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Original article

A Set of Exercises to Enhance the Rhythm Capacity of Ecuadorian Folk Dancers

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Abstract

Introduction: Dancing at early ages helps children develop body control, improve coordination, balance, reflexes, and spatial control, while developing psychomomtricity, harmony, and focus.

Aim: To determine the exercise system applied to improve dance movements in the group of children selected for this study.

Materials and methods: The sample included 15 subjects, 100% of the dance students between 11 and 13 years of age, at the Juan Emilio Murillo, Landin Educational Facility, in Guayaquil, Ecuador.

Results: The data from the three tests (torso movements, falling time, and the roll) were analyzed through the Shapiro Will. The pre-test and post-test showed that after the three tests to the set of exercises, there was a significant reduction of errors in the pre-test, compared to the post-test.

Conclusions: The results of the Wilcoxon rank test were used to corroborate the significant differences between pre-tests and post-tests 1.4 and 5, caused by the implementation of the proposal (P 0.02 < 0.05). This result confirms the efficacy of the proposal implemented.

Keywords: ludic activities, folk dance, rhythm.

INTRODUCTION

"The art of dance consists of moving the dominated body, keeping a conscious relation toward space, and conferring meaning to the act or action unleashed by the movement" (Dallal, 2007, p.20). This is understood as the mobilization of the body that controls action and space consciously, creating meanings expressed by the movements. Dance, in addition, cannot be linked, or be connected to time; that is, the musicality that many take up in folk dancing.

Internationally, dance is represented or recognized by UNESCO, as the only entity of that discipline made by 165 governments looking to culture as a way to achieve peace. The international dance day was established in 1982, which is celebrated every April 29th, in an effort to call the attention to dance and the arts. Likewise, it aims to gather all the people who make dance a magnificent manifestation, a means of expression, regardless of the several barriers found in the different world scenarios; every year, a renowned personality sends a message worldwide. Accordingly, the International Dance Committee was founded, being Master Jean Georges Noverre, an innovator, art researcher, and creator of modern ballet its first director. Dance companies and schools perform activities for the general public to make it a means of peace, in the same way it is relevant for education and the world.

Dance in sports is represented as a "sports dance", and certified as a sport by the International Olympic Committee (IOC) and the World Dance Sports Federation (WDSF), on September 4th, 1997. Today, the WDSF is working so that dance sport is accepted as an Olympic event in the same way it was recognized as a sport.

Folk dancing is part of a society's cultural heritage, which has evolved through time, with tastes, ideas, beliefs, and customs from the people it belongs to. According to William J. Thoms (Buitrón, 1977), the *folklore* is formed by two words: *Folk* is the subject, representing the people culturally, as a vital activity. *Lore* is the attribute of that subject, manifesting cultural qualities, based on knowing or wisdom. Folk is the people's traditional cultural agent, and in that sense, it cannot be absent from any human group regardless of how incipient their spiritual and material development is; lore is the fruit of the work performed by the agent. Therefore, folklore is the expressive body of the culture shared by a particular group of people; it covers the common traditions of that culture, subculture or group.

The variations among folk dancing from different countries or regions are based on the differences of climatic, geographic, and economic conditions" (Ossona, 1984, p.70). To Costales, folk dancing "corresponds to the vitality, youth, the desire to

communicate by the members of a community" (Costales, 1995, p. 48-73). Ecuadorian (Guayaquil) writer Guido Garay (Chávez, 1995) said that folk dancing is part of the social folklore in which music, steps, and figures are a legacy from the past. Other authors like, Campóo Schelotto, Diana (2017) Arantes, Paulo, and Schwartz, Roberto (2016) Dallal, A. (2020), expressed their criteria in relation to dancing: they consider that it is the movement made in a particular space by one or all the parts of the body of a dancer, designing one form through their own energy, following a particular rhythm for a shorter or longer time. The predominant use of one or another of the movement elements (rhythm, space, time, form, and energy) is not always even. In some dances, rhythm prevails; in others, the use of space, etc., prevails. Depending on its character, different elements will be stressed.

The traditional folk festival of Ecuador is the folkloric cultural expression that reflects the melting pot of the nation in all its aesthetic variety, its varied origins, contradictions, and inconsistencies, but also its basic logic and its view of the world, and the vast adaptation and assimilation capacity of the diversity. This is where several cultures come together through music, dance, food, art crafts, and clothes brought by the legacy of cultural crossings.

