily gain the affection of its friends, standing out as a leader.

The research of elementary games is usually connected to different sports. They are used as a part of a training process as well as other operators of work for the development of all dimensions of motoric abilities. They are applied in handball (Ohnjec at all, 2010; Sabo, 1993), basketball (Užičanin, 2008), as well as in water sports (Rašidagić, 2011).

This study looked at the use of games in elementary school setting with students of junior school age. The paper discusses whether the speed and strength as repetitive segments of the human motorics react to constant quarterly performance programs of elementary games within the framework of extra physical education classes. Because of the application of the elementary games within the framework of extra physical education classes a statistically significant effect of work was recorded in both tested areas.

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