



НАЦИОНАЛНА СПОРТНА АКАДЕМИЯ  
„Васил Левски“



# СЕРТИФИКАТ

катедра „Психология, педагогика и социология“

за участие на

## *Bilyana Popeska*

в XV научна конференция „Личност. Мотивация. Спорт.“

29.05.2009

Заместник ректор  
по научната работа:

(проф. П. Бонов)



ръководител катедра  
Психология, педагогика  
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# SUGESTION FOR EDUCATIONAL CONTENT FOR THE EDUCATION AT PHYSICAL AND HEALTH EDUCATION (PE) FOR CHILDREN AT 7 YEAR AGE , ACCORDING TO FIGURED STRUCTURE FOR MOTOR SPACE

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*Educational program at physical and health education (PE) and the contents that rise from it, to be established goals and tasks it is necessary to be in coordination with real necessities and possibilities of the children. For that goal with using the 33 motor tests for estimation at 10 hypothetic latent dimensions, at pattern from 100 exemplars male, it is realized investigation with goal to be figured motor structure. Based at the figured structure at motor space and isolated abilities, are suggested contents that can be realized during the education for FZO with children at this age.*

## INTRODUCTION

One from the basic goals at this education is the education for Physical and health education (PE) It is achieving the positive transformation processes in the pupils, development and bettering the abilities and enlarging the motor experience. So to be fulfilled this and the rest goals at the education for PE it is necessary knowing the adults and development characteristics at the subjects that is about, but and also knowing their possibilities and their necessities. In that sense , beside the rest. knowing the structure of motor area, intellectual abilities which has the pupils as well as morphological characteristics has great meaning in construing the educational plans and programs as leading documents for successful realization of the education.

Figuring the morphology and motor structure in different age groups of examine persons are object at lots of the investigations. Significantly bigger is the number of the investigations that are considering to the examine persons in adolescent period when are happening the biggest changes(Kurelic, N & all., 1975; Gredelj, M & all., 1975; Sturm, J, Strel, J, 1984; Metikos, D and sar 1989 Strel.J.Stihec. J.1991 Naumovski.A.Georgiev G. Mitevski. O 2001. Klincarov.I., Hristovski.R2003 Klincarov, I, 2003 Mitevski, O,2005 Georgiev, G, 2006 and others. Smaller is the number of the investigation that are involved examine persons before primary school and early school age(Bala, 1981, 2002, 2003, Strel. J. Sturm. J. 1981 Đukovski.S.1984 Rajtmajer. D. Proje. S.1990. Peric, D, 1991 Rausavljevic , N1992, Rajtmajer, D, 1993, 1997, Zurc, J, Pisot, R. Strojnik. V, 2005, Pisot, R, Planinsec, J, 2005) and others.

Received knowledge about the anthropology status has large meaning for involving the educational plans and programs according to possibilities and potential of the kids for this age and in that way optimally acting to the development trough suitable inspiring. These knowledge provide proper choice and organization at contents and about it positive changes.

In this direction is this effort in which are suggested educational contents which are based at knowledge about the structure at motor space in children at 7 year age.

## METHODS OF WORK

### Examine persons

Investigation has been realized at pattern from 100 define as occasionally pattern from the population of children male at age of 7 years(+/- 6 months), or pupils in second grade from five primary schools in S kopje. Republic of Macedonia.

### Instruments

Structure of motor space to the children at age of 7 years ( second grade) is figured with the appliance at 33 manifested motor tests used for approximation at 10 hypothetic latent motor dimensions: coordination , speed of running, segmental speed, explosive strength, repetitive strength, statistic force, flexibility, balance, precisely with throwing out an object and precisely with leading object.

