

- select a great number of exercises (8-12), that engage the main muscle groups
- exercises must alternate between limbs and muscle groups to ensure a good recurrence.
- the relaxation exercises, like shaking legs, arms and shoulders, quicken the recurrence between series.

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EXPERIMENTAL STUDY ON THE DEVELOPMENT OF COORDINATION CAPACITY OF FOOTBALL PLAYERS BY MEANS OF DANCE

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Abstract

Coordination represents a major complex capacity, decisive in achieving and improving technique and tactics, as well as in applying them under unusual conditions. Many consider that coordination is an inherited trait, that can nevertheless be considerably developed, especially if the training for this purpose starts during childhood. A successful programme for the coordination development must be based on acquiring a great variety of skills. New activities have been experimented in this respect, in our case skills of the samba dance.

Keywords: soccer game, junior players, coordination capacity, samba dance

INTRODUCTION

Practical activity proves that the best results, for any type of sport or any sports test, cannot be obtained only by using their specific means, as the features of the multilateral physical training are borrowed from other sports and adapted to what we intend to do, in order to increase sports performances.

In training the soccer players, particularly the young aged, methods from other sports are used (athletics, gymnastics, weightlifting, ice-skating, swimming, dancing etc.) methods that can contribute to an increase of the technicity indices of exercises, to an improvement of the motor qualities and an extension of the athletes' motor, functional and movement abilities. Many authors (Dragnea, A., Mate-Teodorescu, S., 2002; Ploesteanu C.,

2003; Nanu L., 2010) consider that, by limiting the influence of the physical training indices strictly to the acquisition of technical and tactical actions for the sport involved, we accept mediocre results.

Tudor Virgil (1999) considers the general coordination capacity is the result of a „polyvalent motor learning”. With respect to the coordination capacity, he states that it is one of the motor qualities which designate collection of skills, mainly psychomotor, that involve a rapid and effective adaptation to various conditions, specific to the various types of activities, through the reorganization of the existing motor background.

The reorganization of the existent motor skills of the 8-10 year-old players may also be achieved by including dance methods in the general physical training, determining a general increase of the

performers' motility, and particularly an increase of their coordination capacity. The coordination capacities can be cultivated mainly by the repeated practice of the motor skills, under various conditions, combinations and demands. The bigger and more various the players' motor basis is, the more coordinated and effective movements they shall have (M. Epuran, 2005).

Being a spontaneous activity, dance does not have a well determined beginning throughout history, but it is sure that it contributed to the development of the human species. As a type of nonverbal communication, between the personal ego and the other identities, dance involves the implication of the conscious and the subconscious, in real life situations, created by the rhythm of the music and the social convention.

Dance entails a playing state, a state of free access to the land of imagination where everything is possible through improvisation, where stereotypes and barriers are lost in the variety of possibilities, where problems disappear and the conventional barriers are shattered.

Samba or „*the happy bouncing*”, as it is translated into Bantu (the Angolans' language), is considered the dance which celebrates joy, fulfillment and enthusiasm. The energy of the samba is given by the variety of the steps and moves rapidly executed with a provocative hip undulation or with the stunning balance of the torso, where all slow movements alternate with alert movements, elaborate movements, pirouettes and other acrobatic elements further added.

Samba involves each part of the dancer's body through the action of the legs manifested by bending in different positions, through the transfer of the body weight from top to heel, where the center of gravity is easily projected forward, through movements of the pelvis combined with free swings of the arms. The body part that makes the greatest effort is represented by the scapulas, which execute extensive movements forward, backwards, up and down.

The songs used for the samba dance must be in 2/4 time or 4/4 time, at a tempo of 50-52 beats/ minute, in syncopated melody lines, especially on percussion instruments and guitar.

OBJECTIVES

In the training of 8-10 year-old soccer players, samba contributes to the development of exercise capacity, to a harmonious physical development, to the formation of a good and aesthetic posture, to the improvement of muscle elasticity and joint mobility, to the development of coordination, to the improvement of the ability to relax, physically and mentally, as well as to an increase of the self-confidence and self-esteem.

HYPOTHESIS

The *working hypothesis* is based on the idea that if methods of the samba dance are used for the general physical training of 8-10 year-old soccer players, under the guidance of experts, the coordination capacity and the technical and tactical actions of the children are improved.

