

The Importance of Motor and Coordinative Ability

Raghupathi K.*

Physical Education Director, Indian Academy College, Bangalore

Abstract – During the training process, the development of coordinative abilities represents a priority from the first stage of training. Coordinative abilities, as well as speed, are genetically determined; therefore the possibility of improving them is lower for athletes who do not have these innate abilities. Training coordinative abilities at the proper time is crucial in what concerns future development capacity. Developing coordinative abilities to a higher level influences learning and perfecting new motor acts and their stability over time, promotes an efficient execution of motor acts and actions, in various conditions, supports better use of the other conditional abilities, encourages restructuring movements in high performance training phases and improving basic and applied motor skills.

Keywords: - Coordinative Abilities, Methods, Means, Performance.

INTRODUCTION

Fundamental to success in education or any others facet of living is good health and it cannot be achieved in youth unless growth and development take place in an acceptable manner. A sound mind in a sound body, so a sound body is necessary for the child to achieve his full educational potential. Unless he has the capacity to develop the physique and physical fitness with the limit set by the heredity, few, if any of the educational objectives can be achieved.

Although growth and development in general follows a pattern, there are wide variations and differences within this pattern, while growth is generally viewed as increase in height, weight and size. Development has to do more with functioning and the body mass. Therefore growth represents an increase in mass, while development indicated an organization of mass with respect to its functional abilities. They may go on simultaneously, but may also proceed independently of each other.

IMPORTANCE OF MOTOR AND COORDINATIVE ABILITY

Sports achievements are based on optimum level of training to develop motor and coordinative abilities. Both motor and coordinative abilities are the pre-requisites to achieve excellent results in competitive sports. Motor ability is primarily a skill-related components of fitness and refers to a number of inter-related factors. Motor abilities requires the effective transmission and management of messages and responses between the central nervous system

and the peripheral nervous system. The peripheral system collects information via the sensory system, the central nervous system receives and processes this information and sends an appropriate response via the motor system, which initiates the appropriate response.

Motor fitness is perhaps more applicable to the sports person. However, it can have an indirect effect on the improvement of out fitness in the other health-related fitness components. Development of specific skills can improve our performance of certain activities. Skilful movements are more efficient ; if we move skillfully we can improve the effectiveness of the activities we perform. In addition, by learning to perform exercise with the correct technique, we will reduce the risk of injury that can be caused by moving with our body alignment. Therefore, improved motor ability will maximize both the safety and effectiveness of our performance.

Since five motor abilities namely strength, speed, endurance, flexibility and agility are considered to be the components of physical fitness. But since recently, the word agility is replaced by the word coordinative abilities. To avoid mis-interpretation and to be more scientific. Blume suggested that there are seven coordinative abilities which are important.

STATEMENT OF THE PROBLEM

The purpose of the study was to study the cross section analysis of the motor and coordinative

abilities among eleven to fourteen years school boys.

DELIMITATIONS

1. The study was determined to one hundred and twenty school boys were selected.
2. The study was delimited to the subjects ranged between 11 to 14 years of boys.
3. The study was delimited to 30 boys in each age group.
4. The study was delimited to the motor and coordinative abilities as suggested by Peter Hertz.
5. The study was further delimited to different four abilities each from motor and coordinative abilities such as:

MOTOR ABILITIES :

- I. Speed
- II. Leg explosive strength
- III. Abdominal Muscular Endurance and
- IV. Flexibility.

COORDINATIVE ABILITY :

- I. The Differentiation Ability Of The Hands.
- II. Space Orientation Ability.
- III. Dynamic Balancing Ability
- IV. Reaction Ability

LIMITATIONS

1. Non-availability of sophisticated instruments were not used to measure the motor and coordinative ability of school boys.
2. No special motivational techniques was used during the assessment of test, the performance given by the subjects were consider as genuine.
3. Participation of the subjects in physical activity of different nature in and out of the school, diet, which might have affected on motor and coordinative abilities of the subject, was taken as another limitation.

