

Dominant Motion Patterns of Gymnastics Activities for Elementary School

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Abstract. The dominant movement pattern in gymnastics is a pattern that underlies all gymnastics skills, especially dexterity gymnastics. In elementary schools, the material about dominant movement patterns is one of the scopes of physical education studied. The dominant movement patterns in agility gymnastics are landing, static positioning, locomotion, jumping, floating motion, and swinging. The provision of strong basic exercises of dominant movement patterns at primary school age will develop skills in gymnastics to the mastery of complex movements with difficulties high motion.

Keywords: Dominant movement patterns, gymnastics, elementary school.

1 Introduction

Sports are structured to be able to maximize the potential of human movement so that it will develop more complex and great. In accordance with the olympic motto, namely hendiatrix Citius, Altius, Fortius which means faster, higher and stronger. [1] The Olympics is the event that the greatest achievements in human exercise will be recorded in the history of human sports. It is the process of achieving the peak of this achievement that will be learned from the different experiences of coaches, coaches to produce olympic athletes. Coaching athletes begins from a tiered early age to a mature age of achievement. The proximity of coaching the development of biomotor abilities of early age athletes can be carried out by going through a special concentration of training as is done in the country of China, or can be done in general by entrusting to the private sector or school as the beginning of the coaching process. [2] The pros and cons of this training approach each have opinions that are believed to be true. The centralization approach has the advantage of emphasizing motion patterns in detail and specifically. But it has a psychological weakness that early athletes experience special training pressures. In the opinion of Popi sotiriadou argues that the development of athlete coaching will be influenced by a well-structured management system and control mechanism. [3] Whereas the exercise approach in general lacks emphasis on motion development specifically depending on the ability of the physical education teacher or student club coach but provides the advantage of psychological pressure leeway. According to Aine Mac Amara (2010) that in developing the advancement of their talents at an early age, it is necessary to apply

psychological behavior vigilance in the early stages of age to further optimize the development of the performance of prospective athletes. [3] Based on the foregoing, it is necessary in the preparation of the physical education curriculum to include the elements of complete biomotor formation needed by each sport. The element of movement that shapes the skills of each sport is what is called the dominant movement pattern of the sport. In each sport there is an analysis of the dominant use of physical skills [5][6]. Gymnastics is one of the sports that involves a lot of all muscles and joints in doing a movement. Movements in gymnastics are broad and beautiful movements with certain criteria or free. Dexterity gymnastics involves the ability of biomotors, physical and technique in producing motion with difficult difficulty factors. Floor gymnastics, Jumping tables and tools in artistic gymnastics are strongly influenced by the development of biomotor abilities and their biological lifespan. [7] In order to get maximum achievement for artistic gymnastics coaching, of course, it should involve education teachers in schools in shaping and developing their biomotor abilities. [8]. The discussion in this article is about the dominant movement patterns in the sport of gymnastics and the work system that is suitable for gymnastics coaching in general.

2 Method

The method used in this study is the Systematic mapping study. This paper pre-sents a study of 4 main areas of study. The methods used revolve around the main variable entities of the study of dominant motion patterns, learning levels, elementary school age students and gymnastics movement patterns. Articles found and peer reviewed were identified by the search engines PubMed, Crossref, GoogleScholar articles, Scopus and publications by local universities from 2012 to 2022. Here is a concept map of this study approach

