



The contribution of dance in physical education classes for the development of motor coordination in schoolchildren: an integrative review

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1 INTRODUCTION

According to Vânia (2006) due to urban growth and development, the common spaces (streets, parks, fields, etc.), in which the child manifests its motor skills, are being decharacterized from civil construction, which has been delimiting their space, preventing the flow of better preparation for them.

Manchúra and Manzano (2017) emphasize that due to the environment and living conditions in which we find ourselves, we detain a certain resistance in acquiring motor knowledge among children. The absence of this flow of physical activities can delimit the individual in several particularities of their improvement, motivating beyond their motor performance, in perception and social conduct.

For Barreto (2004), the child's development is fundamental, so that he/she has control over his/her body, developing and improving his/her alternatives to move, causing the discovery of new spaces and ways to overcome his/her limitations and circumstances to confront the challenges according to the principles, propulsive, sociable, sensitive, and intellectual.

According to Papalia and Olds (2017) it is through the movement of the body that the child evolves, it is in the school phase that the child can coordinate his muscles, solving his bodily needs, thus, this phase is considered a time of important changes, because the child gains skills and autonomy.

Recent studies emphasize dance as a mechanism capable of improving the motor stimulus of children, managing to be in the same way an extremely spontaneous practice. Ribas (1992) tells us that, for the human being, dance can be instinctive, as a way to communicate, to distract oneself, to smile or even to cry; this is because dancing is a manifestation of emotions. The human being has been moving since the beginning of his earthly existence, that is, since he left his ignorant condition and conquered his rational condition.



According to Nanni (1995) dance is a way of manifesting and communicating, perhaps one of the best known, since the beginning of human civilizations it has shown itself as an option of typical expressions, about the total evolution of the human being, becoming a stimulant. Dance arose precisely to express and instruct man in his bodily and sentimental demonstrations.

However, the school space is a privileged environment to participate in and on child development. It is in the school space, particularly in the physical education teachings that the child reaches the dimension of its motor coordination. In this aspect, dance is indicated as a practical indication apt to opportunity the improvement of children's motor capacities (BARRETO, 2004). In this way, the guiding question was if dance contributes to the improvement of motor coordination in school children from 4 to 12 years old?

2 OBJECTIVE

To analyze the contribution of dance in physical education classes for the development of motor coordination in students aged 4 to 12 years old.

3 METHODOLOGY

This research is an integrative review that, according to Botelho (2011), the integrative review (IR) is a characteristic process, which addresses the elapsed of the practical or grounded bibliography, to enable a comprehensive understanding of a particular phenomenon. This research technique aims to ideate an investigation regarding already structured experiences/information. Reassessment besides adds a huge variety of purposes: notion of ideas, reconsideration of opinions and rationales, diagnosis of methodological issues of a specific content. Literary investigation competes one of the excellent proportions of establishing a teaching, looking for compatibilities and distinctions through the authors who have developed their studies on a given topic. One of the characteristics of integrative review is the freedom to work with the widest universe in both qualitative and quantitative texts.

In this way we followed the steps of the complementary literature recap device: we started with the definition of the problem and the purpose of the review was defined, literature searches with the definition of key words in the databases, and application of defined criteria for the application of articles, evaluation and analysis of the data obtained

To perform the search were used as keywords: motor coordination, dance, children, school physical education. Texts published between 2008 and 2020, selected from the scientific databases Scielo, Periódicos Capes, Medline and Lilacs, were defined and the terms were crossed.

The inclusion criteria used were texts in Portuguese and English, articles, dissertations, and theses published in the databases that dealt with the keywords (motor coordination, dance, children, school physical education).



As exclusion criteria we did not use texts that discussed the importance of dance in the development of children with Down's disease among others, we also excluded texts that dealt with dance as a methodology or insertion of the child with learning or relationship problems, database research with qualis type C (low relevance) were also excluded, for this we used the scopus platform to evaluate the qualis.

The criteria used to evaluate the quality of the papers used for this integrative review were the qualis A and B of the journals in which the articles were published.

