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Original article

THE DANCE IMPACT ON THE MOTOR ABILITY IN CHILDREN

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Abstract*

Aim. The research aimed to identify the role that sport dance means have on children's motor capacity development.

Methods. The experiment aimed to estimate the influence of sports dance on psychomotor skills of a total of 16 children aged 7 (± 1.5years) approach that was developed over a period of 5 months, 2 times per week, in the physical education lesson. They were given motility tests, which assessed, originally and finally, the subjects' motor skills. The content of the intervention programs have been developed based on the initial training of the subjects and on the need for training pathways to address the motor component

Results. Following the final testing, we identified significant progress in the development of balance, coordination of overall strength in the abdomen and in the back..

Conclusions. The amendments made in subjects tests demonstrate the influence of dance on the development of balance, strength and coordination in children and argues for the experimental module efficiency of intervention for the development of psychomotor skills. Thus, these dance specific exercises develop motor capacity amid an ongoing interaction between technical and artistic interpretation. The role played by dance, regardless of gender is that of always offering practitioners the opportunity to get active and physically onerous, and to develop emotionally and socio-culturally, as any form of dance is strongly correlated with art, music and rhythm.

Key Words: dance, children, balance, strength, coordination

Introduction

Dancing is one of the most attractive forms of exercise that can be practiced at any age from childhood to old age. Practiced in an unorganized manner or as a sporting activity, is one of the easiest and also important leisure activities, being very popular for all ages.

Dancing, in any form, it brings complete and complex gains to children, it is an ideal physical activity for the harmonious and correct physical development (keeping the natural proportions of students reported to their sex and age) and for appropriate emotional and social development.

Stinson (1988, p.4) said about impact of the dance on children that dance "is a way for children to know themselves and to see connection with the rest of the world". Dance is a form of movement through which we can express emotions and feelings, we can send messages, creating exciting moments for us and for the viewers.

Used in physical education lesson, dance can bring many benefits for the students' psychomotor behavior, particularly among primary school children, where rhythmic games and themes can be applied easily and effectively.(Cosma et al., 2014)

Dance can have many purposes and can assume multiple different forms of art, competition, entertainment, recreation, or any number of other things. (Wright & Hernandez, 2014). It can also be a very useful alternative means in meeting the objectives of the lesson of physical education in elementary school. The main responsibility for involving children in opportunities to be physically active and learn physical skills rests with school physical education. (McKenzie et al., 1993).

The physical education lesson should be attractive to students, and can provide alternative motivation to practice physical activities.

Analyzing the effects that dance has on individuals appears a complicated step given the complexity of the phenomena that determine the manifestation through this motion with that triggers profound aesthetic aspects, that support the activity, but especially the final cumulative effects.

It goes without saying that we can not support such a study thoroughly, therefore we chose to stop on the benchmarks that we consider acceptable in terms of organizing research, with possible manipulation thereof, quantification and measurement of data reference, and their evaluation allowing us to draw the relevant conclusions.

The purpose of the study is to verify if the application of rhythmic dance exercises can lead to motor capacity development in students of a private

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school in Romania.

Methods

For 5 months in physical education classes (2 times per week) were introduced specific means in the form of dance, rhythmic games and exercises (like statues, mirrors, etc.) in classroom 1.

The subjects (n = 16) were tested before and after the implementation of the work program with tests that have followed the evolution of motor speed and coordination, balance and strength in the abdomen and back.

