



Section 2. Education system

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COORDINATION SKILLS OF PUPILS IN LEARNING PHYSICAL EDUCATION

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Abstract

With coordination skills should recognize the level of physical motor skills and general and specific motor organs of the entity, capable to realize duty motor with less errors. Coordination skills appear and express the level of “motor coordination”. So motor coordination is the most essential features of coordination skills. The higher rates of occurrence of motor coordination, the higher level of coordination abilities of the higher levels of educational quality learning outcomes of sports performed during the learning process of sports teaching of the subjects. The purpose of this review paper is to analyze the literature and understand any movement or any physical activity that is correctly and harmoniously performed to achieve concrete actions of physical education. In order to fulfill this review are using methods of literature analysis, and is made combination and comparison of data from various works of authors varied. In the literature used, one can clearly see the importance of understanding that, the higher the level of pupils’ coordination skills, the higher the level of acquisition of teaching tasks and the higher the level of motor skills education.

Keywords: *motor skills, movement, education, physical activity, students, amplitude*

Introduction

The concept and values of coordination skills

Coordinative abilities represent the property of human organization to consciously coordinate separate moving elements into a single whole, with the aim of achieving concrete moving objectives. This coordination

of movements is achieved only during their effective, stable and fluent learning process. (Brewer, 2015).

Coordinative skills precondition the speed and effectiveness of learning motor actions with a vital or sports character. They constitute the psychomotor basis of achieving high results. The improvement of motor

coordination also aims at the gradual motor preparation of children to face the needs of life, profession, career and entertainment in the future. So, coordination skills can be evaluated as the essence of pupils' motor preparation. (Fernandes, et al. 2016).

The level of coordination skills is determined, in the first place, by the skills of the individual, which can be summarized with the relevant characteristics as follows:

- Quick reaction to visual and auditory signals, but especially to moving objects;
- Speedy and accurate performance of the movement action within a certain time range;
- Differentiation of spatial, temporal and movement force parameters;
- Adapting to changing moving situations and to unusual moving targets that are set to be reached quickly;
- Predicting the position of the moving object at the right moment;
- Quick orientation of body movement positions in space and time, in relation to the surrounding environment (Kemp, et al. 2019).

Depending on the movement objectives that are defined, coordination skills can appear in the form of maintaining static and dynamic balance, performing actions at a certain pace and tempo, organizing the movement activity at the right time in accordance with the new requirements that a unexpected situation etc. (Donath, 2012).

Based on studies, experiments, experience and contemporary scientific achievements, the greatest intensity of natural growth of coordination skills occurs at the age of 4–5 years. This period of life, which has been considered as the “Golden Age” represents in itself the pace of development of coordination skills. We say this because if it is influenced with clear goals and objectives for their development, then at the age of 7–10, the child's organization is fully ready for a high level of growth. It should be noted here that in boys the level of growth of coordination skills is higher than in girls (according to age). (Mitchell, 2016).

Coordinative skills education tools

The basic means of improving coordination skills is practice (exercise). During this process, the effective development of coordination

skills is greatly facilitated when the following methodological steps are taken into account:

- Special development of special skills, such as reaction speed, adaptation to changing conditions, etc. which ensure a high level of coordination skills.
- Regular and correct learning of the technique of various movement actions, which are used as training tools. This is due to the fact that they do not constitute a source of new errors.
- Improving the functions of the analyzers, which help increase the level of coordination skills. Thus, for example, the use of horizontal and rotating tools helps a lot in strengthening the vestibular apparatus and, therefore, increasing the ability to maintain balance.
- Increasing the difficulty through the use of different physical exercises. This is accomplished by changing the spatial, temporal and dynamic parameters. For example, a spatial variation might be “move arms forward up, to the side, down; a temporal variation might be “fast circling of arms, slow circling of them”; a dynamic variation might be “high jump maximum and jump in its half” (Raiola, 2013).

The difficulty of the physical exercise (tool) can be increased by strengthening the external factor, specifically by changing the order of placing the tools, their weight, their height; changing the supporting plane, or increasing its mobility from static to dynamic, etc.; combining such movement habits as walking, running, jumping, catching and waiting for tools; performing exercises with signals or with limited time etc. (Mathisen, 2016).