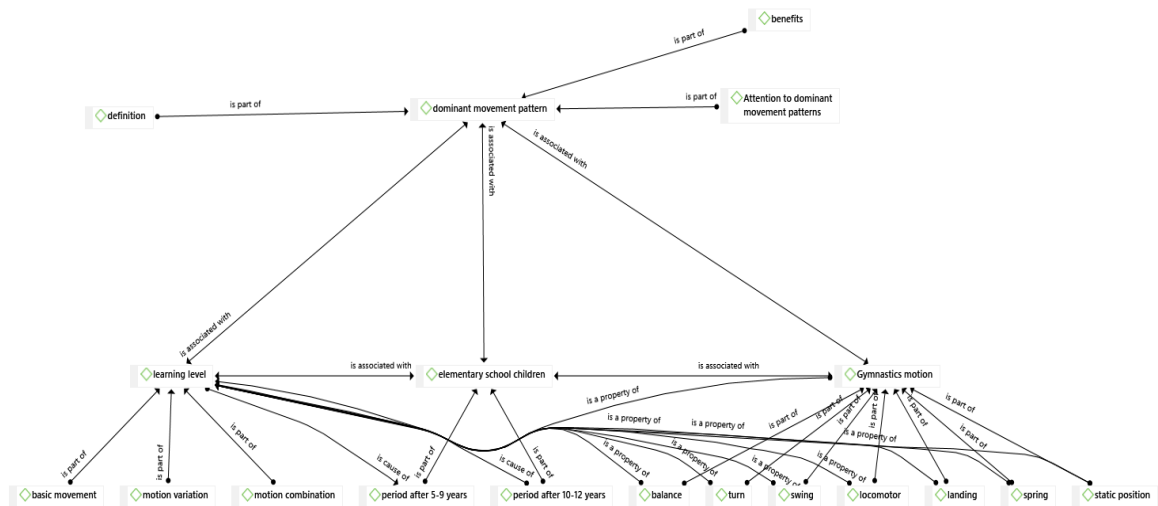


Fig. 1. Inter Connection Concept Map Field of study.

3 Results and discussions

3.1 Dominant Motion Pattern

The dominant movement pattern (PGD) is an element of movement that is widely carried out as the basis for specific movements in certain sports. If basic motor skills are learned, it will support the achievement of the development of these basic skills. The improvement of the quality of motor skills depends largely on the maturity of the motion of each phase of basic skills. The quality of motion in question is a broader, controlled, effective and correct movement. Correct basic motion skills will support mastery of more complex skills [9][10]. At the elementary school level, the dominant movement pattern approach to the scope of physical education becomes important in physical education learning. Advantages in the PGD approach the coach can estimate, plan, assign and monitor mastery of basic skills that useful in the development of the child's movements [11]. Details of dominant motion patterns may be conveyed on the basis, their variations and combinations to support further skills. The basis of motion. The division of learning skills in the dominant movement of the scope of physical education will be more specific at each level according to the growth and development of the child. Mastery of the elements of motion in the dominant pattern of motion requires the ability of certain physical conditions so that it is appropriately given for the physical development of the child as well [12]

The maturity of basic motion through the dominant motion pattern approach becomes the main goal at an early age. For this reason, it is necessary to take more detail in providing this learning. This attention is particularly concerned with how the movement is formed, the suitability and correctness of the motion with the breadth and function of the joints of motion, the emphasis on the exertion of controlled forces on the pedestal.

3.2 Physical education learning in elementary school

Physical education is one of the main teaching materials given to learning in schools. The emphasis of physical education on the development of physical condition, biomotor and sports movement skills. Physical education teachers can understand the paradigm of the curriculum so that the basic competencies that should be mastered at every level can be achieved [13].

Physical education in elementary schools has been compiled based on the motor development of children aged 7 to 12 years. This is interesting because there are characteristics of growth and development in the age range of 7 to 12 years. There are drastic physical changes including height, weight and body proportions, nervous system that affects intellectual and emotional development, muscle strength that affects the development of motor skills [14]. Based on the characteristics of physical growth and psychological development of elementary school children, it is divided into two, namely the learning class 1 to grade III, the age of 7 to 9 years and the class IV to the class VI, the age of 10 to 12 years [15]. Physically aged 7 to 9 years girls are shorter and lighter than boys, while at the age of 10-12 years girls become taller and heavier than boys, this physical development causes the child to strive to adapt in developing basic motor abilities for balance, strengthening and flexibility of muscles. Metacognitive development is also different in the phase of young children aged 7 to 9 years belum can independently solve problems effectively while the phase of large children 10 to 12 years old sudah begins to be able to fightrol emotions, trying to solve problems based on

experience [16]. Based on the above characteristics, physical education material is adjusted to the physical growth and metacognitive development of children in 2 categories of young children and large children [17][18].

