# Topic 5: Skill in sport (15 hours)

### The characteristics and classification of skill - 4 hours

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| **Group** |  | **Assessment statement** | **Obj** | **Teacher’s notes** |
| A | 5.1.1 | Define the term *skill*. | 1 | Skill is the consistent production of goal-oriented movements, which are learned and specific to the task (McMorris 2004). |
| A | 5.1.2 | Describe the different types of skill. | 2 | Limit to cognitive, perceptual, motor and perceptual motor skills. |
| A | 5.1.3 | Outline the different approaches to classifying motor skills. | 2 | Limit to (i) gross–fine (ii) open–closed (iii) discrete–serial–continuous (iv) external–internal paced skills (v) interaction continuum (individual– coactive–interactive). |
| A | 5.1.4. | Compare skill profiles for contrasting sports. | 3 | Using the continua in 5.1.3, compare contrasting sports. |
| B | 5.1.5 | Outline ability. | 2 | *Ability* refers to a general trait or capacity of the individual that is related to the performance and performance potential of a variety of skills or tasks.  **TOK:** Abilities have been thought of as stable traits but a more modern perspective understands that people have a genetic potential for each ability and that their level of performance in a particular ability can be influenced by a number of factors such as life experience or coaching.  **TOK:** Current research considers that abilities will change with time. |
| B | 5.1.6 | Distinguish between Fleishman’s *physical proficiency abilities* (physical factors)  and *perceptual motor abilities*  (psychomotor factors). | 2 | Fleishman (1972) distinguishes between physical proficiency and perceptual motor ability. Recall of the individual abilities is not required. |
| B | 5.1.7 | Define the term *technique*. | 1 | Technique in general terms is a “way of doing”. In the performance of a specific sports skill it is defined as the “way in which that sports skill is performed”. |
| B | 5.1.8 | State the relationship between ability, skill, and technique. | 1 | Skill = ability + selection of an appropriate technique. |
| B | 5.1.9 | Discuss the differences between a skilled and a novice performer. | 3 | Limit to consistency, accuracy, control, learned, efficiency, goal-directed and fluency. |

* 1. **Information processing - 6 hours**

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| **Group** |  | **Assessment statement** | **Obj** | **Teacher’s notes** |
| C | 5.2.1 | Describe a simple model of information processing. | 2 | Information processing is the system by which we take information from our surrounding environment, use it to make a decision and then produce a response: input–decision-making– output.  All the approaches are only models. Input and output are assessable/observable, but the decision-making process can only be speculation. |
| C | 5.2.2 | Describe Welford’s model of information processing. | 2 | Welford’s model (1968) includes: (i) sense organs  (ii) perception (iii) short-term memory (iv) long- term memory (v) decision making (vi) effector control (vii) feedback. |
| D | 5.2.3 | Outline the components associated with sensory input. | 2 | Consider exteroceptors, proprioceptors and interoceptors. |
| D | 5.2.4 | Explain the signal-detection process. | 3 | Often referred to as the detection–comparison– recognition process (DCR).  Limit to background noise, intensity of the stimulus, efficiency of the sense organs, early signal detection and improving signal detection. |
| D | 5.2.5 | Distinguish between the characteristics of *short-term sensory store*, *short-term memory* and *long-term memory*. | 2 | Limit to capacity, duration and retrieval. |
| D | 5.2.6 | Discuss the relationship between selective attention and memory. | 3 | Selective attention (SA) operates in the short- term sensory store (STSS). Only the relevant information is passed to the short-term memory (STM) where it is held for several seconds. SA ensures that information overload does not occur and prevents confusion as the brain would not be able to cope with streams of information. A  filtering mechanism operates, which separates the relevant information from the irrelevant (noise) information so that athletes concentrate on one cue or stimulus (for example, the ball, position  of player in a game of tennis) to the exclusion of others. SA is very important when accuracy or fast responses are required and can be improved by learning through past experience and interaction with long-term memory. |
| D | 5.2.7 | Compare different methods of memory improvement. | 3 | Limit to rehearsal, coding, brevity, clarity, chunking, organization, association and practice. |

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| **Group** |  | **Assessment statement** | **Obj** | **Teacher’s notes** |
| E | 5.2.8 | Define the term *response time*. | 1 | Response time = reaction time + movement time.  **Aim 7:** Use of online methods of measuring response time. |
| E | 5.2.9 | Outline factors that determine response time. | 2 | Response time is an ability, having individual and group variance (for example, gender and age).  Reaction time includes stimulus transmission, detection, recognition, decision to respond, nerve transmission time and initiation of action.  Include consideration of Hick’s Law. |
| E | 5.2.10 | Evaluate the concept of the psychological refractory period (PRP). | 3 | Include the single channel mechanism and how PRP helps to explain deception in sport. |
| F | 5.2.11 | Describe a motor program | 2 | Defined as a set of movements stored as a whole in the memory regardless of whether feedback is used in their execution.  Limit to: (i) a whole plan (executive program/ motor program) and subroutines (ii) coordination of subroutines (iii) relegating executive program to subroutines. |
| F | 5.2.12 | Compare motor programs from both open and closed loop perspectives. | 3 | Include Adams’ concepts of memory trace and perceptual trace. |
| F | 5.2.13 | Outline the role of feedback in information processing models. | 2 | Limit to: (i) intrinsic, extrinsic (ii) knowledge of results, knowledge of performance (iii) positive, negative (iv) concurrent, terminal. |
| F | 5.2.14 | Outline the role of feedback with the learning process. | 2 | Limit to reinforcement of learning, motivation, adaptation of performance and punishment. |

### Principles of skill learning - 5 hours

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|  |  | **Assessment statement** | **Obj** | **Teacher’s notes** |
| G | 5.3.1 | Distinguish between *learning*  and *performance*. | 2 | Learning is a relatively permanent change in performance brought about by experience, excluding changes due to maturation and degeneration.  Performance is a temporary occurrence, fluctuating over time.  A change in performance over time is often used to infer learning. |
| G | 5.3.2 | Describe the phases (stages) of learning. | 2 | Cognitive/verbal (early phase), associative/motor (intermediate phase), and autonomous (final phase). |
| G | 5.3.3 | Outline the different types of learning curves. | 2 | Limit to: (i) positive acceleration (ii) negative acceleration (iii) linear (iv) plateau. |
| G | 5.3.4 | Discuss factors that contribute to the different rates of learning. | 3 | Limit to physical maturation, physical fitness, individual differences of coaches, age, difficulty of task, teaching environment and motivation. |
| H | 5.3.5 | Define the concept of *transfer*. | 1 |  |
| H | 5.3.6 | Outline the types of transfer. | 2 | Limit to positive and negative, as they apply to:   * skill to skill * practice to performance * abilities to skills * bilateral * stage to stage * principles to skills.   Refer to an example in each case. |
| H | 5.3.7 | Outline the different types of practice. | 2 | Limit to distributed, massed, fixed (drill), variable and mental. |
| H | 5.3.8 | Explain the different types of presentation. | 3 | Limit to whole, whole–part–whole, progressive part, part. Refer to an example in each case. |
| H | 5.3.9 | Outline the spectrum of teaching styles. | 2 | Limit to command, reciprocal and problem solving. |