Used are consequent motor tests for evaluation: 1) coordination- coordination with baton (KOPAL). Polygon forward (KOPON), slalom with 2 balls (KOSL2) and rolling with ball (KOTRT); 2 ) speed of running – 10 m flying start (BT10LS), 4x10m (BT4x10) and running like a snake 4x5m (BTZMT); 3)segmental speed- tapping with hand(BSTAR), tapping with leg(BSTAN) and tapping with legs at wall(BSTN3); 4) explosive strength- jump in distance from start place(ESSDM), throwing away medicinal 1kg. in distance(ESFMST), throwing the medicinal with sitting in the high of breasts(ESFMG) and 20m high start (EC20BC); 5) repetitive strength –(RSSKL), elevating the body(RSPTR), putting the body in right position (PSITR) and reptile with the hands diagonal bench (PSBKK);6) statistic strength(SSBZG), how long can you stay in condition lying on stomach (SSZLM) and keeping in a condition lying at back(FLRLG) and 8)balance – walking at turned Swedish bench(RAOSK), staying at bench in wideness(RASKS) and staying at bench in length (RASKD); 9) precisely with throwing (PIOBS), throwing balls to goal(PITET), centering in horizontal goal with balls (PITHC) and centering in vertical goal with ball(PIVCN), precisely with leading- centering with short stick(PBGKS) and centering with long stick(PBGDS).

Part from the used tests are measured according to the recommendations of Bala(1981), Dukovski (1984), Peric(1991) and Zurc, Pisot, Strojnik, (1991). Seven from the implemented 33 tests are measured according to the recommendations of Metikos, D, Prot. F. Hofman. E. Pintar. Z. Oreb. G.(1989). for the first time are implemented with examined person at this age. The same are modified and adjusted to the possibilities of the children and for them are figured satisfactory measure characteristics.

### Cultivation of the information

Latent structure of motor space is figured with implementation of the factor analyze. The number of the important main components is figured with using the Guttman-Kaiser- this criteria. To get clear structure at isolated factors it has been done inclined transformation using the direct Oblimin criteria.

To be figured compatibility between fixed motor abilities that exists in the children at 7 year age and motor abilities necessary for realization the contents suggested with the program for Physical and health culture for children at 7 year age( second grade), it has been done analyze at actual program for FZO suggested with educational plans in Republic of Macedonia.



## RESULTS

With using the factor analyze of the results get in the children at 7 year age has been isolated 11 factors from which one is non define. Isolated factors are define as: F1-active moving in pelvis articulation(flexibility), F2-speed in running, F3-coordinate speed with legs and arms, F4-explosive strength , F5- precisely with leading, F6-precisely with throwing, F7-coordinate fast strength, F8-non define factor, F9-strengtht of the muscles of the arms, F10- balance and F10-factor for strength of the body and hands.

Table 1. Factor analyze at motor tests in children from 7 year age – oblimin rotation.