3.3 Stages of motor learning for elementary school children

Material Physical education refers to the development and growth according to the basic level by paying attention to the motor abilities of the child. His learning of structured physical education ranged from simple movements to more complex movements, from movements that easily increased to more difficult movements, movements that used the strength of lightly pickled muscles increased towards movements that used and involved large strong muscles. The order of matter is a). Materi the basis of movements that contain basic motions that are naturally studied during development. Motor i.e. walking, running, jumping and throwing. These types of movements are divided into locomotor movements (moving places, non-locomotor (in place) and manipulative (using tools in a controlled manner) [17]. b). Materi about variation of motion which contains from the development of basic motion without reducing the corresponding motion key of motion the basis of motion. Developed variations of motion can be in the form of variations in the direction of movement and variations in forces or ways of performing movements. c). The material is a combination of motions that contain a series of movements that have been studied. To be able to development combination of motion perfectly the child at least mastered the basic elements of motion and their variations maturely. So that it will produce a perfect series of motions. Teaching materials for the combination of physical activity and attention exercises display a positive effect on students' visual retention rates, perception, attention, and motor skills [19].

3.4 Dominant movement patterns in Gymnastics Activity

Gymnastic activity is carried out by involving the entire limb in its movements. All Motion joints function optimally to support the combination of the elements. Gymnastics training is carried out by paying attention to the structure of the exercise sequence which includes 3 (three) phases, namely phase 1 (one) is a warm-up movement where the characteristic is to prepare all physiological functions of the body to move. The warm-up movement contains a static and dynamically rotating movement [20] to expand the space for joint motion in the form of a strengthening movement to balance the fulcrum in moving. There is a significant relationship between warming up and the risk of injury to gymnasts [21]. Sufficient warm up will prevent injuries from occurring due to extreme sports activities. Phase 2 (two) is the core movement. In this phase the movement is carried out with a combination of complex motions powered [22][23] with a difficult movement difficulty factor. Phase 3 (three) is a cooling that contains movements to normalize all physiological functions. The content of this phase movement is the movement of the thumping and relaxing of dynamic motion. Gymnastics activities have a movement key consisting of elements of motion that will be combined in one performance. The key to the movement is called the dominant movement pattern in gymnastics. Proficiency in the appearance of gymnastic movements is obtained when the basis of the dominant movement pattern is perfectly mastered and continues to be developed at the highest level. The following is the dominant movement pattern in question, namely:

- 1). Landing. Landing is the end in the framework of motion, which requires physical conditions to resist gravity and control of movement [24]. The type of landing movement

depends on the fulcrum when landing, one foot, hand, or a combination of foot, hand, and roll.

2) Static Position. The static position in the dominant motion in gymnastics is when holding the posture in a certain pose. Static position movement is essentially a movement of equilibrium with various pedestals [25][26]. The type of static position movement depends on the pedestal when the balance movement is static, for example the attitude of the flying boat using the pedestal of one foot, using the pedestal of the hands and feet, or the pedestal of the back, abdomen and even the movement of the headstand using the fulcrum of the head and hands.

3) Jumping / jumping (Spring). The essence of this jumping movement is the explosive power of the muscles to catapult the body [27]. Jumping can use a foot or two foot pedestal or even use a pedestal of the hands and feet. Jumping movements require the prefix and explosive power of the muscles to develop the height of the stepping.

4) Floating. The essence of floating motion is how to form various positions of gestures when hovering in the air [28][29]. The type of drifting movements in gymnastics can be in a perpendicular position, bending or squatting. Examples of movements are split leap, tucked jump,

5) Rotation. Rotational movement in gymnastics is a rotating motion of the body with various rotating axes, namely the longitudinal axis, the transverse axis and the medial axis [30]. The type of rotational movement in the longitudinal axis is the twist of the rotation in a perpendicular position. The rotation in the transverse axis is a rotating motion towards the front and back while rotating the left and right side collars using the medial axis.

6) Swing. A swing movement is a combination of movements consisting of a pedestal or hanger and a scut. The swinging motion requires a strong and sturdy pedestal or hanger on his weight arm that is in the shape of a movement that depends on the axis of the joint. Examples of this motion are swinging the limbs on the parallel crossbar, pocketing and swinging on the single-bar.

7) Locomotor. Locomotor movement is a movement of moving places that aims to gain momentum of motion [31][32]. This movement consists of using a type of fulcrum for example, it can use a foot pedestal, a hand pedestal or a combination of various pedestals on movements running, stepping wide and so on.

4 Conclusion

The dominant movement pattern is an approach to learning gymnastics using the main motion key developed in various basic levels, variations and combinations are generally given to children from an early age through primary school learning. It is appropriate if the physical education curriculum in the gymnastics activity material contains the dominant movement patterns developed at each level of the elementary school class.

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