EFECTS OF THE IMPLEMENTATION OF METHODICAL ORGANIZATIONAL WORKING METHODS ON THE SITUATIONAL MOTORIC CAPABILITIES OF PUPILS

Admir Hadžikadunić, Rijad Novaković, Dževad Džibrić, Muhamed Tabaković

Abstract

The aim of this research is to define possible differences between various treated groups of subjects due to the methodical organizational work used in teaching physical and health education. We are talking about the method of parallel analyses of sample results from experimental group and control group in order to define effects of change within situational motoric capabilities in handball of pupils (198 boys and girls), fifth grade of elementary schools (age 10-11), divided in two sub samples. Experimental group (N=99) and control group (N=99). Experimental group had lessons of physical and health education that is organized by complex group methodical organizational work (parallel classroom work, parallel classroom work with additional exercises, parallel alterative work, parallel alterative work with additional exercises, alterative classroom work, alterative classroom work and alterative classroom work with additional exercises). Control group teaching methods had no complex group methodical organization work but it was more simple methodical organizational work (frontal, working with three subjects, working with four subjects). This particular research has confirmed the hypothesis on influence of complex methodical organizational work in order to increase effects of work in physical and health education. With reference to, it pointed out the significant advantage of complex methodical organizational work that contributed to the experimental group and its intensification of teaching process and it that matter provided achievement of better results in the field of situational motoric capabilities than the control group.

Keywords: intensification of physical education teaching methods, situational motoric tests in handball, complex and simple methodical organizational work methods

INTRODUCION

When we speak about physical and health education there are different methodical organizational work methods. Some authors are dividing this methods on classical and contemporary, or complex and simple methodical organizational work methods. This classification is inadequate in case those methodical organization work methods are not implemented in a accurate way and the teacher does not obtain all necessary preparations. On the other hand, there are examples from the practice that some of the teachers, using classical or more simple methodical organizational methods of work have achieved great educational and training results. Each methodical organizational work method whether it is "classical" ("simple") or „contemporary" („complex"), is viewed as well choses and correct in case that selection of the organizational work method is well and appropriately chosen, if the selection of that organizational method of work is based upon an adequate chosen tasks according to the age pupils, their pre knowledge, etc. In physical and health education teaching process when we speak about basic methodical organizational methods of work, we speak about frontal method of work, group work and individual work. In the teaching practice of physical and health education there are attempts that the frontal work generates differential ballast of the pupils' organism, which means that different pupils get different tasks. But, it is not any longer about frontal, it is more about individual work. The fact is that frontal method of work is mostly work on the identical program content, but in the definition it is accentuated that there could be a various forms of tasks, but the number of various working tasks in this teaching unit is very limited and hardly feasible. Group working method is a such methodical organizational working method in which pupils of one class (classroom), according to specified criteria, divided in groups, in order to achieve better success practicing on physical and health education classes. But the decision from the teacher to select a methodical organizational working method is influenced by numerous factors that are not standardized and inconstant. Number of pupils within the group or classroom depends, before all, on the age of pupils, but also on the programme content that are part of the physical and health education. Some of the goals, tasks and effects are better achieved by frontal, some of them by group, and the most of them by individual method of work. There are also certain number of neutral methodical organizational work methods. Some of them are creating conditions for transition to the other methods (from simpler methods towards more complex). Transitional forms of methodical organizational working methods are used to create new methodical organizational methods of work. They can be used on different ways: individually, in the combination or simultaneously implementation of various work methods. Implementation of methodical organizational work methods in the practice starts at the first grade of elementary school, from the frontal method aiming towards group working methods. That transition is conditioned by age of pupils and several other factors. It means that sim-

