

DEVELOPMENT OF COORDINATION CAPACITIES THROUGH DANCING AMONG PRIMARY SCHOOL CHILDREN

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Liliana Nanu

"Dunărea de Jos", University of Galati, 4, Domnească Street, 800003, Romania

Abstract

"Physical Education" is the subject that influences, during school, the harmonious physical development of children, endowing them with abilities, attitudes and knowledge that stimulate their social and creative approach with the social environment and allow them to continue their education (Cârstea, 1993; Cârstea, Tudor, Bota, Sasu, 1995).

Dancing can be a set of pleasant and attractive means to make children develop harmoniously from the physical point of view, stimulating imagination, creativity and the need to express one's personality (Vişan, 1997; Năstase, 2011).

Thus, any approach focused on the harmonious physical development of children, and particularly on the development of motor skills and qualities and especially on optimizing the coordination capacity is up-to-date and there is increased interest in this topic from the experts in the field.

In order to achieve the proposed goals we used the following as research methods: the study of bibliographical specialty materials, the pedagogical observation, the test method, the experimental method, the statistical and mathematical methods and tabular and graphical representation.

For the investigated group we selected and used dancing drills specific to the physical education classes of children from 3rd grade (9-10 years of age).

The results obtained through the application of dancing drills meant to develop coordination capacities (the capacity to combine movements, the capacity to keep balance, spatial-temporal orientation capacity and the rhythmicity) of primary school children indicate that these skills can be successfully developed at the age of 9-10.

After having used the selected acting systems, the final testing has demonstrated positive results in terms of the development of coordination capacity, the main conclusion being that dancing can meet the modern teaching requirements concerning the physical education of pupils, taking into account the particularities of the age and the level of their training.

Keywords: dancing, coordination capacities, primary school

1. Introduction

Among the main objectives stipulated in the curriculum for primary school developed by the Ministry of Education (Order of Minister of Education no. 4686/5.08.2003), in addition to maintaining the health of pupils, to increasing their capacity to adapt to various environmental factors, and have a harmonious physical development, there are also objectives related to the expansion of motor skills and qualities.

The factors that condition the coordination capacities are determined by the level of development of other motor skills (velocity, strength and endurance), the volume and the complexity of motor skills, but also by the quality of analyzers, of neurotransmission and muscle innervation (Dragnea, Bota, 1999; Tudor, 1999).

The coordination capacities are of utmost importance in dancing because they have to be understood as training and binding capabilities for all motor acts (Vişan, 1997; Năstase, 2011).

Objectives

To design and apply, within the physical education class of children from primary school, acting systems through dance, on a musical background, using melodies that are accessible to young children aged 9-10, to educate

the capacity to combine movements, to develop balance, to develop the spacial-temporal orientation, rhythmicity and musicality.

The hypothesis of this research starts from the premise that, if during the physical education classes of children aged 9-10 dancing drills and adequate musical background are used, there will be positive influences on the development of the coordinative capacities and at the same time children will have stronger motor knowledge.

2. Methods

a. Protocol of the research

The experimental study was conducted at "Stefan cel Mare" Elementary School in Galati, during February 6th, 2017-May 31st 2017//6. 02.2017-10. 02.2017-initial tests regarding the level of acquisition of the coordination capacity; 13.02. 2017-12.05. 2017-design and implementation of experimental curricula with dance drills under musical accompaniment; 15.05. 2017-31.05. 2017-final testing results, analysis and processing of the recorded data.

The physical education classes were held in the school gym (gym: 40 x 20 m).

Dance drills have been used in the main moments of the lesson, 20 minutes each, 3 times a week (2 physical education classes + 1 optional physical education class (2 x 20 minutes + 1 x 50 minutes = 90 minutes/1 hour and 30 minutes per week) with a recommendation to repeat the learned dance steps in their spare time.

b. Subjects

The sample group was made up of students of grade 3rd B of "Stefan cel Mare" Elementary School Galati, 12 pairs (24 students: 12 boys and 12 girls).

c. Evaluated Parameters/ 5 tests were proposed:

A. Complex structure for combined motions (SC): from standing position: 1. step forward with your right foot while simultaneously raising the left arm forward before and the right arm in lateral position; 2. step forward with your left foot while simultaneously lifting the right arm forward and the left arm in lateral position; 3. high side lunge to the right while simultaneously raising the right arm laterally and the left arm forward; 4. return through enveloping to the right while simultaneously raising crossed arms forward; 5. high side lunge to the left while simultaneously raising the left arm laterally and the right arm straight forward; 6. Return to the left through enveloping while simultaneously raising crossed arms forward; 7. Crouching and simultaneously raising arms backwards; 8. return to standing position at the same time lowering the arms laterally. After the teacher demonstrates it 2 times, the performers must render the sequence of elements they remember. Out of 10 points, one point will be drawn for each error – the recorded points represent the final grade to the test-table 1.