MATERIALS AND METHODS

a. *The study protocol*

The research has been carried out at FCM Dunarea Galati, on the „Portul Roșu” Stadium in Galați during a 6 month-period (October 2012 – March 2013) in the gym of the Faculty of Physical Education and Sports in Galați, twice a week, in 40 minutes sessions.

b. *Subjects*

The work group was represented by 32 children, aged between 8 and 10.

c. *Groups*

Experimental group (EG) and control group (CG) consisted of 16 children each, aged 8-10, who had the same training conditions, sharing the same equipment.

d. *Assessment Tests*

Practice process:

START - behind the start line – from a split squat position with the back towards the heading direction:

1. 180⁰ turn – in order to face the heading direction;

2. running: type of movement between stops – 3 m;

3. balance walking: on a gym bench – 3m;

4. successive jumps on both legs: inside 3 cercles, 1m diameter each, placed one after the other – 3 m;

5. running - 3 m;

6. driving the ball through 5 cones – a soccer ball is skilfully led by foot through 5 cons situated at a 1m distance one from the other – 5m;

7. shot on a fixed spot – it is executed from the line drawn on the ground - the fixed spot (a 1m diameter circle) is situated in the middle of the gymnastic box, upwards from its base– 3m;

8. 180⁰ turn – to go in the heading direction;

9. speed running and crossing over the FINISH line – 17m.

The athletes shall go through the entire application track twice - 37m (2x17m+3m), having to pass through all the elements in the established order. The athletes are assessed according to their personal results (points and seconds) obtained according to the tasks:

- **For the first lap** through the application track, the performing technique of the established skills for each stop shall be assessed – **evaluation by points** – the points shall be granted only if the skills are performed properly - table 1

Table 1

Evaluation grid for the skills technique (TPA)		
No.	Skill	Points
1.	180 ⁰ turn– without unbalancing	1
2.	running – feet-ground contact on the half-sole	1
3.	Balance walking– without falling or stepping laterally right /left beyond the bench	2
4.	successive jumps – without stepping outside the circles	2
5.	Driving the ball through cones – without losing the ball	2
6.	Shot on a fixed spot - inside the circle	2
Total:		10

- **For the second lap** through the application track the speed of task solving shall be assessed – **assessment against the clock** – the timer shall be started on the moment of the athlete’s first

action, from the **START** line and it shall be stopped on the moment the athlete has passed the **FINISH** line - table 2.

Table 2

Evaluation grid for the performance against the clock (VPA)		
No.	Performance (seconds)	Points
1.	30.0	10
2.	31.0	9.00
3.	32.0	8.00
4.	33.0	7.00
5.	34.0	6.00
6.	35.0	5.00
7.	36.0	4.00
8.	37.0	3.00
9.	38.0	2.00
10.	39.0	1.00

e. Types of exercises

After the analysis of the initial testing results, an experimental training programme has been designed and applied for the EG group. The programme uses samba methods of various degrees of difficulty, adapted to the age features of 8-10 year-old children practising soccer.

The experimental training program has been designed for a 6 month-duration, 40 minutes/session.

Among the types of exercises used for the development of the coordination capacity through the samba dance we mention :

- **Exercises used to educate rhythm – rhythm games:**

a) formation: lined up on 2 rows; musical background: songs 2/4 time; I.P.(initial position): standing, arms bent, palms ready for percussion; execution: percussions on every time simultaneously emphasized on each time, counting both times – standing actions /actions in movement.

b) formation: lined up on 2 rows; musical background: 2/4 time lively songs; I.P.: standing, arms bent, palms ready for percussion; execution: counted percussions on each musical note – standing actions/actions in movement.

c) formation: column of 2; musical background: 2/4 time songs; I.P.: walking cadence emphasized on left foot pace, accompanied by palm percussion on the emphasized time.

d) formation: column of 2; musical background: 2/4 time lively songs; I.P.: jogging with 180⁰ or 360⁰ turns executing 2 steps on each musical time.

e) formation: circle; musical background: 2/4 time songs, at a moderate tempo; I.P.: standing, holding the ball into the right hand; execution: active kicks of the ball for each musical time; assessment: points are given for correct rendition of musical times and for the greatest number of repetitions without losing the ball – actions are performed with the other hand, too – standing actions / actions in movement.

f) formation: circle; musical background: 2/4 time songs, at a moderate tempo; I.P.: standing; action: T1 – jump with legs spread and simultaneously place arms in a big V and clap hands; T2 – standing jump and simultaneously lower arms laterally and clap hands on the thighs.

g) formation: column of one; musical background: 2/4 time songs with tempo changes once in 16 musical measures; action: gradual

change of the types of movement from one tempo to the other.

h) formation: one behind the other - column; musical background: 2/4 time songs with tempo changes; action: moving on marching steps, one step for each time with a gradual acceleration of the marching rhythm until they start running and vice versa, according to the features of the given tempo.

