DEVELOPING COORDINATIVE CAPACITIES BY MEANS OF MOTOR SKILLS AND/OR ABILITIES IN PRIMARY SCHOOL PUPILS

Petronel MOISESCU`[1], Ali GURBUZ[2]
"Dunarea de Jos" University of Galati, ROMANIA[1]
Mimar Sinan Fine Arts University, TURKEY[2]

Summary

Supporting the development of motor skills requires a safe open space, where children of similar ages may interact under the supervision of a specialised teacher. The support of developing coordinative capacities is more complex. Helping a child develop his coordinative capacities requires time, planning and various didactic materials. At a young age, children have sufficiently developed coordinative capacities and are able to ride a tricycle or bicycle, climb stairs, tip toe, jump over an obstacle, catch and throw a ball, dress themselves, use the scissors and draw or paint a figure. Physical activity has a key role in the physical, cognitive and social-emotional development of the child.

Key words: *coordinative capacities, motor skills and/or abilities, pupils, dosage, complexity, difficulty, motor experience.*

INTRODUCTION

So far the field of physical education theory and practice has gathered a rich experimental material attesting huge possibilities to develop the motor capacities, especially the coordinative ones in elementary school pupils. All the experts in the field of sports and physical education agree that exercises based on coordination have to be introduced at ages prior to adolescence as adolescence itself is not the most suitable time to start elements of coordination training (Dragnea A. 1999, p. 136). At the same time, the influence of coordination capacities on the general motor skill of young elementary pupils has not been studied enough.

The science of physical education is a part of pedagogy with its general and specific links, determining the content and structural forms of the physical education as a pedagogical process, organically included in the general system of human formation.

By applying the appropriate technologies the objectives of general education may be attained, whereby physical education is treated as a unitary process of developing and improving children in point of motor skills, stimulating their intellectual activity, influencing their affective processes, developing their interpersonal relationships, dynamising their mental processes: motor memory, tactical thinking, kinaesthetic sensations, forming skills and abilities in daily activity (Crăciun G., 2001, p. 88).

Performing motor acts, general or specialised in character, differ from a person to another, being dependent on the level of mastering the motor skills which are part of the act's structure and the development indices of each individual on the motor line. In school physical education, it is not a matter of appropriating techniques, but of developing the general qualities resulting in the physical acts of professional life and spare time becoming more efficient and agreeable (Cîrstea G, 2000, p. 79).

Elementary school includes pupils aged 7 - 11, an age group representing an essential moment in the child's life due to the changes that occur. Small children (pre-puberty 6 – 11 year-old girls and up to 12 year-old boys), characterised by the beginning of school and an impetuous gestural behaviour, display an overt attraction towards sport and sporting competitions. This age (as children are small and light) may be considered a highly favourable stage in learning for the basic technical training (Prescorniță A., 2004, p. 143).

Training coordination, according to Rată G. (2008, p. 133) should be introduced when the plasticity of the nervous system is high, and motor habits have not yet become permanent. The scope of coordination training changes in adolescence, when the physical development alters the motor habits already formed (Thomas R., 1995, p. 21). During this stage, the refining of motion should be more important than acquiring new motor skills. In the post-adolescence stage, coordination traini8ng may be brought again to a new higher level (Călin R., 2009 p. 126).

MATERIAL AND METHODS

In order to obtain higher development indices for motor skills it is necessary to work hard, subjecting the pupils' body to adequate efforts, the main condition to develop motor skills.

To maintain and develop a high level of the parameters of motor skills, training should be consistent. Repeating the acting means within the lessons provides the necessary conditions to improve brain activity, consolidating the conditioned and unconditioned connections,

simultaneously improving the vegetative coordination of the bodily functions, thus increasing the functional efficiency of various organs and systems.

Similarly, in order to develop the school curricula drawn up and approved by the Ministry of Education and Research mention under the learning contents for the first two grades only the coordination of motor actions performed individually, and for grades 3 and 4 the coordination of body segments in actions of increasing complexity, the coordination of actions in relation with a partner, object handling. All these learning contents are subjected to the main objective "the extension of the own background of basic motor skills, which are utilitarian applicative and elementary, and the development of the related motor qualities". These main objectives are compulsory, together with the reference objectives, and the standards of curricular performance. The reference objectives are disseminated along the 4 years of school , aiming at acquiring the capacity of performing motor activities with the fastness indices, promptly and appropriately responding to visual, auditory and tactile stimuli; performing motor tasks with progressively increasing degrees of complexity, body handling (running, jumps, climbs, crawls, tractions, pushes, etc.) only by the force of the muscles; performing and bearing uniform and variable efforts of prolonged duration.

