Viktor Mitrevski
SOU "Krste Petkov Misirkov", Demir Hisar, Republic of Macedonia

DIFFERENCES ON THE MOTION KNOWLEDGE LEVEL AT THE MALE STUDENTS IN SOME HIGH SCHOOLS IN THE REPUBLIC OF MACEDONIA

1. Introduction

Working conditions in school halls, their equipment with visual aids and faciliti- es for demonstrative teaching methods as well as the intensity of their schedule are only some of the initial conditions for students to acquire certain motor abilities, which are mainly achieved in classes in Physical Education within the core curriculum. At the same time quality of the educative process in schools depends on the intensity of ex- ploitation of school halls and teaching aids, which is sharply felt in cities and urban areas. In schools, the excessive number of classes of students, the two-shift working and, as a result, the restricted space for physical activities, all these influence deeply quality and successful realization of curriculum.

Subject of this research are students at high school who regularly attend classes in Physical Education and sports activities. The aim of the study is to determine the le- vel and possible differences in motor abilities with high-school students from different towns and schools in our country.

2. Work Methods

The research is conducted on three sub-samples of male students, i.e. a total of 135 entities aged 15 who regularly attend classes in Physical Education at high school.

The research is held in different schools in some towns in Macedonia (Bitola, Resen and Krushevo), the schools being classified into big, approximately big and small in accordance with the total number of students and classes of students. On this ground the following sub-samples are defined:

- The first sub-sample consists of 35 students from a school classified as small with fifteen (15) classes with a total of 300 students (educational activities are held on one-shift system, the sports premises and demonstrative-teaching aids are used by one class of students at a time, i.e. the average number of students engaged in same class activity is 20 or 21).

- The second sub-sample consists of 47 students from a school classified as ap- proximately big, with twenty three (23) classes with a total of 700 students (educatio- nal activities are held on one-shift system; the sports premises and demonstrative-teac- hing aids are used by one or two classes of students at a time (i.e. the average number of students using the available sports facilities at the same time is 37-38).

- The third sub-sample consists of 53 students from a school classified as big, with fifty eight (58) classes with a total of 1900 students (educational activities are held on a two-shift system: the sport premises and demonstrative-teaching aids are used by a greather number of classes at a time, i.e. the average number of students using the sports facilities at the same time is 66-67).

The entities are tested on a specially arranged playground to assess their motor abilities. The same playground was used to assess psycho-physical abilities of candidates for entering the state high school year 2007/2008. The playground was partially modified in accordance with working conditions recorded in the schools in which the test was conducted. The length of the playground is 20 meters and 10 meters in width. The playground had been tested in advance in order to check its suitablity and make improvements if necessary. The following motor abilities are checked: speed, explosiveness, strength, agility, coordination and precision.

In order to assess the existence of any differences between the students the following analyses are applied: the univariate analysis of variance (ANOVA) and the post-hoc analysis is used to determine the differences between the groups.

3. Results and Discussion

Inspecting table 1 of the analysis of variance with the test for checking motor abilities of the students on a playground, within the applied variable a significant difference between the groups is determined at the level of 0,0041 (p=0,00; p<0,05). Since the tested groups differ between each other with statistic significance, the best results at the level of motor abilities are recorded with the subsample of students from the school classified as approximately big, whereas the worst results are scored with the sub-sample from the schools classified as big.

Table 1. *Univariate analysis of variance with the students to check their motor abilities with the test – playground.*

variable	gr	X	SD	f	p-level
test poligon	1 gr	74,72571	13,28372	5,673549	**0,004132**
	2 gr	77,21915	14,51111		
	3 gr	70,19245	12,37792		

In order to access which particular groups of entities are responsible for the differences, LSD-test is done with each possible pair of groups to determine the differences between the arithmetic means within the variable of motor abilities.

The differences between the groups are shown on table 2 and their analysis by LSD-test (post hoc) determines that statistically significant differences exist between:

Table 2. *Post hoc analysis of assessing differences between the groups within the variable of checking motor abilities in the test on a playground*

LSD test; variable VAR_1 (adstudy.sta) Probabilities for Post Hoc Tests	{1}	{2} 77,21915	{3} 70,19245
1 gr {1}		**0,001833**	0,785141
2 gr {2}	**0,001833**		**0,006965**
3 gr {3}	0,785141	**0,006965**	

- The first subsample (students in a small school) and the second one (students in an approximately big school) and the third one (students in a big school);

- The second subsample (students in an approximately big school) and the third one (students in a big school).