	O1	O2	O3	O4	O5	O6	O7	O8	O9	O10	O11	$\lambda^2$
KOPAL	-0,11	0,22	0,69	-0,13	-0,32	0,11	0,12	-0,09	-0,23	0,09	0,11	0,66
KOPON	0,04	0,20	0,41	-0,03	-0,14	0,14	0,66	0,18	-0,11	0,07	0,16	0,69
KOSL2	-0,07	0,67	-0,06	-0,07	-0,22	0,16	0,38	0,06	-0,14	-0,16	0,42	0,65
KOTRT	-0,24	0,03	0,30	-0,69	-0,25	0,10	0,15	-0,07	-0,09	-0,04	0,07	0,63
BTI0LS	0,25	0,30	-0,33	-0,09	0,53	0,21	0,04	-0,08	-0,26	-0,02	0,14	0,66
BT4x10	0,10	0,55	-0,51	-0,14	0,04	-0,02	0,35	0,09	-0,38	-0,08	0,03	0,76
BTZMT	0,06	0,86	0,05	0,10	0,10	0,09	0,08	0,18	-0,20	-0,04	-0,02	0,82
BSTAR	-0,19	-0,14	-0,54	0,46	0,00	0,26	-0,31	0,13	0,04	0,16	0,04	0,63
BSTAN	-0,03	-0,31	-0,39	0,20	0,20	0,02	-0,31	0,35	0,16	0,39	0,02	0,55
BSTNZ	0,20	-0,52	-0,24	0,55	0,28	-0,08	-0,10	0,25	0,02	0,28	-0,32	0,60
ESSDM	0,00	-0,38	0,11	0,49	0,14	-0,08	-0,41	-0,21	0,51	0,26	-0,31	0,70
ESFMST	-0,18	-0,26	0,05	0,65	-0,04	-0,11	-0,40	0,07	-0,05	0,38	-0,30	0,68
ESFMG	0,08	-0,24	-0,14	0,59	0,10	0,06	-0,29	0,34	-0,25	0,13	-0,35	0,68
ES20VS	-0,07	0,17	-0,14	-0,23	-0,30	0,28	0,72	0,00	-0,20	-0,30	0,16	0,70
RSSKL	0,11	-0,22	0,10	0,14	0,21	-0,12	-0,11	-0,05	0,13	0,24	-0,74	0,59
RSPTR	0,25	-0,11	0,24	0,35	0,38	0,01	-0,12	-0,02	0,20	0,46	-0,35	0,57
RSITR	0,02	-0,12	-0,11	0,18	0,09	-0,13	-0,22	0,10	0,15	0,20	-0,75	0,63
RSVKK	0,19	0,32	-0,10	0,10	-0,10	0,15	0,32	0,19	-0,66	-0,17	0,19	0,66
CCB3Γ	0,02	-0,12	-0,10	0,10	0,14	-0,09	-0,22	0,10	0,75	0,18	-0,26	0,67
SSZLM	0,42	0,07	-0,01	0,31	0,36	0,16	-0,19	0,09	0,13	0,31	-0,59	0,71
SSZLG	-0,27	0,03	-0,38	0,36	0,22	0,19	-0,25	-0,09	-0,14	0,32	-0,10	0,52
FLPRK	-0,78	0,06	-0,03	0,03	0,12	0,03	0,05	-0,05	0,05	-0,06	0,16	0,68
FLRLG	-0,07	-0,16	0,05	0,13	-0,04	0,04	-0,09	-0,79	0,04	0,11	0,03	0,70
FLPRS	-0,20	0,21	0,06	0,58	0,07	-0,18	0,05	-0,25	0,00	0,17	-0,13	0,59
RAOIIIK	-0,01	0,13	0,01	-0,14	0,07	-0,03	0,72	-0,08	-0,17	-0,25	0,14	0,57
RASKIII	0,21	0,07	0,11	0,17	0,29	-0,15	-0,22	-0,05	-0,07	0,73	-0,36	0,71
RASKD	-0,09	-0,18	0,05	0,05	-0,12	-0,08	-0,13	-0,08	0,17	0,84	-0,14	0,80
PIOBS	0,05	-0,41	-0,07	-0,01	0,15	-0,59	-0,15	-0,39	0,03	0,07	-0,21	0,67
PITET	-0,37	0,07	0,13	-0,19	0,04	-0,15	-0,08	-0,12	-0,42	0,19	-0,28	0,53
PITHC	-0,02	-0,03	0,01	0,23	0,00	-0,78	-0,15	0,13	0,11	0,19	-0,13	0,71
PIVCN	-0,11	-0,14	-0,08	0,15	0,23	-0,43	-0,45	0,41	-0,07	0,00	0,27	0,70
PVGKS	-0,37	-0,11	-0,14	0,14	0,64	-0,10	-0,10	0,24	-0,08	0,09	-0,30	0,69
PVGDS	-0,12	-0,13	-0,12	0,11	0,76	-0,10	-0,13	0,01	0,22	0,06	-0,13	0,66
Lambda	5,80	2,73	2,20	1,80	1,62	1,48	1,42	1,28	1,26	1,11	1,07	
%	17,56	8,27	6,67	5,46	4,92	4,49	4,31	3,87	3,81	3,36	3,25	
Cum%	17,56	25,84	32,50	37,96	42,88	47,37	51,68	55,55	59,36	62,72	65,97	

Given results (table 1) shows that children an 7 year age has ability like speed for running, explosive strength, precisely with leading, precisely with throwing, balance, strength of the muscles and the body, hands and shoulders and flexibility. Similar structure at the motor space in children at 7 year age is received in investigation of the other authors (Strel & Sturm, 1981; Rajtmajer, 1993; Peric, 1991, Bala2002, Pisot& Planinsec, 2005).



