

## COORDINATION ABILITIES IN DANCE SPORT: SYSTEMATIC DEVELOPMENT IN THE TRAINING PROCESS

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**Abstract:** Coordination as a qualitative motor skill summarizes a wide range of manifestations, integrates the manifestations of other motor skills, and plays a significant role in the development and overall performance of dancers' coordinative skills through the coordinative skills. The space for motor learning ability, direction and control of movement, and adaptation and transformation of movement are the main focus here. Coordination in dance activities manifests itself through the ability to harmonize the parameters of dance technique in terms of time, space, and muscle tension. The level of coordination is directly proportional to the quality of esthetic presentation on the podium, but also to the speed of adoption of new dance patterns and improvisation of stylized movement in specific dance presentations. Esthetically coordinated movement is composed of segments that are enhanced and complemented. The importance of timely and purposeful development and improvement of the dancer's coordination skills is carried out through several phases that are interdependent and linked in a controlled training process with the aim of showing the dance performance with minimal energetic and motor load under the guidance of the dancer's motor intelligence. This sets the stage for a higher segment of dance movement that shapes the esthetic component to dance mastery.

**Keywords:** motor intelligence, aesthetics movement, dancers

### INTRODUCTION

Dancing movements are an important part of the competitive presentation of many sports (gymnastics, rhythmic gymnastics, synchronized swimming, figure skating, etc.). In the context of this text, sports dance refers to several types of dance for which there is an organized system of competition prescribed by world governing bodies: World Dance Sport Federation, International Dance Organization, World Rock 'n' Roll Confederation, International Federation of Cheerleading, etc. The most popular competitive dances are Latin American dances, Ballroom dances (Standard dances), Spectacle dances, Street and Pop dances, Special couple dances, Acrobatic rock 'n' roll, Disco dances, etc. In general, sport dances can be described as a specific combination of art and sport, which in a certain way, independently or in interaction with other dancers, allows a unique expression of sincere emotions provoked by different music and transformed into harmony and fusion of the most beautiful movements and movements. (Lukić, 2006). Dance steps are present in the choreographies of all aesthetic sports. In dance sports, coordination manifests itself in the connection and realization of various characters of movement technique. The efficiency of its manifestation depends on the motor experience in the application of stylized movement, i.e. on the richness of the repertoire of dance techniques of different performance, complexity, dynamics and spatial transition. Coordination as a qualitative motor skill summarizes a wide range of manifestations, integrates the manifestations of other motor skills, and plays a significant role in the development and overall performance of dancers' coordinative skills through the coordinative skills. The space for motor learning ability, direction and control of movement, and adaptation and transformation of movement are the main focus here.

The importance of the musical component, rhythm and dynamics through coordination in rhythm, based on the ability to perceive kinesthetic, tactile, vestibular, visual and sound information, is highly positioned, considering that the dancer harmonizes with his own rhythm, the rhythm of the partner (or several at the same time) and the rhythm music.

Coordination in dance activities manifests itself through the ability to harmonize the parameters of dance technique in terms of time, space, and muscle tension. The level of coordination is directly proportional to the quality of esthetic presentation on the podium, but also to the speed of adoption of new dance patterns and improvisation of stylized movement in specific dance presentations. Esthetically coordinated movement is composed of segments that are enhanced and complemented. The importance of timely and purposeful development and improvement of the dancer's coordination skills is carried out through several phases that are interdependent and linked in a controlled training process with the aim of showing the dance performance with minimal energetic and motor load under the guidance of the dancer's motor intelligence. This sets the stage for a higher segment of dance movement that shapes the esthetic component to dance mastery. What all dance disciplines have in common is that the foundation of quality movement technique lies in the application of ballet exercises. Ballet exercises in the training of dancers, in fact, teach and improve all manifestations of coordination for the purposes of esthetic presentation (nuance of dynamics, isolation - asymmetric movement, speed of manifestation of each movement, interpretation of music through movement or movement, etc.).

## COORDINATION ABILITIES IN DANCE SPORT

Coordination in sport dance manifests itself through the ability to harmonize the parameters of dance technique in time and space. The speed component also relates to the musical interpretation of syncopated dance movements. In sport dance, there is a very important component of harmonization and coordination of movements in relation to the movement of the dance partner and in relation to the movement of other dance couples or dancers on the dance floor. In an adjudicator's evaluation of the quality of a dance presentation, this component is referred to as "partnership". Coordination in dance training also implies the speed of adopting new movement patterns. The harmonization of new complex dance tasks also depends on the so-called motor experience, i.e. the wealth of motor knowledge realized through dance movements and sequences of movements. Certainly, it is one of the most important motor skills for dancers in the context of choreographic and technical preparation of dancers. Dancers develop it by enriching movements and sequences of movements with other dance styles and forms. In this way, a large number of learned movement stereotypes enables faster and easier adoption of new or similar dance forms (Ljubojević & Bijelić, 2014). Any aesthetically formed movement is conditioned by the level of coordination of all motor potentials of dancers. From the need to show the aesthetic component in the movement of dancers, the ability of stylized movement, which arises as a product of control of the nuance of the dynamics of execution or timely dosage of muscle tension in the execution of the movement or movement, certainly should not be neglected. This control is conditioned by the sense of the position of the body or parts of the body in space and muscle tension. It is known in dancers as kinaesthesia or muscle sensation and is developed through proprioceptive training. Proprioception is a very current topic of dance trainers and has taken a significant role in the conditioning of dancers in recent years. Numerous studies (Jola & Angharad, 2011; Srdić & Bajrić, 2015; Ljubojević, Bijelić, Šebić, & Gerdijan, 2017; Chatzopoulos, Doganis & Iraklis, 2018) indicate that proprioceptive training improves intermuscular and intramuscular coordination, which in turn leads to better control. Movement (establishing and maintaining movement), control over sudden changes in the direction of movement (by shifting the body's center of gravity from one leg to the other more precisely and quickly), but also more subtle nuances in muscle contractions and relaxations for stylized movements or sequences of movements.