Different authors have expressed their opinions about the topic related to dance, such as, Castañer (2002) & Brunnhuber (1989), Rivera, Ruiz & Ortiz (2017); Rubio, M. (2015), Cortijo, Antonio (2016), Barifouse, Rafael. (2017), Galli, C. (2018), from which essential elements such as, time, space, and body expression come in the same way several classifications are found: depending on the objectives and purposes of academic dancing (classical), stage dance, mystique dance, creative-educational dance, and therapeutic dance, according to the trends and forms of making dance.

In reference to folk dance, it is a traditional form of expression and communication that exists from the onset of human labor. It is understood as the art of expressing oneself through continuous movements giving a systematic rhythm to the body. It shows the beauty and aesthetic of every movement guided by the rhythm, with or without sound. As an artistic discipline, it transmits ideas and feelings through movements, with the prevalence of physical techniques, going through interpretation, from physical, psychological, and limb systems, describing the union of the whole body in practice.

Therefore, folk dance is a phenomenon where a variety of expressions and interpretations will influence social, ethnic, and linguistic diversity and heterogeneity of nations and societies that embrace it. Ecuador a multicultural and multi-ethnic country that hosts several national festivals. Based on these general

ideas, it is necessary to add that folk dance contains proper utilization of time and space, which are bound to rhythm and the use of body energy. Therefore, dancers assume the properties of space and dimensions, and how they affect the sense of movement.

Floor work in fundamental, as the movement energy emerges from it, dancing in a space using the whole body (not just the feet). Once the dancers are able to control their bodies through space, they will be capable of using other resources or tools to address further significant learning.

Folk dance is one of the most current forms of artistic communication, due to the diversity of its techniques and choreographic orientation, as shown in several research studies, such as, Granero Segovia, V. (2017). Opuntia Brava. Lluch, Á. C.-P. (2011). Lorey, N. (2018). Muzo Guachamín, L. V. (2017). Ortiz, J. (2021). Peralta Jara, H. H. (2020 Pérez, M. (2020 Samaniego Catute, B. A., & Quiteño Molleturo, J. L. (2018). Santana Díaz, L. K. (2019), Sernaqué Algarate, M. K. (2020). They consider that the folk component represents the "unique and popular genius of the people, becoming a reflection of the culture that nurtures from everything the people do totally free through their contributions directed to the interpretation, gestures, techniques, choreographs, and stage design, which embody the basic aspects of dance, explained through the implication and relation of various levels, the utilization of space, music, and sound background, technical level, and the relationship established with the public. Moreover, they refer to the relevance of time and rhythm, considering the beats (regular pulsations with the same intensity), stressing (increase in the intensity of the pulsations), duration (sound duration), rhythm (movement order), meter (each of the parts with the same duration in a single work). All this process is associated with the setting around it, in keeping with a rhythmic and energetic structure, known as dynamic, relations, and choreographic composition, thus ensuring the fluency of the work shown to oneself or to the group, on one hand, and the procedure and final results as a whole or individually, on the other.

Rhythm constitutes a necessary and determining aspect of dancers, considering that time balance is manifested through a variety of sounds, movements, or repetitive acts often that include wave, heart, and respiratory frequencies. This rhythm is given by the time organization of several movement sequences. Therefore, each rhythm is made of pulsations, as the simplest component of time structures. More intense pulsations exist, which are called stresses; rhythm is the capacity of the body to alternate muscle tension and distension fluently driven by the consciousness.

Arce, A., *et al.* (2018) noted that humans can more or less perceive the rhythms of movements clearly during exercise, with the possibility of influencing, adjusting, and stressing them, and creating new rhythms (p.32). Hence, rhythm is the capacity of achieving the characteristic dynamic changes of a movement sequence to perform them during the motor execution. It is, mainly, the capacity of receiving an "externally given rhythm from music played, acoustically, or visual perception, then properly adjusted to the execution of movement"

The purpose of this research is to determine a set of exercises that can be applied as a system to improve dance movements in the group of children selected for this study, aged 11-13, at the Juan Emilio Murillo Landin Educational Facility, Guayaquil, Ecuador.

MATERIALS AND METHODS

The study was based on a pre-pedagogic experiment which was useful to confirm the effectiveness of the exercise system proposal, to enhance the rhythm capacity of Ecuadorian folk dances. The sample included 15 subjects, 100% of the dance students between 11 and 13 years of age, of the Juan Emilio Murillo, Landin Educational Facility, in Guayaquil, Ecuador.