B. Percussion test with palms (PP) on 24 tempos – on songs they know, the performers must render the rhythm through percussion with their palms (rhythmicity capability). The number of mistakes in playing a music rhythm is recorded by taking away one point from 10 for each fault-the recorded points represent the final note-table 1.

C. Motor impromptu on musical tracks heard for the first time (IP) with the learned dance steps - performers will have to render through movement the rhythms of the music tracks (capacity of rhythmicity and expressiveness in motion). Out of 10 points, one point will be taken away for every error recorded in rendering the steps they learned-the recorded points represent the final grade-table 1.

D. The Matorin Test (TM) (www.rasfoiesc.com/educatie/didactica/Sistemul-de-verificare-si-apre18.php)- consists in performing a vertical jump with detachment, and a turn around the longitudinal axis of the body. Values shall be recorded in degrees for both ways, with rotation to the left (TMS) and to the right (TMD)-(capacity of spacial-temporal orientation). The qualitative assessment will be made according the data listed in table 1.

E. The Romberg test (TR) (www.revrokineto.com/viewart/68/en) - performers in standing position on one leg with the other leg bent, supported at the knee level of the opposite leg, arms sideways, with fingers unfolded, eyes closed (blindfolded) - standing on the left leg (TRS), standing on the right leg (TMD). The number of seconds the subject remains in the indicated equilibrium position will be counted - Table 1.

Table 1 Grid of assessment and evaluation of control samples

Mistakes / Test 1, 2, 3	Grade / Test 4	Seconds / Test	Qualifying	Points / Note
without mistakes /1gr.	over 360 ⁰ -360 ⁰	over 60'' – 60''	- very good: FB	10/ 9
2-3 mistakes	300 ⁰ - 350 ⁰	59'' – 50''	- good : B	8/ 7
4-5 mistakes	250 ⁰ - 290 ⁰	49'' – 40''	- mediocre: M	6/ 5
6-7 mistakes	200 ⁰ - 240 ⁰	39'' – 30''	- satisfactorily: S	4/ 3
over 8 mistakes	190 ⁰ – under 190 ⁰	29'' – under 20''	- unsatisfactory: N	2/ 1

3. Results and discussions

After the analysis of the results of the initial tests, specific drills (musical audition, percussions with palms/feet/classical and improvised musical instruments, musical games, specific elements of classical dance, rhythmic gymnastics specific steps and dance steps from sportive dance) have been selected and proposed for the physical education classes of children aged 9-10, in order to increase the coordination capacity indices.

If at the initial tests regarding the level of acquisition of the coordination capacities of children in the 3rd grade only "satisfactory" or "unsatisfactory" results were recorded, the average of the recorded grades being 4 maximum, at the final testing, the scores were "moderate" and "good", the average of the final grades going up to 8 - table 2.

Table 2 Comparative environments registered for the testing of coordinating capabilities

Nr. crt. ind.statis.	SC (pct)		PP (pct)		IP (pct)		TM (grade)				TR (sec)			
							TMD		TMS		TRD		TRS	
	TI	TF	TI	TF	TI	TF	TI	TF	TI	TF	TI	TF	TI	TF
BOYS														
Σ	25	55	20	57	17	56	23	60	14	62	23	37	23	35
x	2,08	4,58	1,66	4,75	1,41	4,66	1,91	5	1,16	5,16	1,91	3,08	1,91	2,91
$\pm S$	$\pm 2,57$	$\pm 4,57$	$\pm 2,60$	$\pm 4,98$	$\pm 3,12$	$\pm 3,20$	$\pm 2,78$	$\pm 3,03$	$\pm 3,21$	$\pm 3,21$	$\pm 2,78$	$\pm 2,33$	$\pm 2,78$	$\pm 2,63$
V %	9,58	11,5	10,8	11,9	11,6	8,67	12,5	9,65	8,73	8,73	12,5	10,3	12,5	11,3
Qualifying	S	M	N	M	N	M	N	M	N	M	N	S	N	S
P	+2.5		+3.09		+3.25		+3.09		+4		+1.17		+1.00	
GIRLS														
Σ	26	70	29	70	25	70	27	84	26	96	30	68	29	69
x	2,16	5,83	2,41	5,83	2,08	5,83	2,25	7	2,16	8	2,52	5,66	2,41	5,75
$\pm S$	$\pm 2,40$	$\pm 2,62$	$\pm 3,03$	$\pm 2,57$	$\pm 3,09$	$\pm 3,21$	$\pm 2,43$	$\pm 2,12$	$\pm 2,79$	$\pm 2,49$	$\pm 1,67$	$\pm 2,31$	$\pm 3,19$	$\pm 2,57$
V %	9,25	10,5	9,65	9,58	9,94	8,73	9,27	6,67	7,86	6,99	7,91	9,22	9,95	10,7
Qualifying	S	M	S	M	S	M	S	B	S	B	S	M	S	M
P	+3,67		+3,42		+3,75		+4,75		+5,84		+3,16		+3,34	

The progress recorded by the investigated group after the implementation of dance drills was evident, mentioning that because of the short time allocated to the development of the coordination capacity (3 months), the uneven motor knowledge as well as the different ability to acquire information has led to various results among young children of 9-10.