In analysing the factors that influence specific sport skills, the constitutional, coordination, and control factors are mentioned. Coordination skills imply that movement is based on the functioning of the nervous system. Movement coordination is a skill that

integrates the manifestation of other motor skills, it is the organizer of their cooperation in various motor activities (Starosta, 2002). This is particularly evident in dance activities. Dance implies harmony, temporal and spatial precision and combines simple but also very complex movement structures. The senses of sight, hearing, touch, as well as balance and kinaesthesia play an important role in adequately ensuring harmony and precision in movement execution. The coordination skills, which play a significant role in the development and achievement of coordination skills, assign three spaces that make up the actual structure of coordination. These are the space of ability for motor learning, the space of ability for direction and control of movement, and the space of ability for adaptation and transformation of movement (Jevtić, 2011).

In sport dance, all three coordination capacities are of great importance, without exception, because the possibility of learning and the speed of learning movements and sequences of movements from the simplest to very complex biomechanical structures depend on them. The last, but perhaps the most dominant form of coordination in dance, without which it is impossible to achieve unity of movement and harmony with the music, is coordination in rhythm. Rhythm is based on the ability to perceive kinaesthetic, tactile, vestibular, visual and auditory information. The body has its own rhythm, which must be harmonized with the rhythm of the music, the rhythm of the partners or several partners in the group. Also, the harmony of muscular contraction and relaxation, which is determined by the efficiency of the CNS in each dance, is constantly expressed throughout the execution of the dance. The alternation of contraction and relaxation creates a plasticity that the spectator perceives as an incredible elegance and lightness of performance.

## COORDINATION DEVELOPMENT

The development of coordination is considered to be based on five fundamental principles (Drabnik, 1996):

1. Coordination is improved by learning new movement patterns.
2. Coordination is developed first by learning the spatial components of movement, then temporal (at a certain speed, rhythm), and then by applying tasks in situational (variable practise conditions).
3. Motor tasks for the development of co-ordination must gradually become more complex.
4. Motor tasks should be alternated after the previous movements have been automated.
5. Automated motor tasks can further modify coordination provided they are performed under variable conditions by increasing the speed of

execution, adding movements, changing the start and/or end positions of execution, changing directions, changing loads, making sensory control more difficult, etc. (according to Neljak, 2013).

It can be said that the coordination of the "team-work" are the muscles involved in the movement and the conscious thoughts of the individual, whether the movement is known or not. Some movement patterns that are repeatedly used and learned become habits that become automated. They are stored as complete units in the motor cortex of the CNS and are controlled by the individual's conscious intent. This "interaction" develops in successive stages, each new level building on all previous levels. Weakness at one level can lead to weakness throughout the system. In the development of coordination, all phases overlap. It is an extremely complex process that is inherently programmed into every human being. When a new phase of development begins, all previous phases must be strengthened while at the same time stressing the new phase. These laws are especially true in the training of aesthetic sports. As already mentioned, coordination is conditioned by the development of all motor skills. The level of motor knowledge is the result of purposeful experience through movement. Purposeful movement cannot be random or arbitrary, but manifests itself as a "conscious" activity, i.e., the intention to perform a movement or sequence of movements. The development of motor skills and coordination are natural processes in human development. It takes place when appropriate experiences of natural movement are sufficiently present in all years of growth and development. It is assumed that the better the basic movement experiences are learned, the easier it is to improve coordination. The richer the movement experiences, i.e., the higher the total motor information, the easier and faster new motor patterns are adopted. Although sensitive periods for their development are associated with preschool and younger school ages, insufficient development of coordination can be "compensated" by enrichment of motor knowledge through movement at a later age. Unfortunately, modern lifestyles and reduced exercise at an early age also negatively impact the natural potential for coordination development in children. Hidden within each person is a visible and complex progression in the development of coordination. Coaches in sport dance must have an understanding and respect for each stage of development. The specific experiences gained on the path of aesthetic movement training make dance one of the best activities for the development of coordination in children.

The "Pyramid of Coordination Development" presented is taken from the book *Coordination for Ballet* by Ruth Brinkerhof (2018) and provides insight into each segment of coordination maturation and how they overlap and complement each other.