Whereas the difference between the first subsample (students in a small school) and the third one (students in a big school), though evident, is not statistically significant.

In addition to the mentioned above it is interesting to note that the research of Klincharov (2001), which treats morphologic and motor manifestations with students at high school in the Republic of macedonia, determines differences in the analysed parameters between male and female students. At the same time, determination is made between groups of structurally similar type of school regarding the work conditions provided for class activities in Physical Education. The school classification is made by: organization, the size of the schools regarding the number of classes and the total number of students, the available premises and social, demographic, climatic and geographic parameters (Mitrevski, 2009).

4. Conclusion
On the base of the results obtained from this research about the level of motor abilities, we can draw the conclusion that there are statistically significant differences between students from different schools and towns. The students from approximately big and small schools demonstrate better results than the students from bigger schools.

5. Literature
1. Bala, G. (1986). *Logical methods for evidention`s analyses of the Physical culture`s researches.* Novi Sad: Sava Muncan.
2. Kurelic, N., Momitovic, K., Stojanovic, M., Sturm, J., Radojevic, D. i Viskic-Stalec, N. (1975). Structure and motion dimension of the young people. Beograd: Institute of scientific researches, Faculty of Physical education. Kovac, M., Leskosek, B., & Strel, J. (2007). Morphological characteristics and motor abilities of boys following different secondary – school programmes. *Kinesiology, 39*, (1), 62-73.
3. Klincharov, I. (2001). Optimal conditions of the physical and health education in the Elementary schools in the Republic of Macedonia. Doctor's dissertation, Skopje, University "Ss. Cyril and Methodius", Faculty of Physical culture.
4. Majeric, M. (2004). Model's analyses of the sport knowledge. *Doctor's dissertation,* Ljubljana: University in Ljubljani, Faculty of sport.
5. Mitrevski V. (2009). Criteria for estimation in the sport and sport activities tuition. Magister`s labour, Skopje: University "Ss.. Cyril and Methodius", Faculty of Physical culture.

6.Naumovski, M. and Dimovski, R (2005). Comparative analyses of some motion variables in the students at "Mihajlo Pupin" Skopje. Physical culture, Skopje, 2, 185-188.

7.Naumovski, A. Georgiev, G. and Gontarev, S. (2000). Results` circumstance and some variables for the estimation of the biometrical abilities at 11 years old pupils. Physical culture, 1-2, 13-16.

8.Rokita, A. (2001). Interest for the sport activities of the students in the first year High school 1995 - 2001. Kinesiology, 37, (1), 99-105.

9.Program and criteria for matriculation of students in first year in 2007/2008 in the Public High school "Methodi Miceski Brico" in Skopje

10.Saiti, B. (2007). The estimation of the motion abilities as a base for the total mark for the subject Physical and Health education for the pupils from 1-IV grade in the Republic of Macedonia. Doctor's dissertation, Skopje, University "Ss.. Cyril and Methodius", Faculty of Physical culture.

11.*Shukov, J., Zhivkovik, V. and Shukova- Stojmanovska, D* (2000). The biometrical space's structure of the young people in the Republic of Macedonia. Researches from Kinesiology. Skopje: Faculty of Physical and Health culture.

DIFFERENCES ON THE MOTION KNOWLEDGE LEVEL AT THE MALE STUDENTS IN SOME HIGH SCHOOLS IN THE REPUBLIC OF MACEDONIA

With the research in this labour we want to realize the difference among the high school students` motion knowledge in different cities in Macedonia. This research consists of 135, 15 years old examinees, all students in high school, Ist class, divided into 3 sub samples The classification was made according the number of the classes and the number of the students who regularly attend the tuition. The analysis on the motorics level was conducted on the polygon for checking the psychophysical alertness of the students. For the differences` determination among the students` groups were used uni variant analyses of variable (ANOVA) and post hock analyses (LSD test). From the gained results we can notice that there are many differences among the students` groups on the motion level.

Key words: knowledge, motion, big, middle, small, tuition, differences