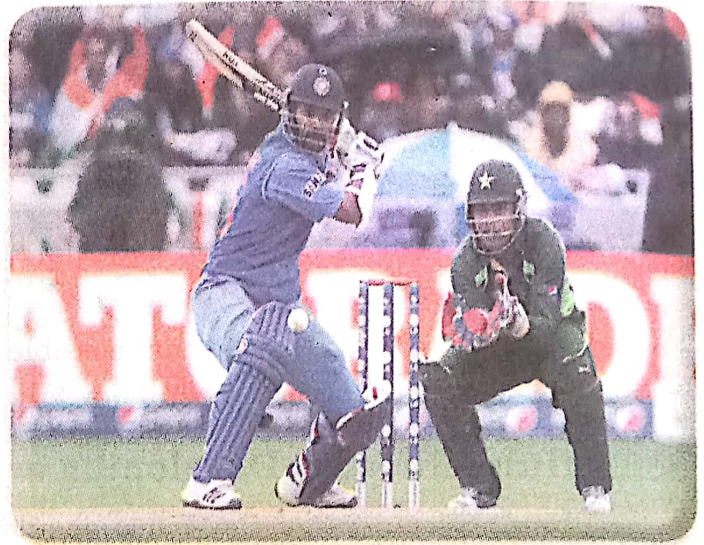


Coordinative Abilities

Before 1980, speed, strength, flexibility and agility were considered the main components of physical fitness, but after that the term 'agility' changed into coordinative abilities. The term 'agility' was discarded because it was not clearly defined and there was no unanimity in its meaning. So, nowadays, "coordinative abilities" is used in place of agility. Mainly coordinative abilities depend on the central nervous system. The coordinative abilities are those abilities of an individual which enable the individual to do various related activities properly as well as efficiently. Our accuracy, rhythm, flow and constancy depend on our coordinative abilities. It is not easy to define coordinative abilities owing to their complex nature.



Coordinative abilities in sports

According to **Zimmerman et al**, "*Coordinative abilities are understood as relatively stabilised and generalised patterns of motor control and regulation processes. These enable the sportsman to do a group of movements with better quality and effect.*"

Coordinative abilities are significant in sports and games. These are required for qualitative movements. As a matter of fact, the beautiful and graceful movements are a product of well-developed technical skills and coordinative abilities. The learning speed of a skill also depends on the level of coordinative abilities.

Types of Coordinative Abilities

There are various coordinative abilities which are very significant in the field of games and sports. The types of coordinative abilities are mentioned below.

- 1. Orientation Ability:** It is the ability to determine the position of the body and its parts in time and space in relation to gravity, moving objects like ball, opponent, partner, playing field, etc. This ability depends on functional capacity of sensory organs like eyes, kinesthetic sense organs, etc.
- 2. Coupling Ability:** Coupling ability is the ability to combine the movements of different body parts for performing perfect sports movements. This ability is very significant for approximately all sports but specially in team games, gymnastics and combative sports (boxing, wrestling, etc.). For example, in boxing, the movements of hands, head, trunk and feet are essential to couple to achieve a certain goal.
- 3. Reaction Ability:** Reaction ability is the ability to react immediately or quickly and effectively to a signal. Generally, there are two types of reaction ability such as simple reaction ability and complex reaction ability.

- (a) **Simple Reaction Ability:** It is the ability to react immediately or quickly in already determined manner to a well-known signal. For example, the reaction of a runner in the start of sprint races is already known to the runner.
- (b) **Complex Reaction Ability:** It is the ability to react immediately or quickly and accurately to undermined or unexpected signals. These signals are unexpected for sportsperson because he/she does not know when and to which signal he/she has to react such as facing the ball in cricket by a batsman and tackling opponents in football or basketball.
4. **Balance Ability:** Balance ability is the ability to maintain balance during the complete body movements and to regain balance quickly after the balance-disturbing movements. It can also be defined as the ability to control the body's position, either in stationary position (e.g., a handstand on parallel bars or horizontal bar) or while moving (e.g., water skiing and performing on the balancing beam). This type of ability is required in most of the games and sports.
5. **Rhythm Ability:** Rhythm ability is the ability to observe or perceive the rhythm of a movement and to do the movement with the required rhythm. In gymnastics or figure skating, the sportsperson has to observe an external rhythm, given in the form of music and to express it in his movements. Rhythm ability is also required in synchronized swimming. In various sports, rhythm is not given from outside, the sportsperson uses the rhythm which is already stored in his/her motor memory. This type of ability is significant in gymnastics, synchronized swimming, diving, figure skating, etc.
6. **Adaptation Ability:** Adaptation ability is the ability to adjust or change the movement effectively on the basis of changes or anticipated changes in the situation. The change in situation can be expected one or can be sudden or unexpected one. In other words, it can be said that it is the ability to solve motor task, effectively in spite of changed or changing situation.
7. **Differentiation Ability:** Differentiation ability is the ability to achieve a high degree of accuracy and economy of separate body movements and movement phases in a motor action. The high level of this ability depends on experienced movement and the degree of mastery over motor action.

10.6 CIRCUIT TRAINING— INTRODUCTION AND ITS IMPORTANCE

Circuit Training

Circuit training method was designed by **G T Adamson** and **R E Morgan** of Leeds University in 1957. It is a scientific arrangement of exercises, performed systematically and repeatedly as circuit. Circuit training consists of various types of exercises.

"Circuit training is the training method in which certain exercises of various kinds are performed with or without apparatus with given dosage." —**Adamson and Morgan**