#### 1. Conscious movement (2 months - 2 years).

It begins soon after birth. As a special phase of development, it lasts until the second year of life, but continues to build and strengthen throughout life. It manifests itself primarily as a movement that arises from the thinking process. This is the basis of all coordination. As skills and abilities increase, motor planning becomes an increasingly important part of coordination. This is where self-awareness begins: size, shape, ability to move, ability to control and manipulate objects and connect with people in the immediate environment.

#### 2. Symmetry (2 - 7 years)

As an observed phase, symmetry implies a period from the second to the seventh year of life. During this stage, symmetrical coordination occurs. Both sides of the body move in the same way, either simultaneously or alternately, as in walking. Balance under gravity is achieved and maintained, and some aspects of building correct posture begin. Awareness of the body's position in space is increased. With the strengthening of self-awareness comes the emergence of self-esteem and self-confidence.

#### 3. Unit (3 - 6 years)

This phase lasts from the third to the sixth year of life. The unilateral coordination model develops and adds to the symmetry already present. This refers to the situation

#### 4. Contrast (5 years – 7 years)

Usually begins to show up around age five to age seven; in some movements it may appear much sooner.

### **COORDINATION DEVELOPMENT IN DANCE SPORT**

Without a detailed understanding of the regularity of the development of coordination, it is difficult to promote its development in the training process of sport dance. Coordination is fundamental to the development of movement technique, and the more understandable its naturalness, the easier it is to promote and guide its proper development at all ages. The level of coordination directly affects the quality of aesthetic presentation. Aesthetically coordinated movement mobilizes all the potentials of the performer. It consists of a series of segments that are enhanced and complemented. The motor segment appears first in the form of coordination skills. It represents a purposeful movement directed by the performer's intelligence, which is repeated until it becomes automated. At this level, the movement is performed without much energy or motor effort, and a prerequisite is created for the next segment, which adds an aesthetic touch to the movement. The

aesthetics of the movement depend, among other things, on the emotional experience of the performer and the ability to en-rich the choreography with it.

Understanding and paying attention to the regularity of the development of coordination will be very helpful in planning and organizing training work in sports dance. The use of stylized movement forms can improve the natural development of coordination in children. The need to establish and maintain correct posture in the training process of aesthetic sport certainly contributes to maintaining and improving natural movement patterns at all stages of development (Jovanovic & Ljubojević, 2020). Targeted development of coordinative skills is possible only with attention to these developmental stages. It takes place in several stages:

- Derivation of the standard technical structures of the sport branch;
- Execution of all exercises in the reverse direction (left to right and vice versa);
- Changes in the speed and rhythm of the exercises
- Modifications of elements of known techniques;
- Addition of new movements to known techniques;
- Increasing the load in situational exercises;
- Learning technical skills of other sports (according to Šimić & Šimek, 2006).

In the training process of aesthetic sports, advanced coordination skills depend on a strong foundation of learned basic skills. In the training of stylized movement, the aforementioned foundations are never neglected, but are systematically and continuously developed and improved throughout the sports career. Attention to the phases of coordination development in aesthetic sports is the key to mastering the most complex aesthetic manifestations, which later mature into true movement mastery. The formation of the aesthetically designed movement is a process that requires knowledge of the nature and lawfulness of the development of coordination, attention to and improvement of all the stages that precede the construction of an easy and supple movement, and on this path the coaches, leaders, teachers have the most responsible role. Training planning in the aesthetic sports should be based on the knowledge of the lawfulness of the development of all motor skills and, in particular, the development of awareness of the timely dosage of muscle tension for the purpose of nuanced dynamics of movement.

## CONCLUSION

It is known that in the aesthetic sports (rhythmic gymnastics, sports gymnastics, sports dance) the achievement of top athletic performance begins very early and with it the developmental path to reach the necessary physical potentials. In the esthetic sports, very complex motor tasks are performed by athletes of different ages at a very early age. With good training design and organization, top sporting performances are possible, as the adaptability of the child's body to specific training stimuli is very high. This requires knowledge and application of methodical principles in the development of motor skills, especially coordination, as well as an understanding of the physiological characteristics of the different developmental phases. For this reason, individualization in the training process of esthetic sports begins very early.

The fact is that the manifestation of coordination abilities directly depends on the intellectual and physical potential of the performer. In the training of dancers, the richness of movement experiences contributes to better dance coordination. Movement training, as mentioned earlier, is based on the use of ballet exercises in most esthetic sports. Through different ballet positions, the movements of the arms and legs are made conscious, and through symmetrical-asymmetrical activity, one learns, among other things, the dosage of tension in the muscles for the needs of optimizing energy consumption. The optimization of the movement and the sequence of movements naturally leads to a light and fused dance performance, which is very important from the point of view of the evaluation of the esthetic criteria. Although it is necessary to know the general laws of coordination development, the specificity of coordination in sports dance is reflected in the individual assessment of intellectual and motor maturity and, accordingly, in the setting and adjustment of coordination requirements and tasks in the choreography. For this reason, it is extremely important for coaches to adjust the motor, intellectual and energetic load to the athlete's mental and physical maturity.

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