The theory and curricula of physical education and sports divide the physical education lesson into 8 moments. Thus, in the lesson of physical education, the moment destined to developing motor skills should be placed after the preparation of the body for effort and the analytical processing of the locomotive apparatus, for speed or coordination. It is due to the fact that at this moment the attention and plasticity of the cortex as well as the functional parameters of the circulatory and respiratory apparatuses are prone to effort characterised by coordination or speed. The motor skills of strength or endurance belong to the 6th moment of the lesson, before the recovery of the body for effort, i.e. towards the end of the lesson, when the pupils' body resents a certain degree of fatigue.

One should also stress the importance of rest periods, pauses necessary for the recovery of the body. In order to increase the level of the bodily functions, of the motor skill parameters, the effort has to be repeated in such a manner so that the overcompensation periods resulting after the effort and the proper pause should provide an ever higher functional level (Bompa T., 2001, p. 256). This aim may be achieved by a consistent training process, in which the effort and the rest periods should alternate regularly.

The deep study of the processes of recovery and overcompensation of the body revealed that it is important when the effort is repeated. According to many researchers, there are three possible opinions on this issue:

- if the effort is repeated after the effect of overcompensation after the previous effort is over, there is no improvement in training;
- if the effort is repeated before the recovery process after effort has reached the initial level , instead of an improvement of the bodily functions there occurs exhaustion;
- if the effort is repeated in the period of overcompensation, the maximum effect is obtained and the progress aimed at by the teacher is attained, i.e. the progressive increase of the functional capacity of the pupil's motor skills;

These data show that in the conditions of the physical education lesson at the level of pupils in the prepubescent stage, importance should be given not only to effort, but also to the subsequent rest which has to correspond to the fatigue phenomena determined by effort.

The effort intensity and duration has to be taken into account in the training of the pupils, as well as its biological peculiarities. It has been asserted that during the successive growth periods, the development of the various body parts is not parallel or in the same proportion. That is why there occur disparities between the various parts of the same system, and as a result it is necessary to adapt the exercises to the peculiarities and real potential of the body at different ages (Alexe N., 1993, p. 374).

Subjects learning to master elements associated to a good coordination (balance, rhythm, spatial orientation, response, etc.) are much more advanced than those who are not exposed to this type of stimulation through exercise up to older ages (Nanu L., 2010, p. 33). The capacity to develop an optimal coordination ends around 16. It accounts for the fact that total , early exposure is the key to good coordination.

PERSPECTIVES

An aspect worth noticing in point of coordination is the major role played by genetic predisposition. Less coordinated children will probably never exhibit the tendencies of naturally coordinated children, no matter how much exercise they may take. Of course, it does not mean that there is not room for improvement — on the contrary.

As in any other field, a significant issue in developing coordination is offering specific (i.e. appropriate) stimuli to the individual. Prescribing drills which are too easy or too difficult will lead to less than optimal results.

It is important to mention that coordination development is a process comprising years of exposure based on diversity and adaptability. The subjects cannot be limited to specific stimuli at an

young age if they are expected to later become top athletes.

Like in any other case, an important aspect in point of coordination development is to provide specific, i.e. accurate, stimuli to the individual. Prescribing drills which are too easy or too difficult yields results below the optimum level.

Also, the optimum development of coordinative abilities at a young age in school may be achieved by the following *methodological procedures*:

1. Effecting acts and/or methodological actions in relatively constant conditions represents a methodological procedure which operates in educating coordination as long as the movement structures are situated in the initiation stage of the motor education; the arguments at the foundation of this procedure in the context mentioned above are: the acquisition of new motor acts which determine the increase of the motor load which constitutes the basic factor in conditioning the value of coordinative abilities; the quality of executions is favoured, facilitating the subjects' passage to action by triggering activities reflected at the level of the central nervous system, linked to the previous personal motor experience of each individual. Once the motor acts and actions have been fixed and consolidated, their execution is achieved automatically to a greater extent, and the influence upon coordination development is noticeably decreased.

2. Effecting motor acts and/or actions in more difficult conditions (the procedure is achieved by the gradual increase of the difficulty of execution and movement structures). Out of the increased difficulty elements, the most common are: modification of the initial execution positions; changing the execution sequence of the various motor skills; changing the execution pace; executing physical drills on music; diminishing the dimensions of the working space; increasing the number of executions on the same space; including supplementary working tasks; effecting certain motor skills in the presence of a partner or in cooperation with several teammates; effecting certain motor acts in the presence of passive, semi-active, active opponents; effecting certain time-conditioned motor acts or actions.