• **Basic steps to learning samba:**

a) formation: lined up on 2 rows; I.P. standing; action: T1 – slow step forward with the left foot; T2 – rapid lateral step with the right foot; T3 – bring rapidly the left foot close to the right foot; T4 – slow step back with the right foot; T5 – rapid lateral step with the left foot; T6 – bring rapidly the right foot close to the left foot.

b) the same steps on T1, T2, T4 and T5 but on T3 and T6 a 180° turn and get feet close simultaneously.

c) formation: lined up on 2 rows; I.P. standing; action: T1 – step forward on the left foot in demi plie (semiflexion); T2 – right foot sliding and touching the ground with the toes, laterally towards the right; T3 – left foot gets close to right foot followed by shifting body weight on the left foot and stretching the leg at the same time; T4 – step forward with the right foot in demi-plie (semiflexion); T5 – left foot sliding and touching the ground with the toes, laterally towards the left; T6 – right foot gets close to left foot followed by

shifting the body weight on the right foot and stretching it at the same time.

d) formation: lined up on 2 rows; I.P. standing; action: T1 – lateral right step with the right foot and simultaneous body tilt oppositely; T2 – 180° turn to the right on the right foot and the body in vertical position – arms swing freely on the sides; T3 – T4 – idem T1 – T2; T5 – T5 idem T1 – T4 oppositely.

• **The build up of samba dance steps** shall be achieved through multiple repetitions, after the steps have been learned separately, without musical background in the beginning, and then with a moderate tempo music.

• **The improvement of samba** shall be achieved through combinations of steps executed on various rhythms.

f. Statistical methods used

The statistical processing of the registered results has been achieved by the use of Microsoft Office Excel 2007.

RESULTS

After having *designed and applied* the **experimental training curriculum with samba specific methods** in order to increase the general physical preparation indices and the coordination indices, particularly to 8-10 year-old soccer players, the results achieved by the EG were incontestably superior to the results achieved by the CG; there were significant differences between the two tests of the same group – table 3.

Table 3 Averages and the difference between the motor indice averages of TI and TF for EG and CG

Dynamics of motor indices 8 – 10 year-old soccer players								
No. Group	Technique in the application track (TPA)				Speed in the application track (VPA)			
	GE		GC		GE		GC	
Tests	I.T.	F.T.	I.T.	F.T.	I.T.	F.T.	I.T.	F.T.
1.	5	7	6	6	7	9	6	6
2.	6	8	6	6	8	9	6	6
3.	4	8	4	5	6	8	7	7
4.	3	8	4	6	6	8	7	6
5.	5	6	4	5	7	8	7	6
6.	7	9	5	6	7	8	8	7
7.	6	8	6	6	8	9	6	7
8.	6	8	6	6	6	8	5	6
9.	6	7	5	5	6	8	5	6
10.	4	7	5	5	5	8	4	6
11.	5	6	7	7	4	7	5	6
12.	7	8	7	7	5	8	8	8
13.	4	7	6	7	5	8	3	7
14.	5	7	6	6	5	8	4	6
15.	5	8	5	6	6	8	5	6
16.	5	8	5	6	7	9	5	6
x	5,18	7,50	5,43	5,93	6,12	8,18	5,68	6,37
± m	+ 2,32		+0,5		+ 2,06		+ 0,69	

DISCUSSIONS

After having applied the physical training program by using samba dance methods it has been noticed that the two groups achieved better results than at the initial tests, even if the results of the experimental group were undoubtedly superior compared both to the initial tests and to the final results of the control group.

At the final testing for the motor indices the progress was obvious for the experimental group, which achieved higher average results between the tests. The registered progress was 2.32 points for the experimental group at the skills execution techniques assessment in the application track, compared to the 0.5 points progress achieved by the control group.

At the evaluation of the second lap in the application track, against the clock, the experimental group achieved significant progress. If at the final testing the final average of grades was 6.12 points, the average of the points gained was 8.18, therefore a 2.06 points difference, compared to the control groups, who registered a 0.69 point progress between the two tests.

The progress achieved by the experimental group was obvious, both between the two testings but also when compared to the control group.

CONCLUSIONS

1. After processing and interpreting the data resulted from the comparison of the two groups of children, 8 to 10 years old, the hypothesis stating that the samba specific methods may contribute and influence positively the development of the coordination capacities of junior 8-10 year-old soccer players has been confirmed ;

2. The samba specific methods may be successfully used for the general physical training of children, having an important role in their harmonious physical development, in the performers' muscle toning, in the improvement of their biomotoric potential, in the mastery of a wide range of specific movement skills and abilities, but also in the improvement of the execution technique of soccer specific elements;

3. With respect to the physical training of the 8-10 year-old soccer players, the samba dance helps forming the capacity to relax muscles and mind, eliminating stress and fatigue states by creating players' a good mood, diminishing effects

felt by the intensity of the physical effort through the use of music as background for dance;

4. The use of dance methods determines the improvement of the children's state of health and significantly increases motivation during training sessions, ensuring the self-trust and the self-esteem;

5. Whatever the type of dance used, the physical and mental results for children are substantial.

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