

## TABLES FOR EVALUATION OF THE MOTOR CAPABILITIES OF 10 YEARS OLD MALE PUPILS IN REUBLIC OF MACEDONIA

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### ABSTRACT

Evaluation of pupils in the class of physical education can be objective if it is a product of following three basic elements: educational component, pedagogical component and the condition of the motor capabilities of the pupil. The goal of our research was the third component of the evaluation, in other words, to measure the motor capabilities of the pupils and to construct a universal table of evaluation for pupils of this age in R. Macedonia.

The sample for this research of transversal character was consisted out of 193 male pupils at age of 10 years old that regularly visited classes of physical education in 8 primary schools in R. Macedonia. The pupils were tested on 8 motor tests, the realization of which is very simple because the tests don't need special or expensive tools to be carried out and lot of class teachers will be able to perform them. After processing the statistical data of the gained results, the obtained frequencies of the distributions as well as the results from the calculated percentiles helped as a base for establishing the normative tables for the pupils.

**Keywords:** Physical education, evaluation, pupils, motor capabilities, tables

### INTRODUCTION

In general, evaluation presents complex procedure to which is given an important pedagogical, communal and psychological meaning. It is very difficult to maintain the objectivity of the evaluation in the physical education because evaluation itself is always a subjective act, which is determined by the judge himself to whom influence a large number of factors.

Teachers have dilemmas like is the effort and the devotion of the pupil more important, his progress, his regularity and love towards the subject or the evaluation should reflect the level of pupils motor capabilities and his technical accomplishments.

The increase of the high grades on the class of physical education often has counterproductive effect by covering all his unrealized tasks that was supposed to achieve in the name of his personal health and regular growth and development.

The evaluation can be objective if it is a product of following more components important for realization of tasks and goals of the teaching process of the physical education.

When it's about concretizing the elements of the final grade, many experts on teaching methods agree that the evaluation has to contain the following three basic elements:

- The first part of the grade includes technical education. The teacher creates it from the adopted knowledge and habits of pupils who follow the teaching program of physical education for that year (educational component).

- The second part of the grade includes the educational character of the pupil towards the teaching process (regularity, sports equipment, hygienic habits, relations towards his friends, devotion, activity and the interest of the pupil towards the teaching process).

- The third part of the grade presents a condition of the motor capabilities, which has to be confirmed with adequate motor tests.

The subject of our research was the third component of the evaluation, in other words, to establish the motor capabilities as a base for constructing tables for evaluation of the physical capabilities of pupils from the first grade, as a part of the general grade in physical education.

### METHODOLOGY OF THE RESEARCH

For this research we encircled 193 (male) pupils from 8 primary schools in R. Macedonia, at the age of 10 years old +/- 6 months that regularly visited the class of physical education.

With the pupils we realized the following motor tests: Tapping with the better hand-TAP, dynamometry with the stronger hand-DPR, sit-ups - PTT, long jump-SDM, deep forward bending-DPK, arm bended hanging-VIZ, 5x10m running-5x10, equilibrium with eyes closed-RZO.

The tests are measured by the methodology of Kurelic and the collaborators. All the results from this research were processed with the usual procedure for obtaining information of central and disperse parameters for all variables in the shown space.

For establishing the normative tables for every sub sample in addition to their sex and age, we considered the obtained frequencies of the distributions as well as the results from the calculated 17 percentile classes.

The final table for evaluation of results is obtained with reduction of the percentile classes:

- From 86-100 percentiles, excellent (5)
- From 66-85 percentiles, very good (4)
- From 36-65 percentiles, good (3)
- From 7,5-35 percentiles, sufficient (2)
- 7,5 and less percentiles, a bad grade (1)

### RESULTS AND DISCUSSION

From the inspection of results gained from the descriptive statistics (table 1), it is obvious that the coefficient of variability is very high at the test for estimating the strength of arms and shoulders (VIZ) with 72%. This shows that the results are very heterogenic which means that this a severe test

Relatively high coefficient of variability is also shown at the tests for estimating balance (RZO), repetitive strength of abdominal muscles (PTT) and flexibility (DPK).

The highest homogeneity pupils showed within the test for estimating fast and agile running (5x10).

