

Classroom
V I D E O

TEACHERS NOTES

FACTORS AFFECTING PERFORMANCE

SKILL ACQUISITION

PARTS 1 AND 2

Grades: 11-12

Part 1 – 24 mins

Part 2 – 25 mins

CHARACTERISTICS OF THE LEARNER

1. **Personality** - characteristics such as cooperation, willingness to listen, determination, enthusiasm, dedication, high levels of motivation, aggression and willingness to learn. These characteristics will enhance skill acquisition.

2. **Heredity**

(a) Muscle fibre type i.e. percentage of fast-twitch as opposed to slow twitch muscle fibre. Explain how muscle fibre composition could affect skill acquisition.

(b) Somatotype- endomorph (round), mesomorph (muscular), and ectomorph (linear) body shape will determine our suitability for many sports.

Discuss how an individual's somatotype may affect skill acquisition.

(c) Gender- males tend to have more muscular strength; females tend to be more flexible. Outline some skills that may be more suited to males due to genetic factors.

(d) Intelligence- the ability to process information, problem solving and comprehension. Explain how intelligence may improve an individual's ability to learn how to juggle.

3. **Confidence** - the belief in one's ability. To improve confidence the learner must experience success. Explain how a coach may improve the confidence of an athlete whilst they are learning a new skill.

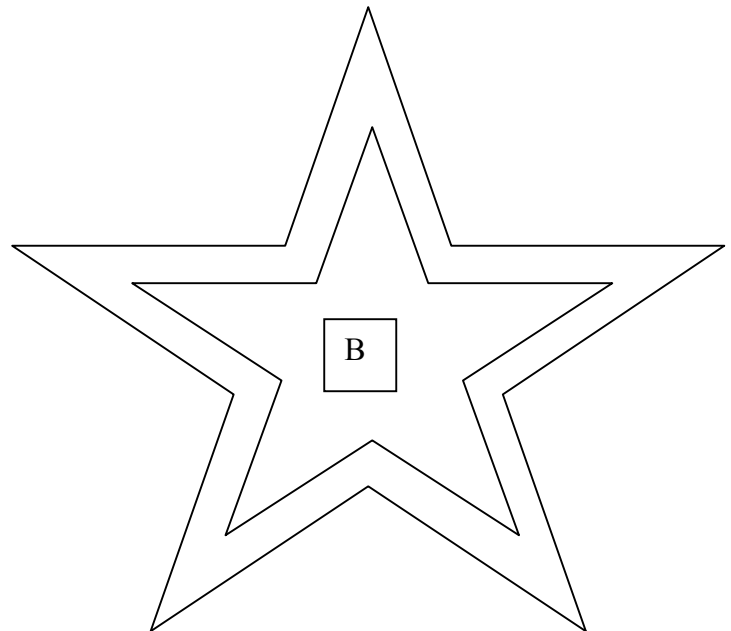
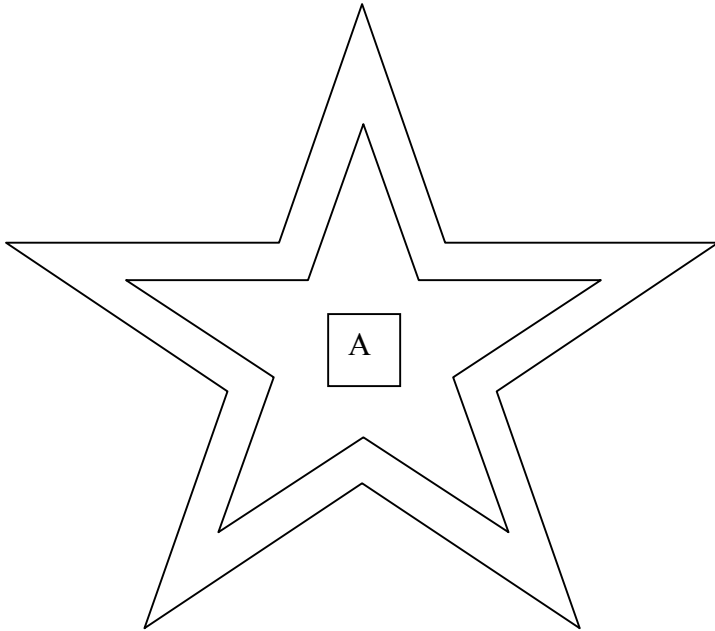
4. **Prior experience** - of same or related tasks. This is called positive transfer of learning. Outline two examples of positive transfer of learning.

5. **Ability** - Write your own definition of ability. Use examples to clarify your definition.

6. **Other Factors**

List any other factors, which need to be considered. Explain how each of these factors may influence the rate of skill acquisition.

Skill Learning Activity



1. Using double star space place a brightly coloured pen in between the two star spaces of star A. Without the pen leaving the paper draw around the smaller star without touching either line.
2. Repeat 1. Using a different coloured pen whilst looking in a mirror.
3. Using double star B repeat 2. This time using your non-dominant hand.

Comment on the transfer of learning observed during this exercise.

THE LEARNING ENVIRONMENT

1. The Physical Environment

Discuss how a learner's physical environment can influence the rate at which a new skill is acquired?