4 DEVELOPMENT

4.1 RESULTS AND DISCUSSIONS

A total of 15 studies were found (among articles and dissertations). Using the exclusion criterion, studies focused on the development of motor coordination in children with some physical or intellectual diseases, others for discussing concepts such as socialization and integration for children with psychological trauma, we nominated 9 which some were read in full and the others only the summaries, then the reading of the papers, happened designating only 3 articles to compose the work and meet the requirements for our analysis presented in chart 1.

Chart 01 - Characteristics of the studies included in this integrative review

| Author and year | Sample | Intervention | Conclusion |
|----------------------------------|---|---|---|
| Martins (2010) | 24 five-year-old children of both sexes. | Motor coordination was assessed with the body coordination test battery (Körperkoordinationstest für Kinder - KTK) | It is concluded that dance activities can be related to the good motor coordination index found |
| Lopes (2016) | Literature Review | Bibliographic review of scientific articles, characterizing this work as a research of exploratory nature. | It is concluded that dance, in addition to the aesthetic and artistic benefits, provides a better motor, affective and cognitive development of children aged 4 to 12 years. Articles and scientific papers published in relevant national journals, available for consultation in databases, google academic, LILACS among others, and that were published in the period 1984 to 2015 were approached. |
| Anjosa and Ferraro(2018). | The study was carried out with 85 children enrolled in the 1st year of elementary school in two schools in the south zone of São Paulo (SP), with children between 6 and 7 years old. Four 1st grade classes (two in each school) | Two dance classes were held weekly, lasting one hour per class, for seven months. The other group was seen as a control and did not participate in any dance classes. | The educational dance helped the evolution of the children's motor development, and its results were partially maintained months after the end of the intervention. |

Source: Prepared by the authors, 2021.



The selected texts deal directly with children between the ages of 4 and 12. The themes compare the motor coordination performance of children who develop dance at school with children who do not dance. In this sense it was unanimous among the works that children who develop dance have a better performance in movement and balance (motor coordination in general).

The text 1 of Martins (2010), carried out its research using the method through data analysis and tests to evaluate the level of motor coordination of 12 children with five years old, from an educational center in the city of São Sebastião do Paraíso, who practice dance in their physical exercises at school, with a weekly interval of once a year, equating with 12 children of the same age, however, do not deal with the same practice of dance and no school physical exercise. The means used for this test were a *Körperkoordination-test für kinder (KTK)* battery. It determines that it is fundamental to identify specific characteristics of children, distinguishing that children under five years of age have a body structure that is propitious to mobility and apt to develop their motor capacities. It also emphasizes that the action of playfulness and the encouragement of dancing as a child contributes greatly to the performance of motor coordination, as demonstrated in the KTK battery test.

According to the results described in the table, we verified that the motor coordination of 24 children reached an improvement in the level of motor stimuli after sessions of dances. Falsarella and Amorim (2008) corroborate with this statement, describing dance as a practice that allows approximation among individuals, improving respect, optimism, and the perception of commitment. Besides, it provides opportunities for body improvement such as: development of physical resistance, appearance, posture and agility, also collaborating with self-control for the evolution of the human being in its totality. According to the authors, it can be noticed that the parents of children and young people who deal with dancing observe how much it can improve the affective, social, cognitive, and motor conceptions. Thus, one cannot ignore that the teachings of dance, attract its participants, making it possible to find current perspectives of softness, providing new physical knowledge and limitations, exchanging experiences among themselves, unveiling adversities, constituting an awareness.

Although it is proven that children can reach the expected development basically by maturation and minimum environmental influences, Martins (2010) emphasizes that opportunities are necessary for this, because without them it will be impossible for the child to reach mature stages of certain skills, leading to inhibition of the application and development of these skills in later periods. Thus all the authors found agree that dance is considered very important to be applied in the educational environment and more specifically in physical education.