Tab. 1 Basic statistics of the motorics (N=193)

	X	Minimum	Maximum	Std. dev.	KV%
<b>DPR</b>	11,58	6,00	23,50	2,86	24,67
<b>TPR</b>	14,56	11,00	20,10	1,88	12,97
<b>DPK</b>	19,02	4,00	35,00	5,73	30,17
<b>SDM</b>	135,06	80,00	195,00	17,54	12,98
<b>PTT</b>	16,76	0,00	30,00	5,17	30,84
<b>VIZ</b>	12,47	0,00	49,00	9,02	72,29
<b>5x10</b>	23,45	19,80	31,10	1,92	8,21
<b>RZO</b>	24,20	6,30	57,80	11,45	47,30

From the results of the percentile distribution, shown on tab 2 it can be seen that the only negative result appears within the test for estimating the static strength of arms and shoulder muscles (VIZ) and only on the 1<sup>st</sup> percentile, in other words, only 1% of the tested pupils failed the test of arm bended hanging.

Tab. 2 Results of the percentile distribution

Perc.	Dpr	Tpr	Dpk	Sdm	Ptt	Viz	5x10	Rzo
1	60,00	110,00	68,20	89,400	4,70	,00	199,88	74,28
3	70,00	113,00	80,00	104,820	7,82	8,20	200,82	89,46
5	75,00	117,00	90,00	106,700	9,00	28,20	207,00	101,70
10	85,00	123,40	114,00	113,000	10,00	40,00	211,40	121,80
20	90,00	129,80	140,00	120,000	12,00	56,80	218,80	144,40
25	95,00	131,00	150,00	124,000	13,00	62,00	221,50	156,00
30	100,00	134,00	160,00	125,000	14,00	70,00	224,00	167,40
40	105,00	139,00	180,00	130,000	15,60	84,60	227,60	187,60
50	110,00	143,00	200,00	136,000	17,00	100,00	233,00	214,00
60	120,00	147,00	200,00	140,000	18,00	120,00	238,00	239,80
70	125,00	155,00	220,00	144,800	20,00	141,60	243,00	288,40
75	130,00	158,00	230,00	146,000	20,00	164,50	245,50	316,00
80	135,00	162,20	240,00	148,200	21,00	180,00	248,00	327,80
90	155,00	173,20	260,00	156,600	23,60	257,20	258,60	431,80
9	170,00	179,30	280,00	163,600	25,00	313,30	267,30	473,60
97	171,80	186,90	300,00	169,720	26,00	354,32	278,54	526,70
99	225,60	195,36	350,00	179,020	28,12	452,40	302,54	564,84

Based on the gained results in tab 1. and 2, we constructed a table for evaluation of the motor capabilities that would be in function for all 10 years old male pupils in R. of Macedonia.

Tab. 3 Attachment of motor assessment standards

Variable	ASSESSMENT				
	1 (insufficient)	2 (sufficient)	3 (good)	4 (very good)	5 (excellent)
<b>DPR-kgr.</b>	do 8,0	8,1-10	10,1-12	12,1-14,5	14,6 and more
<b>TPR-bod.</b>	do 12,0	12,1-13,7	13,8-15	15,1-15,5	16,6 and more
<b>DPK -sm.</b>	do 10	10,1-17,0	17,1-21,0	21,1-25	25,1 and more
<b>SDM -sm.</b>	do 110	110,1-127,9	128-141,1	141,2-152	152,1 and more
<b>PTT-bod.</b>	do 9	10-15	16-19	20-22	23 and more
<b>VIZ -sek</b>	do 3,5	3,6-7,4	7,5-13,0	13,1-20,9	21,0 and more
<b>5x10-sek</b>	26,4 and more	24,2-26,3	22,7-24,1	21,5-22,6	Up to 21,4
<b>RZO -sek.</b>	do 10,7	10,8-17,6	17,7-26,3	26,4-36,5	36,6 and more

### CONCLUSION

From this research conducted on 193 male pupils of age 10 and the goal was to determine their motor capabilities as a base for creating general table for evaluation, we extracted the following conclusions:

- The respondents showed highest level of homogeneity within the tests of fast and agile running 5x10, for estimating the explosive force of leg muscles SDM and the test for estimating the segmental speed of arms and shoulders TPR.
- The respondents showed highest heterogeneity within the test for estimating the static strength of arms and shoulders VIZ.
- The rest of the tests showed average values of variability.

It's worth mentioning that from the above conducted seven tests for evaluating the motor capabilities of male pupils of age

10, not necessarily must be conducted the all seven. Based on the material conditions of the school, the objective evaluation of the motor capabilities can be processed with only five of the motor tests.

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