The Shapiro Will normality test was performed to corroborate the research hypothesis, which demonstrated that the data did not have a normal distribution ($p < 0.05$). Therefore, the Wilcoxon rank test was run for related samples to tests 1, 2, and 3, in the pre-test and post-test.

Test No. 1. Contracted torso movements for 30 seconds

- Outward and inward contractions were made, as if being hit in the abdomen, maintaining semi-flexed knees, with the legs at the shoulder level. The chest, arms and hands, pelvis and abdomen were activated; the arms and hands moved with the palms of the hands upwards, or as if pushing something. Each foot exerted double movement, lifting the body from the floor, upwards.

Test No. 2. Falling to floor and rising in 30 seconds

- Standing on a foot forward and the other backward, the backside below the knees with the instep. Upon reaching the floor, the right arm and hand move across the face and the body falls. Then the legs cross and the body rotates, changing sides; the hand is placed on the floor for support and the leg is neared the hand, then move upward. The highest number of repetitions possible is done for 30 seconds.

Test No. 3. The roll for 30 seconds

- The tests consist in starting from a face-up position, the arms on the sides of the body, and the legs at the shoulder level. The right leg and hand move above the body while it turns to the left, then the legs are flexed quickly until the body becomes a roll. The highest number of repetitions in 30 seconds.

RESULTS AND DISCUSSION

This study considered several theories and practical works on folk dancing and physical exercise, though the literature related is not so abundant. The author of this paper created several exercises to enhance rhythm capacity, which facilitated its implementation for the children in the study. The goal was to improve the coordination and rhythm of folk-dancing movements through physical education lessons or in after-class activities during their rehearsals.

The activities planned in the physical exercise system to enhance folk dancing students' capacities were performed in the afternoon, preferably as an after-class activity, between 14:30 and 16:30, five times a week. Overall, a ten-activity exercise system was designed, including warm-ups and exercises, thus ensuring significant learning of the children engaged (Table 1).

Technical test of the advanced variations to perform folk dancing

Table 1. Physical-technical folk dancing test

Pre-test Activity	f	Technical errors	%	Post-test, activity	f	Errors	%
Test No.1. Contracted torso movements for 30 seconds	13	24	3.12	Test No. 1. Contracted torso movements for 30 seconds	13	7	0.91
Test No.2. Falling to the floor and rising in 30 seconds	13	26	3.38	Test No. 2. Falling to floor and rising in 30 seconds	13	9	1.17
Test No.3. The roll, 30 seconds	13	24	3.12	Test No. 3. The roll, 30 seconds	13	9	1.17

The results in Table 1 show that during the pre-test to the children to assess the technical level during the execution of the test every 30 second was low after the implementation of the proposal of alternative exercises to enhance folk dancing capacity. In test No. 1, contracted torso movements, the students made 15 errors (3.12 %). In test No. 2, falling to the floor and rising, 26 errors were made (3.38 %). In pre-test No. 3 the roll, 24 errors were made (3.12 %). However, after the implementation of the exercise system to improve dance, during the post-test, in test No. 1, only 7 errors (0.91 %) were made; test No 2 included 4 errors (0.30 %); and in test No. 3, four errors were made (10.30 %), which demonstrated the

effectiveness and efficacy of the proposal to enhance physical preparedness for folk dancing (Table 2).

Table 2 Errors made in the tests

ATHLETES	TEST 1 PRE-TEST	TEST 2 PRE-TEST	TEST 3 PRE-TEST	TEST 1 POST-TEST	TEST 2 POST-TEST	TEST 3 POST-TEST
1	1	2	1	**0**	**0**	**0**
2	2	4	3	**1**	**0**	**0**
3	2	1	1	**1**	**0**	**0**
4	2	2	3	**1**	**0**	**0**
5	2	1	1	**0**	**0**	**0**
6	2	1	1	**0**	**0**	**0**
7	1	1	1	**0**	**1**	**0**
8	1	4	3	**1**	**0**	**1**
9	2	1	1	**0**	**1**	**0**
10	1	1	1	**0**	**0**	**0**
11	3	2	4	**1**	**1**	**1**
12	2	3	2	**1**	**1**	**1**
13	3	3	1	**1**	**0**	**1**

The Shapiro Will normality test was performed to confirm the hypothesis of this research regarding the variables studied in the pre-test and post-test. All the data from the three tests were included (torso movement, falling time and rolls), during the pre-test and post-test. The results corroborated the following hypotheses:

- Ho: If P > α=0.05, there is a normal data distribution.
- Hi: If P < α=0.05, there is no normal data distribution.