Thus, following the implementation of curricula comprising dance movements, the greatest progress recorded both by the boys' group and the girls' group was for the Matorin test to the left: + 4 points for boys and + 5.84 points for girls. And to the other tests, the difference between the initial testing's and the final testing's was significant, the group of girls recording better results, a progress of more than 3 points at all tests-fig. 1

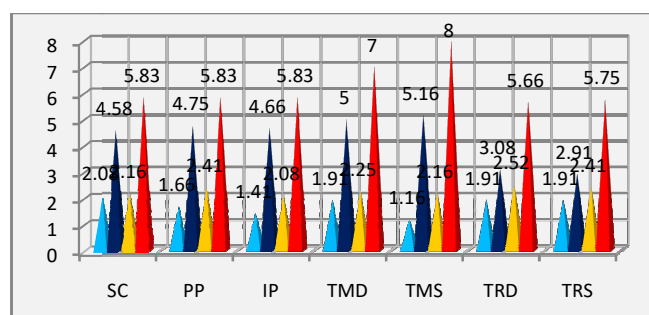


Fig. 1 Dynamics of the average results of the investigated sample

For the initial tests, the results achieved by the group of boys show low variability and high homogeneity in testing the capacity to combine movements and the spatial-temporal orientation, for the other tests, the results recorded show average variability and homogeneity.

For the final tests, the rhythmicity and the spatial-temporal orientation capacities show low variability and high homogeneity of results, the other values showing average variability and homogeneity.

The group of girls recorded low variability and high homogeneity at the initial testing in all tasks, while most of the final results of tests show high homogeneity.

4. Conclusions:

Coordination abilities are manifested in the entire activity of an individual, contributing to the proper integration and adaptation of the human body to the ever-changing conditions of the environment in which the individual acts.

The working hypothesis was verified, therefore, the dancing drills selected and applied to the group of 9-10 year-old children led to an increase in the level of development of the coordination capacity indices.

The learning and improvement of new motor deeds/ actions is conditioned by the level of manifestation of the coordination capacities.

The dance drills used in the presence of musical accompaniment have contributed to the increase in the amount of abilities and specific motor skills.

Recommendations

- initiation into dance should be performed with simple structures having a reduced degree of difficulty, with an appropriate rhythm.
- the selection of actuator systems from dancing should be done depending on the age peculiarities and on the children's motor abilities.
- the distribution of the means to be used depending on the availability of children.
- the selected songs should be consistent with the character of the movements and of the dance steps.
- working individually at home to increase the motor skills.

References

1. Bompă O. T. (2001). *Dezvoltarea calităților biomotrice*, M.T.S., Școala Națională de Antrenori, C.N.F.P.A., București: EX PONTO;
2. Bota, A. (2006). *Exerciții fizice pentru viața activă*, București: Cartea Universitară;
3. Cârstea G. (1993). *Teoria și metodică educației fizice și sportului*, București: Universul;
4. Cârstea G., Tudor V., Bota A., Sasu M. (1995). *Metodică educației fizice. Îndrumar pentru lucrările practice*, București: M.Î., A.N.E.F.S.;
5. Dragnea A., Bota A. (1999). *Teoria activităților motrice*, București: Didactică și Pedagogică, R.A.;
6. Dragnea A., Teodorescu-Mate S. (2002). *Teoria sportului*, București: FEST;
7. Năstase D.V. (2011). *Dans sportiv. Metodologia performanței*, București: Paralele 45;
8. Năstase D.V. (2011). *Dans sportiv. Compendiu din tehnica și tactica de bază*, București: Paralele 45;
9. Săvescu I. (2007). *Educație fizică și sportivă școlară – culegere de exerciții fizice. Metodologie pentru învățământul primar, gimnazial, liceal și profesional*, Craiova: Aius;
10. Stănescu M. (2013). *Didactică educației fizice*, București: Universitară;
11. Tudor V. (1999). *Capacitățile condiționale, coordinative și intermediare – componente ale capacității motrice*, București: R.A.I.;
12. Vișan A. (1997). *Îndrumar dans*, București: ANEFS, București;
13. *** Ordin al Ministrului Educației nr. 4686 /5.08.2003;
14. *** edums.ro/Indemanare-Coordonare-material%20didactic%20pentru%20examene.doc;
15. *** www.rasfoiesc.com/educatie/didactica/Sistemul-de-verificare-si-apre18.php;
16. *** www.revrokineto.com/viewart/68/en;