This study chose to use as methodology the *Körperkoordination-test für kinder (KTK)*. To verify the effectiveness of dance in the development of coordination according to this test, the higher the level of complexity of a motor task, the higher the level of coordination needed for an efficient



performance. Thus, it was possible to verify that children who practice dance have better results. This test was developed and validated by the Germans Kiphard and Schilling (1974), with the purpose of detecting motor coordination deficiencies in children with brain lesions and behavioral deviations. Gorla et al. (2000) assures that the test was first established and added for body development of children with disabilities. However, nowadays it is also being applied to children without disabilities, thus evaluating the global motor coordination, such as motor coordination disorders. According to the experiences applied by means of the KTK test, it assures the capacity of dance in the improvement of coordination that, according to it, the higher the degree of difficulty of a motor task, the higher will be the level of coordination indispensable for an efficient performance. In this way the possibility of improvement is specifically, it is recommended to frequently think about the particularity of each person. Everyone has a specific period to develop their motor skills (GALLAHUE; OZMUN, 2005).

Pereira et al. (2001) certify dance as an essential theme to be offered in the school environment, for it is possible to lead the students to relate to themselves and to others; to know perspectives of feelings and creativity; to understand new paths, to move voluntarily.

The study by Batista (2016), performed in a public early childhood school in the Federal District, in an institution that offers dance classes (ballet), practiced twice a week lasting 40 minutes a day. The collection mechanism was a questionnaire prepared by the researchers with eight closed questions involving motor coordination in early childhood education, answered by the children's parents.

However, it is noticed that many children are not able to perform balance movements, but not so little significant, thus being important a multisensorial conduct so that diverse knowledge, have the capacity to complement the dance styles variables. Thus, it is understood that the practice of ballet classes, offered at the Brasília institution, helps in the evolution of movements that require stability and collaboration for the evolution of motor coordination.

In text 2, according to the study of Lopes (2016), made by means of a literature review, it establishes that dance linked to psychomotricity enables beneficial progress to children, improving their motor skills, providing students with new discoveries of motilities, amplifying their imaginations, experiencing a body style. It complements instructing that dance in children's education promotes innovative rhythmic stimulus, interaction, perfecting aesthetics and body awareness, reforming motor skills with quality. Thus, it is certified that dance is of great relevance as a child's educational method based on the content of motor functions.

Thus, each individual has several physical capacities, and dance is associated, through body movements, with its expansion and improvement. The content addressed in this paper consists of the diagnosis of the execution of an activity practiced with girls from six to fourteen years of age who are dance apprentices. However, this research is based on the search for conceptualized and taught results



that confirm opinions that through dance there is a collaboration for the sociable psychic relationship that corroborates with the conducts favorable to the common environment. It also consists of investigating the knowledge of the parents of the children and youngsters related to the purposes of dance for the evolution and integration of the motor and psychic functions. The instrument was carried out through closed questions about the behavior of their daughters in different situations, after the beginning of the dance practice. It is observed that the parents of the dance participants admit that this practice is of great contribution to improve the social, emotional, mental and motor factors.

According to Oliveira (2001), it is through dance practices and still at a younger age that we develop control over our body, amplifying and making better movement alternatives, creating modern environments, overcoming weaknesses, and facing new obstacles.

In study 3 by Anjos and Ferraro (2018) related the motor stimuli of children who trained the pedagogical dance with those who did not perform the activities and also to ascertain the importance of the responses achieved at the end of the mediation. The article is based on the exploration with 85 children enrolled in the 1st year of elementary school in two schools in the south zone of São Paulo (SP), who practice dance classes. Dance is considered a fundamental partner in education, and through it, the child evolves its motor, emotional, and intellectual knowledge, which are reiterated and concluded.

The suggestion of the work was to relate the motor performance of the children who proceeded in the pedagogical dance with the motor performance of the children who didn't participate and to analyze the conservation of the determinants reached, in the period of six to eight months after the conclusion of the intervention. This intervention had one group performed dance classes twice weekly within one hour for seven months, and the other group was only as control, did not participate and never had dance class. Determining that the motor performance of the children who participated in the educational dance classes were better compared to the children who did not participate in the classes.

However, in the course of six to eight months, it was observed that the development was similar to the children who did not participate in the intervention, progressing naturally over time. Therefore, it can be seen that the educational dance contributed to the motor evolution of the children, and its conclusion remained limited with the end of the intervention. Thus, we had as main objective to demonstrate that the dance practiced in physical education classes can help the motor development of children.