2. The Nature of the Skill

All sports have a number of skills that are required e.g. soccer passing, trapping, and tackling. These skills become proficient with practice. Each skill can be broken down into subroutines, or components, of a skill e.g. a golf swing involves grip, stance, back swing, contact and follow through. The nature of each skill can be classified on continuums as follows:

- (i) Open _____ closed
(ii) Gross motor _____ x _____ fine motor
(iii) Discrete _____ continuous
(iv) Self-paced _____ externally paced

Another classification is Serial skills. These skills have a number of parts or sub skills. Describe each skill classification and include specific examples.

Each of these groups of classifications can be represented on a continuum, e.g. when shooting a basket in basketball the skill is largely a gross motor skill though it does require some fine motor control in the release from the fingers (represented by the x on the continuum).

Degree of complexity of the Task

Complex skills involve many sub-routines and therefore take longer to learn than simple skills. The performance environment can increase the skill's complexity e.g. open skills.

3. Practice Methods

(i) Massed and Distributed Practice – This refers to the time spacing between practice sessions. Massed practice involves longer practice periods and short rest intervals e.g. an athlete practising a certain skill until it is mastered. Distributed practice has relatively short practice and longer rest periods e.g. juggling for 10 minutes then resting for 1 hour.

Complete the following statements. Massed practice is best suited to

-
-
-
-

Distributed practice is best suited to

-
-
-

(ii) Whole or Part Method

Skills are often taught in their entirety (whole) or broken down into parts (part). Discuss where part practice would be best used.

(iii) Speed vs. Accuracy

Speed means learning the skill at pace whilst accuracy refers to the precision of the movement. When teaching new skills most coaches prefer to focus on accuracy then incorporate a speed component.

Can you think of an example of a skill that would be best taught initially at speed? Discuss the reasons for your choice.

(iv) Mental and Physical Practice

Mental practice involves cognitive abilities of perception, decision-making and visualisation. Physical practice is the motor movement used to practice a skill.

Describe when mental practice is most appropriate.

4. Feedback

Feedback refers to the information gained about the performance of a skill.
Discuss the benefits of feedback.

There are two main types of feedback, knowledge of performance (KP) and knowledge of results (KR).
Explain the difference between KR and KP.

Describe the sources of feedback.

Explain how an individual receives intrinsic feedback.

Discuss what part feedback plays in acquiring a new skill.

Describe the feedback received by the athlete when a basketball player shoots for goal and the ball hits the ring.

GLOSSARY

Ability	Refers to the how well an individual can perform a movement or sequence of movements.	Kinaethesis	The feedback received from muscles and tendon receptors about the body's position in space.
Accuracy	The precision with which a skill or routine is executed.	Knowledge of Results (KR)	Information linked to the pattern of movements used to execute a skill.
Acting	The 'doing' phase in the learning process.	Learning Environment	Refers to the factors apart from the learner.
Associative Stage	The practice stage of skill learning.	Learning Process	The cyclic process of skill learning.
Augmented Feedback	Relates to information that the athlete would not ordinarily receive e.g. video replay of a performance.	Massed Practice	Extended practice with relatively short rest periods.
Autonomous Stage	The automatic stage of skill learning.	Mental Practice	The use of mental rehearsal and visualisation.
Closed Skill	Skills performed in a predictable environment.	Mesomorph	A body type characterised by high muscle mass and low body fat compared to height.
Concurrent Feedback	Received whilst performing the skill.	Motivation	The drive from within.
Continuous Skill	Have no distinct beginning or end.	Negative Feedback	This occurs when the skill is unsuccessful.
Deciding	Processing the information gained from the senses in the learning process.	Open Skill	Skills performed in an unpredictable environment.
Delayed Feedback	Received after completing a skill.	Part Practice	Practice where the skill is broken down and learnt in parts.
Discrete Skill	A skill with a definite beginning and end.	Perceiving	A step in the learning process where information is collected by the senses.
Distributed Practice	Rest periods are longer than practice periods.	Positive Feedback	This occurs when the skill is performed correctly.
Ectomorph	A body type characterised by low body fat and muscle mass compared to height.	Physical Practice	Involves motor movements to practice a skill.
Endomorph	A body type characterised by high body fat and low muscle mass compared to height.	Positive Transfer of Learning	Prior experience of the same or related tasks that aids in skill learning.
Executive Plan	Our memory of movements that are required to perform a skill.	Self-paced Skill	Skills where the performer is in control of the timing and the speed of execution.
External Feedback	Feedback received from external sources.	Serial Skill	A skill that consists of subroutines.
Externally Paced Skill	Timing of movement is controlled by external sources.	Skill	A sequence of movements that are learnt through practice and have a definite outcome.
Feedback	Information received from the performance of a skill.	Somatotype	Body shapes, linear, round and square.
Fine Motor Skill	A skill involving small precise movements using small muscle groups.	Speed Practice	Practice that focuses on increasing the rate of execution.
Gross Motor Skill	A skill involving large muscle groups and big movements.	Subroutine	Parts of a skill.
Intrinsic Feedback	Feedback received from kinaethesis.	Whole Practice	Practicing the skill in its entirety.
Knowledge of Performance (KR)	Information linked to the outcome of the skill.		

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