ple methods are followed towards complex group work methods. More complex methodical organizational work methods should dominate in the higher grades. Well-chosen and adequality implemented method of work is the method that contributes higher intensification, optimization and individualisation of work, and according to this, humanization of the physical exercise process (Hadžikadunić i Mađarević, 2004). In order to achieve this, it is necessary to alternate previous technology of teaching within the physical and health education. New technology of teaching should be based upon the relevant information on the process and efficiency of the technology and achieved results. Without these information none of the participants in the teaching process of physical and health education will not be satisfied, because there will be no ways to establish which factors produced good or bad result and will be not able to perform necessary correction of the programme and working methods. When speaking about human activity control, the main role is within objective methods that are presented in the different domains such are measuring somatic, motoric, cognitive and conative characteristic of personality. Present method of testing the knowledge and capabilities of pupils in the school psychical and health education as well as within the training process shows certain deficiencies. Due to the inadequate teaching and training practice, that is relied on momentary impressions and opinions about the pupil and sportiest, there are very often justified objections that validations are correct. There is a great need to bring into the work more elements of objective measuring in order for subjective factor to be disconnected and reduce it on the minimal scale. It would not be correct to disregard subjective capability of the teacher or trainer, in order to follow and validate the success of pupil/sportiest. Nonetheless, it is more valuable that those subjective conclusions by the teacher/trainer could be confirmed by the objective measures. That is why we have a approach called scientific introduction for pupils and athletes capabilities and characteristics, defining their individual characteristics and capabilities at the development level of their psychomotor characteristics, especially those one that are obtained in the sports games, training processes of the physical and health education. There are a lot of benefits from this type of method for the teachers and trainers. This is the way teachers and trainers can control themselves, pupils and athletes, measure their results of prepared teaching and training work and if necessary for their corrections. Pupils and athletes are able to follow their own progress what constantly influence their further work and aiming better results. This type of method have become constant practice of some teachers in the process of physical and health education as well as of some trainers too. But, tempo for the introduction of this kind of method in more schools and sport clubs is still very slow. Many authors have researched improvement of work efficiency within physical and health education by implementing different modalities od differentiated teaching of physical education, and some of them are: Hadžikadunić and associates (2004), Tonči and associates (2006), Hadžikadunić and Mijanović (2010), Hadžikadunić and associates (2011), Hadžikadunić and associates (2013), Hadžikadunić, Novaković and Džibrić (2016).

WORKING METHODS

Starting from the current researches that are related to this particular scientific problem of impacts and efficiency of different teaching models, curriculums, and intensification of classes on situational motoric capabilities of pupils, there is a hypothesis of this research: There are acceptable statistical significant quantitative effects within the structure of situational motoric capabilities in the handball, pupils of the experimental group regarding the pupils from the control group.

Sample of the research

The sample is 198 boys and girls out of population of fifth grade students from the elementary schools (age 10-11), divided into two sub samples. Experimental group (N=99) have participated at the classes of physical and health education, organized by complex group methodical organizational working methods (parallel classroom method of work, parallel classroom method of work with additional exercises, group constant method of work, parallel non-constant work with additional exercises, non-constant classroom method of work, non-constant classroom method of work with additional exercises). In the teaching process of control group (N=99), complex group methodical organizational work methods were not used, but implemented were simple methodical organizational methods (frontal, work with three pupils, work with four pupils). Both groups attended the same programme out of 70 hours per year, two times per week, the same topics were listened, with the same number of equipment and teaching tools.

Variables sample

For the assessment situational organizational motoric capabilities we have used variables according to the suggestion of Association of Experts in the field of physical and health education of Canton Sarajevo (Hadžikadunić and associates 2001). For the assessments of adopted knowledge from handball, we have used following tests: 1. Throwing and catching the ball and on the wall that lasted 30 seconds (UBC), 2. Leading the ball in slalom (UVO), 3. Penalty shot (SED). Measures in the space of situational motoric capabilities of pupils are conducted at the teaching classes of psychical and health educa-

tion within fifth grades in the school classroom. All measures were done by the same group of people. Tests were deliverable in a way that tiredness of pupils from previous tests would not influence pupils. Measures were organized by the system of cells where pupils walk circularly from one working spot towards another.

Methods of data analyses

In order to establish whether there are changes in researching places under the influence of one year programme within the psychical and health education, we have worked in two modules, and later we tried to specify the core of certain changes, contribution of the factors of the complex treatment (one year of psychical education programme) that subsidised to these changes by establishing partial quantitate differences of the implemented situational organizational motoric variables of the same assessment but through efficiency of handball in two sub samples (experimental and control group), by T – test. In order to establish global quantitative differences of the results of the situational motoric capabilities between students of experimental and control groups, we have used analyses of discrimination. Criteria for this type of analyses of these variables were so called Wilks Lambda interpretation. For the interpretation we have used significant discriminative variables and they explain certain percentage of variability.

RESULTS AND DISCUSSION

Establishing partial quantitative differences of the implanted situational motoric variables in the assessment of situational motoric efficiency of handball among two sub samples (experimental and control group) was done by T – test. Analyses of arithmetical middle values (Mean), and based upon the significance of differences (Sig) among pupils divided in two sub samples, experimental and control group, we can observe certain differences in the arithmetical middle values of implemented variables of situational motoric capabilities from the handball. These differences are beneficial for the experimental group, where values of arithmetical middle that asses the technique of throwing and catching the ball of the wall in 30 seconds (UBC), and technique of leading the ball in slalom (UVO) showed some better values, and variable that estimates techniques of penalty shots (SED), are beneficial to the control group. (Table 1.).