HYPOTHESES

On the basis of available literature, expert opinion and scholar's own understanding of the problem, the following hypothesis were made:

1. It was hypothesised that there would not be significant difference in speed performance among 11 to 14 years school boys.
2. It was hypothesised that there would not be significant difference in leg explosive strength among 11 to 14 years school boys.
3. It was hypothesised that there would not be significant difference in Abdominal muscular endurance among 11 to 14 years school boys.
4. It was hypothesised that there would not be significant difference in flexibility among 11 to 14 years school boys.
5. It was hypothesised that there would not be significant difference in differentiation ability among 11 to 14 years school boys.
6. It was hypothesised that there would not be significant difference in the space orientation ability among 11 to 14 years school boys.
7. It was hypothesised that there would not be significant difference in dynamic balancing ability among 11 to 14 years school boys.
8. It was hypothesised that there would not be significant difference in reaction ability among 11 to 14 years school boys.

SIGNIFICANCE OF THE STUDY

1. The result of the study may be useful to the physical education teachers and coaches to understanding the pattern of development of various motor and coordinative ability among 11 to 14 years school boys.
2. The result of the study may helpful to coaches and physical education teachers for formulating appropriate training programmes for the development of different motor and coordinative abilities.
3. This study may be helpful to identify sports talents based motor and coordinative abilities and also to identify suitable events based on their abilities.
4. This study may also helpful to physical education teachers to make classification of

the students on the basis of motor and coordinative abilities.

Definition and Explanation of the Terms

Speed

Speed is the capacity of the individual to perform successive movement of the same pattern at a fast rate.

Muscular Endurance

The capacity of the muscle group to sustain work over long periods of time.

Flexibility

Flexibility is the ability of a person to use his or her joints and musculature to the limits of their range of movement.

Explosive Strength

It is a combination of strength and speed; it may be defined as ability to realize maximum force in the fastest possible time, as exemplified. In broad jump and other movement against resistance in a maximum of time.

Coordinative Abilities

Coordinative abilities refers to first, the ability expediently to form, coordinate and link into an integral whole the motive actions, secondly the ability to transform action already worked out of to change from some over to other depending on requirements of changing situation.

Differentiation Ability

Differentiation ability is the ability to achieve high degree of movement accuracy and economy of separate body parts and mechanical phases of total movements.

Orientation Ability

Orientation ability is the ability to analyze change the position and movement of body in space and time related to defined action.

Balance Ability

Balance as the ability to maintain body position is necessary for the successful performance of sports skills.

Reaction Ability

Reaction ability refers to the interval that elapses between the movement of stimulus presented to a person and the movement. Some measurable movement can be made in response to it.

REFERENCE

- Bob Devis, et al., Physical Education and Study of Sports (4th Ed., Mosby: Harcourt Publisher Limited, 2000), P.271.
- Daryl Siedentop, Introduction to Physical Education, Fitness and Sports (2nd Ed; London: Mayfield Publication Company, 1990), P. 371.
- Debbie Lawrence, The Complete Guide to Exercise in Water (London : A & C Black Publisher, 1998), P.36.
- Dietrich Harre, Principles of Sports Training, (Berlin: Sportverlog, 1982), P. 153.
- H. V. Nataraj, "Importance of Coordinative Abilities in the Sports Performance", Sports Science Bulletin, 1:2 (January 2005), PP.8-11.
- Harold M. Barrow, Man and Movement: Principles and Physical Education (Philadelphia : Lea and Febiger, 1977), P. 141.
- Herold M. Barrow and Roe Mary Mc. Gee, A Practical Approach to Measurement in Physical Education (3rd Ed; Philadelphia: Lea and Febiger, 1971), P.215.
- L. Matveyer, Fundamentals of Sports Training (Moscow: Progress Publishers, 1981), P.146.
- Leonard A. Larson, Encyclopaedia of Sports Sciences and Medicine (New York: MacMillan Company, 1971), P.71.
- Peter Hirtz, Physical Education Programme in School, (Berlin : Volkscignner, 1985), P. 183.

Corresponding Author

Raghupathi K.*

Physical Education Director, Indian Academy College, Bangalore

E-Mail – ragupathi.reddy3@gmail.com