3. Effecting motor acts or actions in variable applicability conditions (the process is based on the idea that in physical education or sports activity, the more or less automated motor skills are not used in isolation or in identical internal or external applicability conditions). As a result, these conditions permanently compel subjects to apply complex adaptation processes or corrections of the movements within the motor acts occurring at a certain given moment, which determines superior demands on the coordinative ability.

4. Motor skills and /or abilities pertaining to individual sports branches or events executed in competition conditions, which create the premises for superior skill education. The thrill of the competition and the desire to get good results considerably alter the consolidation conditions of the various technical procedures, requiring subjects to adapt and correct their movements.

5. Motor skills and/or abilities specific to certain sports games and the sport game in its entirety are among the main categories of methods with a positive impact on coordination development. The application conditions of the technical and tactical procedures in sports games are always new and unpredictable, imposing the grasp on situations, choice of solutions, in-progress execution correction, change of plan and initial actions, synchronisation with the partners (thus leading to a high degree of coordination).

CONCLUSIONS

In order to effectively apply the specific methodological procedures, the following should be observed:

- the stress in the training process should lay on the constant increase of the motor experience of the subjects;
- the motor structure of the exercise acting on coordination development should have as high a difficulty degree as possible, the main parameter of the effort involved being its complexity;
- in case the motor acts or activities predominantly contain elements of natural movement (walking, running, jumping, throwing), the exercise has to be performed globally. Fragmenting the learning in this situation according to the rule"From simple to complex" cannot positively influence coordination;
- in the sports training lesson as well as in the physical education lesson the topics planned for coordination approach will be taken up immediately after the warm-up part , when the body is in an optimal state for specific physical and mental efforts;
- the rest intervals between the repetition of the exercises conceived for coordination development should be long enough to allow the recovery of the body after the effort and be active in order to maintain the central nervous system in a state of excitability.

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SPORTSMEN SELECTION AND PROMOTION IN SWIMMING ANATOMICAL, BIOLOGICAL AND PSYCHOLOGICAL CRITERIA

Ioan ONEŢ
„Dunărea de Jos" University of Galaţi

Summary

Present paper aims to establish which are the most important selection criteria for 5th grade sportsmen of the LPS Braila. These criteria can help the specialists in the field to perform a thorough selection, based on concrete experimental data. Also, the paper highlights a variety of factual data that specialist in this field can use in the ongoing process of selection.

Keywords: *selection, promotion, anatomical criteria, biological criteria, psychological criteria*

Selection concept was originally used into a socio-economic action, scientifically fundamented in the earliest twentieth century for precoucious diagnosis of the professional skills and the orientation of the talented ones towards a profession or another, based on tests and methods meant to reveal manual dexterity skills, accurately and fast reception and learning of motive schemes.

By extension, the selection concept was assumed by sport activity in the third decade of the twentieth century, to designate a similar action, of detection motive abilities for performance in sport. Being a indefinite concept, selection suggested only the beginning of sport training action which, over the years, knew various expressions recorded in the specialty literature.

The most frequently used expression was *early specialization*, which expressed the concern for child orientation towards a test or sport's branch since early age. Later, in the 60's, *precoucious initiation* expresion show up, which represent the sport specialization orientation towards a preliminary and preparatory process of the future consecration from an early age. Afterwards was used (and the expression was mantained) *primary selection*, which represents the moment of the child entrance – based on certain criteria – in specialized sport establishments.

But, when the *The national system for selection and training* was elaborated, another expression, more appropiate, was established. First of all, the selection act isn't isolated and doesn't represent, in any case, a purpose in itself because, once completed, causes a preparation process that leads to another step of the selection. So, the selection is a process carried on until the upper limits of performance are reached.

THE IMPORTANCE AND NOVELTY RATE OF THE THEME

The swimming favorable impact on the body is underlined in great majority of speciality literature. Some authors which tried to compile a classification of the physical exercises depending on effort, frequently poses swimming on the first place.

Changes occurred on the organism of those who practice swimming shows at the level of organs or systems isolated viewed, but also over the general process of growth, hardening and strengthening the body resistance, of increasing the general effort capacity.

RESEARCH GOAL, WORK HYPOTHESIS

Structure and content of sport training lessons in swimming should provide technical posibilities of work regarding participation at competitive activities.

Instruction process within training lessons it is mostly set up regarding sportsmen participation in competitive activities. But it has several aspects