Coordination as complex motor ability isn't clearly isolated in the children at this age, but the same also appears together with speed and efforts.

This is result at complex structure of coordination, its connection with the other abilities as well as still non finished development process and non finished development at central nerve system (CNS) that significantly is condition for development and manifestation of the coordination.

Analyze of the program at physical and health education for II grade

According to educational plans , in Republic of Macedonia the object Physical and health education in grades is present with 3 classes a week and the same is realized according to the educational program for ninth year education. Program for PE is structured in 11 educational contents or thematic units in which frames are realized contents from 10 educational units(organized making order, walking and running, jumping, climbing, rolling, throwing and catching, elevating and wearing, pushing, repressing, elementary and games, exercises for shaping the body) For every thematic space are prescript goals that has to be achieved, contents trough which are established goals has to be realized, contents, methods of work, organizational forms, previous knowledge and experiences that has to have pupils, way of following and making evidence of the achieved and expected results.

Part from the goals that is necessary to be fulfilled trough realization of the contents for PE are related with development of motor abilities. In that direction planned contents are directed to the development of the strength of the hands, shoulders, body, legs, coordination- orientation in space, precisely and balance.

## DISCUSSION

Received results from the factor analyze for structure of the motor space in the children at 7 year age and analyze of actual program for PE shows particular non suitability. This means that in program aren't suggested contents that will have for the whole development of concrete abilities about which from the realized investigation we get results that exists, children posses concrete abilities like speed, precisely in leading, flexibility, explosive strength. Analyze shows that these abilities are manifested in specific suggested activities, but also missed activities directly directed for development of these abilities. In that direction we suggest:

1. Implementing the activities that would be develop and make more perfect precisely with leading object - games and moving tasks with leading objects with different dimensions and length (batons with different lengths with which can be guessed statistically or moving goals, picado with batons with different length, leading the ball or another bigger object with batons, with or with out guessing the concrete goal, activities which are looking like or are involving form in golf, cricket, baseball etc.
2. As an activities that can provide development and perfecting the precisely with throwing objects from the condition of sitting it is recommended different games with balls or other objects whit which can be guessed horizontal and vertical goals with different dimension.
3. Contents in its own basic has the exercises for precisely and they are especially applied in schools that possessed minimal expenses , requisites and space conditions, because this activities can be used at small space, with improvised requisites that every day are available and in the same time don't present danger for the safety of the children.



4. For bettering the speed and explosive strength we recommended running at different ways running at different distances with suitable pauses, running from different start positions. starting at different signals - visual, audio, kinesthetic, games with competition character that are looking fast and explosive moving, different types of jumps, jumps accompanied with music, imitation of the moving of the animals as well as the ways for implementing different ways of jumping( jumping like rabbits, kangaroo, frog, cats jumping.
5. Concrete contents for which realization is necessary balance, speed of running , segmental speed, explosive speed at hands and shoulders, strength of the body and hands etc.. they are already part from the educational programs of PE. But the same can implement with new activities from the type of tasks that are in its structure like applied tests. The same can be used individually, in pairs or in group. In form of elementary games, polygon or competitions. At this way besides acting of the motor development will be acting at socio-emotional and moral development.
6. Coordinated fast and explosive moving with legs and the body can be received trough combination at fundamental forms of moving- walking, running, jumping, climbing, rolling – realizing in shape of polygon, games with competition character, different in it complexity , activities that are looking for orientation in the space, manipulation with objects, solving the space problems with using the different moving etc.

All activities that are used with the children in this adult period has to be interesting and funny, to activate and motivate children with goal their attention to keep longer.

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