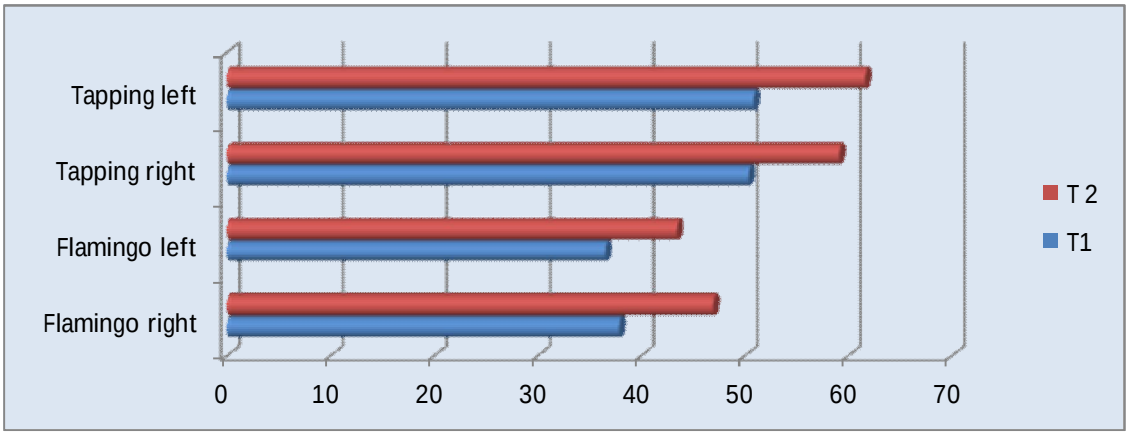
Besides offering them welfare rhythmic exercises, some choreography and songs were developed and taught, known and loved by students. The tests were: Flamingo test (maintaining balance, standing on one foot) Tapping Test (repetitive foot left-right), the trunk lifting from lying (45 °) and extensions before lying back in position.

The students received a packet containing the information letter about the study and an consent form for their parents/tutors. Only the students who retured the signed consent form were included in this study.

Statistical analyses was conducted by SPSS V.21 The arithmetic mean, standard deviation, minimum and maximum value were calculated. To see if there was a mean difference between the initial testing and the last one, Paired t-test was used. The threshold of significance was set at $p < 0.05$.

Results

After applying the control tests the following results were recorded (Graph 1):



Graphic 1. Results at the tests

Table 1 Results at Flamingo Test

Test/Statistics	Flamingo-right foot T1(s)	Flamingo-right foot T2(s)	Flamingo-left foot T1	Flamingo-left foot T2
Average	37.83	46.91	36.5	43.41
Standard deviation	6.92	4.87	6.28	6.51
Minimum value	29	37	28	31
Maximum value	48	54	45	51
t	-5.90*		-7.75*	
p<0.05*				

In the testing performed on the right foot, the unipodal balance in the initial test records an average of 37.83 seconds, with values between 29 and 48 seconds. The standard deviation is small, the arithmetical mean being representative for this test (S = 6.92s). In the final testing, this parameter records an average of 46.91 seconds, the values ranging between 37 and 54 seconds.

The standard deviation is small, the arithmetical mean being representative for this test (S = 4,87s). Applying the significance test of the mean differences for the pair samples, the mean gets a t-

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value of 5.900 (df-15), p <0.05, which supports the acknowledgment that unipodal balance on the right foot was significantly improved.

The unipodal balance on the left leg in the initial testing records an average of 36.5 (± 6.28secunde) with values between 28 and 45 seconds. At the final testing, this parameter records an average of 43.41 (± 6.51secunde) values ranging between 31 and 51 seconds. Applying the test of significance, we get a t-value of 7.75, the mean difference was statistically significant at a threshold of p<0.05.

Table 2. Results at Tapping test

Test/Statistics	Tapping-right foot T1(repetition)	Tapping -right foot T2(repetition)	Tapping -left foot T1(repetition)	Tapping -left foot T2(repetition)
Average	50.33	59.08	50.83	61.58
Standard deviation	8.06	8.30	6.07	8.41
Minimum value	39	42	41	42
Maximum value	65	73	60	70
t	-5.72*		-5.36*	
p<0.05*				

For the Tapping Test, on the right foot, speed (Tapping) recorded an average of 50.33 in the initial testing rep., with values between 39 and 65 rep. The standard deviation is small, the arithmetical mean being representative for this sample (S = 8.06). At the final testing, this parameter records an average of 59.08 rep., the values ranging between 42 and 73 rep. The standard deviation is small, the arithmetical mean being representative for this sample (S = 8.30). Applying the significance test of the mean differences for the pair samples, we get a t-value of 5.72 (df-15), p <0.05, which supports the acknowledgment that the repetition was significantly improved.

For the testing performed on the left foot, the repetition in the initial testing records an average of 50.83 (± 6.07 repetitions)., with values between 41 and 60 rep. At the final testing, this parameter records an average of 61.58 rep., the values ranging between 42 and 70 rep. The standard deviation is small, the arithmetical mean being representative for this test (S = 8.41). Applying the test of significance, we got a t-value 5.36, the mean difference was statistically significant at a threshold de p<0.05.

