Explore skill classification and emphasize the differences between individual, co-active and interactive.

Skill is defined as 'learned ability to bring about predetermined results with maximum efficiency and minimum outlay of energy and time' (Knapp 2000).

There are a number of different types of skill. Skill can be divided into thinking, seeing and doing skills. They are given more technical terms; cognitive skills, perceptual skills and motor skills, there is also perceptual motor skills.

Cognitive skills are thinking skills and often known as intellectual skills, they involve thought processes. For example adding up the amount of goals a player has scored, dividing it by the number of games they have played to get a goal to game ratio.

Seeing skills are also known as perceptual skills, we may see the same as someone else but interpret it differently. A typical example would be the picture of 2faces and a goblet, some people will pick out the faces whilst others will pick out the goblet, others may pick out both.
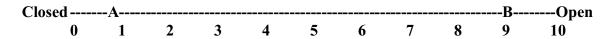
Motor skills are doing skills; they involve the muscular system and relate to the movement and control of muscles. Walking and running are both motor skills.

In sport, skills tend not to be just one type but several. Most skills are referred to as perceptual motor skills as they involve all categories; thought, interpretation and movement.

The importance of being able to group skills is evident when attempting to teach, or be taught the skills. Knowing a general requirement of a skill enables us to choose the best form of learning and best practice environment.

There are various methods of classifying skills. Many of the theories are based on skills being classified on a sliding scale depending on their requirements. Barbara Knapp recognised two basic classifications. She said that skills could fit onto a continuum between open and closed.

Open skills are seen as predominately perceptual and tend to have no clear beginning or end. They are affected by the environment, meaning that the environment has more control than the performer over the movement. This is known as an externally paced skill. Closed skills are predominately routine and can be performed without much thought as it comes naturally, after it has been learnt. Closed skills have a clear beginnings and ends and are not affected as much by environment.

Knapp's open-closed continuum:

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Closed -------A--------------------------------------------------------------B--------Open
          0     1      2      3      4      5      6      7      8      9      10
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      A- Athlete performing shot-put
      B- Goalkeeper attempting to save a shot.

When an athlete performs their shot-put attempt they follow the same routine and technique. This technique is not vastly affected by surrounding environment. However when a goalkeeper attempts to save a shot they have a lot more factors affecting them:

where the ball is aimed, the quality of surface, the positioning of the keeper. It is affected by environment and the skill has to be adapted.

This method of classification is also used to categories skills between two extremes in other cases.

Self Paced --------C---D---------- **Externally Paced**
$$0 \quad 1 \quad 2 \quad 3 \quad 4 \quad 5 \quad 6 \quad 7 \quad 8 \quad 9 \quad 10$$

  C- Serving in Volleyball
  D- Blocking in Volleyball

The pacing of skills can be put on a continuum between self-paced and externally paced. Self-paced skills are skills in which the performer has control over the movement, for example serving in volleyball where the player controls timing, speed, positioning. Externally paced skills are controlled more by the environment for example blocking a shot in volleyball, the skills is performed in the circumstances set by the opponent, where they place the ball, the speed they place it at.

Gross -------E--F-------- **Fine**
$$0 \quad 1 \quad 2 \quad 3 \quad 4 \quad 5 \quad 6 \quad 7 \quad 8 \quad 9 \quad 10$$

  E- Passing rugby ball
  F- Directing ball in bowls

Gross and fine skills are also used on a continuum; gross skills involve large muscle group movements, for example passing a rugby ball. Fine skills use small muscles and groups such as directing a ball in bowls.

Continuous -----G--------------------------Serial--I------------------H---- **Discrete**
$$0 \quad 1 \quad 2 \quad 3 \quad 4 \quad 5 \quad 6 \quad 7 \quad 8 \quad 9 \quad 10$$

  G- Basketball dribble
  H- Goalkeeper attempting to save a shot.
  I- Javelin throw

Discrete, continuous and serial skills are placed on a continuum based on existence of an obvious beginning or end to the skill. Discrete skills have a clear beginning and end, for example an athlete performing a long jump. Continuous skills have no clear start or finish, dribbling a basketball involves continuous change of balance, direction and activity. Serial skills are made up of a number of discrete and continuous skills, for example a javelin throw.

One skill can often be classified using all of the continuums.

The advantages of classifying skills on continuums are firstly having the ability to group them. It also allows skills to be ranked on more than one level. Disadvantages however include that perceptive nature of continuums means that one person's interpretation can be very different from someone else's.

Skills can also be classified according to surrounding and environment, individual skills, co-active skills and interactive skills.

Interactive skills are performed in isolation and we are the only performers at a particular time. For example in a diving competition, we dive and are then followed by another performer.

Coactive skills however are performed at the same time as other performers but without direct confrontation. An example of coactive skill would be a 100m race, you run alongside others but they do not physically influence your performance.

Interactive skills are the opposite of above where we perform with others and they are directly involved and have a direct influence on skilful performance. They provide active opposition. Rugby is a prime example for interactive skills where your opposition force you to adapt your skills continually.

The classification of skills in sport is essential to be able to learn properly, skills required foe a performance. If a skill is known and classified it can be specially targeted with specially designed training. This should emphasize and increase the quality of the skill when it is performed.

A major factor in the development of a skill is practice. There are two main types and these can be determined be the type of skill needed to be practiced. Variable practice involves practicing a skill in a variety of different circumstances and facing the full range of situations in which the technique or tactic might be used in competition. The learner applies the skill to a number of environments in practice, allowing both the development of the skill and the ability to adapt the skill to a range of possible situations. Variable practice is vital for open and interactive skills.

Fixed practice is the other form of practice; a specific movement is practiced repeatedly. This type of practice is designed for skills that are always performed the same way no matter what the environment. Closed and coactive skills tend to be practiced with fixed practice as they will stay the same in practice as in competition. Fixed practice can also be used to learn interactive skills before they are put into situations.

Skills and the level they can be performed at can also affect the organisation of a practice session. Practice can be 'massed' where a skill is practiced until learnt without a break, or 'distributed' where the practice is interspersed with breaks of either rest or another skill. Massed practice is aimed at athletes with high fitness and experience whereas distributed practice is aimed at lower level participants.

It is being able to classify skills which enables use to determine the type of practice needed and therefore the development of our skills.

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