In this context, we observe a discussion molded on scientific arguments that the practice of dance is not only beauty, plasticity, art and culture; in its pedagogical action, it can offer great contributions in motor development, especially in children with school age, in which the most important abilities are being consolidated. It can be seen then that educational dance contributes in a positive way to the motor evolution of children.



Thus, according to Shinca (1991), dance can provide several advantages in social or physical aspects such as: developing motor coordination, creativity, self-knowledge, among others. Silva (2012), complements corroborating dance as a physical activity that provides muscle strengthening, balance, breathing, and improves socialization, since it is mostly practiced in a group of people.

The author calls our attention to the dance being developed in this age group, because it promotes the development of children by allowing an infinity of experiences and activities in which they discover varied movements that lead them to construct concepts and ideas about their actions or about the movement itself. Thus, Garcia and Hass (2003), point out that the movements are intended to improve and evolve the student's physical abilities in particular motor stimulation, agility, safety, and effort, in a way that enables progress and benefits the social, emotional, and individual character. Gallahue and Ozmun (2001), Caetano et al. (2005) understand the importance of stimulating motor coordination and also that its stimulus can contribute as a very effective tool, capable of improving the educational follow-up of educators regarding the development of activities by their students. Thus, physical education among schoolchildren has a wide cooperation in the school progress, providing the expansion of body perception and the learning of a diversification among motor practices (RONCHI, 2010).

This study was an experimental study (control intervention) with 85 children aged 6 and 7 years old regularly enrolled in the 1st grade of elementary school in two schools in the south zone of São Paulo (SP), who practice dance classes. These children had their motor coordination assessed in three moments before the intervention, during the intervention, and after the intervention. The students had dance classes for 7 months and were observed for eight months after the intervention. The study brings dance as an activity that offers the child to develop these movements through the mastery of his body in different ways. Children who practice dance can move in different ways, as well as manipulate objects and artifacts. Through dance, children can develop fine motor coordination, global motor skills, balance, body scheme, spatial and temporal organization, among others so important for their next phase of life.

Falsarella and Amorim (2008) corroborate explaining that the individual has several physical capacities and dance is associated through body movements, contributing with its expansion and evolution. For Rondon (2010), the teaching about dance in the collegiate space is able to help the coexistence between people and understand the vision through the student, since the movement and the noises are part of the sensorial environment, helping better in the conception of understanding the physical aspects and the corporal appearance. According to Silva (2011), the practice of dance can enable countless advantages, mainly exploring the movements and the respective body limitation, improving the motor skills, being these aspects of utmost relevance for the corporeal evolution.



After the analysis of the selected texts, it is clear that the practice of dance at school, specifically in physical education classes, can indeed improve considerably the motor development of children. We evidenced significant improvements in the development of motor coordination in students exposed to dance classes, compared to students who did not attend classes. Although in all the studies both children (exposed or not to dance classes) showed positive results, those exposed to dance classes evolved faster or had better performance. Therefore, the authors found agree that dance is considered an important tool to be applied in the educational environment and more specifically in physical education.

5 CONCLUDING REMARKS

After this interactive review, the objective was concluded and the problematic was answered, showing the importance of dance as an instrument for the development of motor coordination in physical education classes and also showing that dance must be practiced during all the student's school life, because the motor development is permanently in development and construction since childhood extending in all the phases of life until old age. In other words, the practice of dance should not be done just to acquire expected skills, but to improve them and develop new visions and possibilities.

However, besides its contribution to the motor coordination of children, dance also develops its educational function through physical education and also through other disciplines at school. Dance in physical education aims at improving physical and intellectual (cognitive and motor) aspects of the child, which will enable the acquisition of abilities and movements and, also, the development of body language through the interaction child x environment and child x other pairs. Thus, dance becomes an important instrument in the school context as long as it is developed in a planned and conscious way, always aiming at the psychomotor development and the discovery of new corporal and intellectual aptitudes.

According to the research carried out, we noticed few studies focused on the theme that involves issues related to the improvement of motor coordination in the practice of dance among schoolchildren, in order to strengthen what was pointed out in the results obtained.



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