By analysing values from Table 2., we can see that only one variable that estimates technique of throwing and catching the ball (UBC) gained coefficient of significance. (Sig = or < .05).

Estimation of global quantitative differences of the results for the implemented situational motoric variables in handball between two sub samples (experimental and control group), is done by discrimination analyses. By the analyses in Table 3., we notice only one significant discriminative coefficient and it is 42. This value shows us the correlation of all implemented data based upon we have performed this type of analyses.

By the analyses of the results from Table. We can notice that the biggest contribution t the discriminatory function has the variable for the assessment of technique of ball leading (UVO).

Based upon results in the Table 5. We can see that the biggest correlations with discriminatory function, with variable that maximally differentiate values of results of situational motoric capabilities of two sub samples is the variable for the assessment of technique of throwing and catching the ball (UBC), followed by variables for the techniques of shot (SED) and techniques of leading the ball (UVO).

Taking into the consideration previous statements from the analyses of T – test, and discriminatory analyses, and based upon gained parameters we can conclude that differences in the values of results for the situational motoric capabilities between pupils of experimental and control group, that are beneficial for the experimental group (UBC) and (UVO), while variable for the estimation penalty shot capabilities (SED), is beneficial for the control group. Very similar results are provided by Hadžikadunić, Novaković and Džibrić (2016) in the place of assessment of situational motoric capabilities of pupils in the experimental and control groups in basketball, where we have established that the biggest differences are in variables that assess the speed of throwing and catching the ball (KBC), and variables that assess the speed of leading the ball (KVO), as well as the estimation of situational motoric tests in handball in this particular research. Differences in achieved results in the estimation of situational efficiency in certain tests in handball, are viewed among experimental and control groups. At the same time respecting information gained in current researches in the place of intensification of psychical and health education teaching process, we can conclude that implementation of complex methodical organizational working methods with additional exercises, which due to the higher percentage of used main «A», part of the hour is reflected toward the use of general hour that contributes higher intensification, rationalization, humanization and individualization of the management process of exercises.

CONCLUSION REMARKS

This research has confirmed the hypothesis on influence of the complex methodical organizational working methods on increasing the effects of work that is related to the physical and health education. It pointed out that there is significance advantage of more complex methodical organizational working methods in the experimental group have contribut-

ed to the intensification of teaching process and create conditions for achievements of better results in the place of situational motoric capabilities in handball regarding the control group. Out of presented results of this research, it is noticeable that more complex methodical organizational working methods are more implemented in the realization of programme contents of psychical and health education of pupils from the fifth grade during one school year, and significantly influence partial and quantitative changes in the frame of located space in contrast of the pupils from the control group that implement more modest methodical organizational working methods.

Table 1. Differences between experimental and control groups in the place of situational motoric in handball

Variables	Groups	Mean	Std. Deviation	N
UBC (R1)	1	24,6465	5,80871	99
	2	19,6364	7,91338	99
UVO (R2)	1	5,9596	2,84612	99
	2	6,1616	2,46488	99
SED R(3)	1	10,4080	2,15520	99
	2	11,0768	2,92379	99

Table 2. Differences between experimental and control group in the place of situational motoric in handball

Tests of Equality of Group Means

	Wilks' Lambda	F	df1	df2	Sig.
R1	,884	25,788	1	196	,000
R2	,999	,285	1	196	,594
R3	,983	3,356	1	196	,068

Table 3. Significance of isolated discriminative functions

Function	Eigenvalue	% 0f Variance	Cumulative %	Canonical Correlation	Test of Function(s)	Wilks Lambda	Chi-square	df	Sig
1.	,215a	100,0	100,0	,421	1	,823	37,864	3	,000

Table 4. Standardized discriminative coefficients

Variables	Function 1
UBC (R1)	1,105
UVO (R2)	-,782
SED (R3)	-,253

Table 5. Structure of discriminatory function and centroids of groups

Variables	Function 1
UBC (R1)	,782
SED (R3)	-,282
UVO (R2)	-,082
Group 1	,461
Group 2	-,461

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AUTHORS INFORMATION

Admir Hadžikadunić
Faculty of Criminal Justice, Criminology and Security Studies, University of Sarajevo
e-mail: ahadzikadunic@fkn.unsa.ba

Rijad Novaković
Faculty of Education, University of Džemal Bijedić, Mostar
e-mail: rijad.novakovic@unmo.ba

Dževad Džibrić
Faculty of Physical education and sport, University of Tuzla
e-mail: dzevad.dzibric@untz.ba

Muhamed Tabaković
Faculty of Sport and physical education, University of Sarajevo
e-mail: mtabakovic@fasto.unsa.ba