Table 3. Normality test

	Kolmogorov - Smirnov[a]			Shapiro-Wilk		
	Statistics	gl	Sig.	Statistics	gl	Sig.
Torso movements	.281	13	.006	.811	13	.009
Post-test to torso movements	.352	13	.000	.646	13	.000
Falling to the floor and rising	.268	13	.011	.807	13	.008
Pre-test to the roll	.375	13	.000	.719	13	.001
Post-test falling to the floor and rising	.431	13	.000	.592	13	.000
Post-test the roll	.431	13	.000	.592	13	.000

a. Lilliefors significance correction

As a result, the null hypothesis Ho was rejected, while the alternative hypothesis Hi was confirmed, assuming that the data did not have a normal distribution. Only during the pre-test in test No. 1, P = 0.09 > α = 0.05, and test No. 4, falling to floor and rising during the pre-test P = 0.08 > α = 0.05, had a normal distribution. The other tests had a non-normal data distribution, as P = 0.00 and 0.01 ≤ α =

0.05, so the T-student non-parametric test was inapplicable. Instead, the Wilcoxon rank test was performed (Table 3).

The Wilcoxon rank test was applied to corroborate the following hypotheses in each of the related tests during the pre-test and post-test:

- Ho: If P ≥ α=0.05, there is no significant difference between the pre-test and post-test.
- Hi: If P < α=0.05, there is a significant difference between the pre-test and post-test.

The Wilcoxon rank test performed to test No. 1 to check the differences between the pre-test and the post-test showed the following results (Table 4).

Table 4 Test[a] statistics

	Pre-test/Post-test to torso movements
Z	-3.153[b]
Asymptotic sig. (two-sided)	.002

a. Wilcoxon rank test

b. Based on positive ranks.

The Wilcoxon rank test showed that P 0.02 < 0.05, so the null hypothesis was rejected, whereas the alternative one was accepted. Then it can be inferred that there is a significant difference between the number of errors made by the athletes in the first and second tests of torso movements after the implementation of the proposal, with a significant reduction in the number of errors during the post-test.

The Wilcoxon rank test performed to test No. 4 to check the differences between the pre-test and the post-test showed the following results (Table 5).

Table 5 Test[a] statistics

	Falling to the floor and rising Pre-test and post-test
Z	-3.108[b]
Asymptotic sig. (two-sided)	.002

a. Wilcoxon rank test

b. Based on positive ranks.

The Wilcoxon rank test showed that P 0.02 < 0.05, so the null hypothesis was rejected, and it was inferred that there is a significant difference between the

number of errors made by the athletes in the first test of falling and rising and the second test, upon the implementation of the proposal, with a significant reduction of the number of errors in the post-test.

The Wilcoxon rank test performed to test No. 5 to check the differences between the pre-test and the post-test showed the following results (Table 6).

Table 6 Test[a] statistics

	Post-test the roll, pre-test the roll
Z	-3.025[b]
Asymptotic sig. (two-sided)	.002

a. Wilcoxon rank test

b. Based on positive ranks.

The Wilcoxon rank test showed that P 0.02 < 0.05, so the null hypothesis was rejected, and the alternative hypothesis was accepted. It was inferred that there was a significant difference between the number of errors made by the athletes in the first and second tests of the roll upon the implementation of the proposal, leading to a significant reduction of errors during the post-test.

The results of the Wilcoxon rank test corroborated the significant differences between pre-tests and post-tests 1, 4 and 5, after the implementation of the proposal, resulting in P 0.02 < 0.05, which confirmed the efficacy of the proposal implemented.

CONCLUSIONS

The proposal a system of exercises to enhance the rhythm capacity of Ecuadorian folk dancers had a significant outcome in the three cases, with P 0.02 < 0.05. This result confirmed the efficacy of the proposal implemented in folk dancing, in addition to the application of the Shapiro Will test to the data from the three tests (torso movements, falling time, and the roll). The pre-test and post-test showed that after the three tests to the set of exercises, there was a significant reduction of errors in the pre-test, compared to the post-test.

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