Table 3. Results at Abdominal and Back strength test

Proba/Statistica	Abdominal Strength T1	Abdominal Strength T2(s)	Back Strength T1	Back Strength T2
Average	25.31	31	31.75	40.16
Standard deviation	4.98	4.70	4.26	5.84
Minimum value	20	26	27	31
Maximum value	38	42	39	50
t	-9.94*		-8.32*	
p<0.05*				

The abdominal strength (Table 3), recorded an average of 25.31 in the initial testing rep., with values between 8:38 p.m. rep. Standard deviation is small, the arithmetical mean being representative for this test (S = 4.98). At the final testing, this parameter records an average of 31 rep., the values ranging between 26 and 42 rep. Standard deviation is small, the arithmetical mean being representative for this test (S = 4.70).

Applying the significance test of the mean differences for the pair samples, we get a t-value of 9.94 (df-15), p <0.05, which supports the acknowledgment that abdominal strength was significantly increased., which demonstrates that the means applied led to improvements in the subjects' abdominal strength.

For the testing of strength in the back, s / recorded in the initial testing an average of 31.75 (± 4.26 repetitions)., With values between 27 and 39 repetitions.

At the final testing, this parameter records an average of 40.16 rep., the values ranging between 31

and 50 rep. Standard deviation is small, the arithmetical mean being representative for this sample (S-5.84 repetition). Applying the test of significance, we get a t-value 8.32, the mean difference was statistically significant at a threshold of $p<0.05$.

Discussion

The changes that were made in dancers' balance shows the influence of dance on the development of balance and argues for the experimental module efficiency intervention on psychomotor skills development. Specific dance exercises develop reaction speed, static balance, dynamic coordination and strength, many movements needing to be sustained in isometric contractions.

The means developed and applied during the experiment led to an improvement in the subjects' motor ability, the research hypothesis is thus confirmed. Through direct observation at the end of the classes of physical education a state of emulation among children was highlighted but also a manifestation of their exuberant feelings.

Our research has highlighted the dance potentialities of the directions mentioned with specific reference to motor practitioners gain, characteristics of movement. Dance specific exercises develop reaction speed, static balance, dynamic, coordination and strength, many movements being sustained in isometric contractions.

Dance valences are found not only on motor ability but positively affecting the state of relaxation produced on mental capacity.

McLean (2007) considered that is an expectation that creative dance involves pupils in a process that draws on their emotions and ideas in a way that allows communication of the inner self as they develop creative movement responses to a given task.

Dancing bears in itself a communicative function, while being a valuable means of communication, which helps to unite people, creates opportunities to understand each other through joint coordination movements. Dancing contributes to enlightenment and education, to build confidence in the possibility of creating, through one's body, moments of emotion and beauty.

Besides the fact that dancing is one of the major forms of art , dancing is a physical, physiological and psychological activity that can provide physiological and psychological benefits like muscular flexibility, aerobic capacity, self-esteem and motivation. (Quin, Frazer & Redding, 2007).

The importance of including dance in schools is obvious, as the range of sports practiced in educational institutions is unfortunately rigid and restricted Romanian and even if in Romania, dancing is not included in the common curricula, it can be practiced 2 times per week in the "sports assemblies" but the decision does not belong entirely to a physical education teacher or a student.

Our approach aims at encouraging the introduction of dance lessons in physical education, especially in primary classes where they can successfully fulfill the objectives of school physical education, the means being accepted and practiced by students especially because there are several studies that found a decline in physical activities in the transition from primary to secondary education (Burges et al., 2016).

Conclusions

The amendments made in subjects tests demonstrate the influence of dance on the development of balance, strength and coordination in children and argues for the experimental module efficiency of intervention for the development of psychomotor skills. Thus, these dance specific exercises develop motor capacity amid an ongoing interaction between technical and artistic interpretation. The role played by dance, regardless of gender is that of always offering practitioners the opportunity to get active and physically onerous, and to develop emotionally and socio-culturally, as any form of dance is strongly correlated with art, music and rhythm.

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