Particularly effective in the education of coordination skills are the methodical processes aimed at presenting additional information. Thus, for example, it is valuable to use a mirror or visual guides to control movements. These facilitate the formation of skills. Limitation or complete removal of visual information can be used (dark glasses are put on, eyes are closed, a foggy environment). This makes it quite difficult to perform actions, but it empowers the analyzers (Mc. Keuzie, & Kahan, 2008).

The performance of coordination exercises, as a rule, is planned in the first half of the basic part of the lesson, because in the second part of the lesson fatigue comes and the exercise no longer has the proper effectiveness (Beni, et al. 2016).

Rest intervals between exercises should ensure a relatively complete renewal of the students' organism. In this regard, it should be borne in mind that the volume of exercises during the 45 minutes should not be large, because this is compensated by their continuous use in the series of lessons that follow (Armour, 2010).

Exercising (exercise) with the aim of developing coordination skills is considered effective as long as the movements are performed in an automated manner, otherwise they lose their value and stability. This is a decisive moment, which is generally not taken into account by teachers (Kasa, 2012).

Education of the ability to accurately orientate in space

Human spatial orientation is characterized by the ability to maintain clear images of changes in spatial relationships under the conditions of motor activity. These reports in the surrounding environment often take a different character, changing places. There are four states of these human-environment relationships:

- The person and the tools of the surrounding environment remain stationary, for example, shooting at the target with the small ball by the pupil.

- Changes are made only in the external environment, for example the position of the child in the game process.

- Only the spatial condition of the person changes, for example jumping high, long, from a height, etc.;

- Both man and the environment act dynamically (forces), for example mutual interaction between pupils in different game situations.

Human perceptions of changes in the surrounding environment in most cases depend on the refinement of previously formed reflex mechanisms (conditioned reflexes) in analogous situations of activity (Adolph, & Franchak, 2017).

The education of correct orientation in space takes place in several stages:

Strict application of methodical instruction

The essence of this thesis is summed up in that during the performance of the preceding exercise the main aim, which is the spatial orientation, which lies at the foundation of the movement structure, is emphasized. Here, the basis of the instruction should be the preliminary analysis and understanding of the features of the spatial reports as well as their changes during the performance of the exercise. This, without a doubt, ensures the quality of the exercise (Bernardi, & Andrews, 2009).

Motion correction

Correcting errors in the structure of the actions being exercised, using the quick information, makes it possible for the pupil to direct his movements to the objective of correct spatial orientation. The correction can be verbal or through the use of auxiliary, corrective, orienting devices (Zach, & Inglis, 2013).

Verbal correction contains the request (need) to correct the performance of movements such as: "earlier", "later", "less force", "more force" etc. While the equipment and tools provide accurate quantitative information with a convincing effect (chronometer, protractor, metronome, etc.). Verbal correction requires prior preparation by the one who uses it, giving answers beforehand to questions that may arise in the process of practicing (correction). The effect of the correction depends on the time of transmission of the erroneous information during the rest pauses. The shorter the pause, the higher the effect. This means that once the information about the error is given, the correction should start immediately in the exercise process, without delay (Markola, et al. 2016).

Methodology

In order to successfully carry out this review paper, we studied and analyzed the contemporary scientific literature and compared the data from different works of the authors. The methods used are: literature analysis, coordination skills and recommendations.

Conclusion

Based on the content of our material, we reached some basic conclusions, which we are listing as follows:

- Coordination skills are a necessary component for pupils' motor preparation;
- In the literature used, one can clearly see the importance of understanding that the higher the level of students' coordination skills, the higher the level of mastery of teaching tasks and the higher the level of motor skills education;
- The effects of coordination skills derive from the time and preoccupation devoted to them;
- Coordinative skills are in specific relationships with other motor skills. These reports appear in accordance with the psychological, technical, educational, volitional, etc. component;
- Coordination skills, without underestimating other motor skills, is one of the most important skills.

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