

Name _____

Class _____

1.3 Basic Information Processing

1.4 Guidance & Feedback on performance

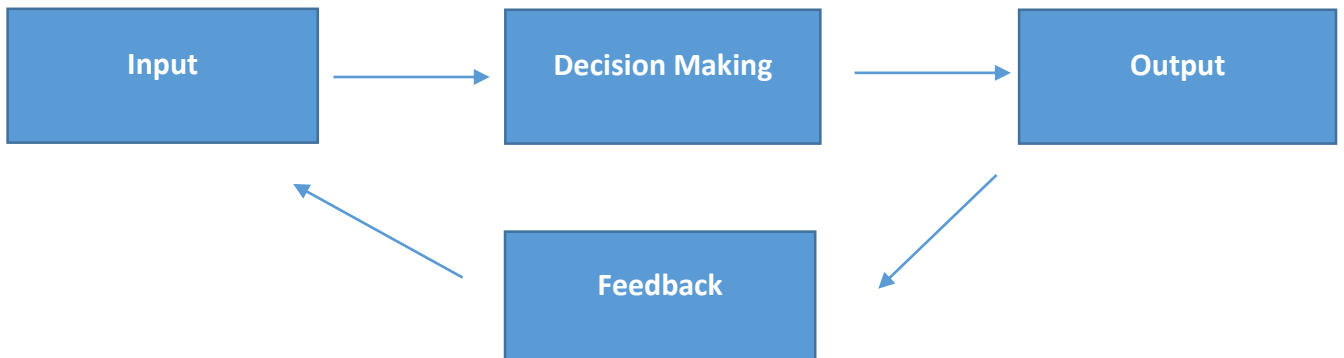


Topic	Description from Specification	Pupil comments – How confident do you feel on this topic?
Basic information processing model	The role of each stage (input, decision making, output and feedback) of the model. Input – information from the display (senses), selective attention. Decision making – selection of appropriate response from memory. The role of long term and short term memory. Output – information sent to muscles to carry out the response. Feedback – received via self (intrinsic) and/or others (extrinsic). Draw (in a box format) and/or explain the stages of a basic model of information processing. Students should be taught to apply the basic information processing model to skills from sporting examples.	
Identify examples of, and evaluate, the effectiveness of the use of types of guidance, with reference to beginners and elite level performers	Evaluation of the use of the following types of guidance with specific links to: Visual (seeing), verbal (hearing), manual (assist movement – physical), mechanical (use of objects/aids). Students need to be taught to be able to choose and justify which types of guidance are appropriate for beginners and/or elite level performers. This should include examples of how the guidance can be given, eg visual via demonstration.	
Identify examples of, and evaluate, the effectiveness of the use of types of feedback, with reference to beginners and elite level performers	Evaluation of the use of the following types of feedback with specific links to beginners and to elite level performers: Positive/negative, knowledge of results/knowledge of performance, extrinsic/intrinsic. Students need to be taught what each type of feedback entails and be able to choose and justify which types of feedback are appropriate for a beginners and/or an elite level performers.	

Basic Information Processing Model:

Information Processing in sport can be described as ‘The process of taking account of the sporting environment and then making decisions prior to the execution of a skill’.

Information Processing can be divided into 4 parts:



Input:

Information is picked up from the **display** (sporting environment) using the senses.

In the following sports how do players ‘scan’ the environment before making decisions? Which senses do they use? Which parts of the display are they taking in? Who often makes the decisions in these sports?

Rugby –

Football –

Cricket –

Netball -

How does a gymnast on the balance beam use their senses to take in information from the display during a performance?



As performers improve their skills within a sport and become more confident and comfortable, they are able to block out the **irrelevant information** from the display. For example in football this could include noise from the crowd or the position of the referee on the pitch.

This process is known as **Selective Attention**.

How can selective attention be used in the following sports?

	Relevant information from the display	Irrelevant information from the display
Taking a penalty in football		
Bowling a ball in cricket		
Taking a shot in netball		
Running a 100m race		
Putting in golf		

Decision Making:

Following the input from the senses, the second stage of **Information Processing** is the **decision making** stage.

This stage is difficult as the performer will receive a large amount of information from the **senses** but needs to make a decision based only on the important information.

Short term memory lasts for approximately 18 seconds. A performer can use this to help with decision making e.g. remembering the position of a teammate.

Long term memory is vital to decision making. This can be used to recall a similar situation in the past and therefore come up with the correct response in order to perform a skill. For example in cricket a batsman will see the ball bouncing in a certain position and pick the relevant shot to play from their long term memory.

How can short and long term memory help decision making in the following sports?

	How short-term memory can be used	How long term memory can be used
Football		
Tennis		
Golf		
Rugby		
Netball		

Output:

A network of nerves are responsible for relaying the decisions made to the muscles so that they can perform the required action. For example in football the brain will send impulses to the quadriceps so that they can contract in the right way and at the right time to strike the ball.

A Tennis player is preparing to hit a forehand shot. What happens at each of the following stages of Information Processing?



Input:

Decision Making:

Output:

Feedback:

Feedback is information used during or after the response to aid movement correction. This can be received via yourself (**intrinsic feedback**) or by others (**extrinsic feedback**). We will look at feedback in more detail later in this booklet.

Describe three ways that a golfer knows whether they have hit a good tee shot?

Types of Guidance

Coaches must use a number ways to 'guide' learners in order for them to progress effectively. Coaches must take into account:

- The individual learner's personality and learning style
- The learner's ability level in the activity
- The sport or skill being taught
- The facilities available

A coach has the option of using the following types of **guidance**.

Visual Guidance

This can be given as a direct demonstration from a coach, from another team member or through a video.

Verbal Guidance

This can be difficult for beginners to understand but is often used alongside visual guidance. Information must be clear and concise or the performer may become confused.



Manual Guidance

This is when the coach is actually in contact with the performer. For example during gymnastics a coach could physically put the performer into a certain position, so that they understand what is required.

Mechanical guidance

This is when a coach uses a device to aid the teaching of a skill. An example of this could be using a harness in gymnastics or armbands in swimming. This should only be used to gain initial confidence, otherwise the performer may become over dependent on the device.

Complete the following table to show how you would approach the following situations as a coach.

Situation	Type of guidance you would use as a coach
An expert perfecting their layup technique in basketball	
A beginner learning how to do a forward roll	
An average footballer learning how to take a free-kick effectively	
A beginner learning to bowl in cricket	
A child learning how to use a forehand in tennis	
A beginner learning how to do a somersault	
A beginner learning to chest pass in netball	
A beginner learning to swim front crawl	



Type of Guidance	What is it? Who should use it (stage of learning)?	Advantages	Disadvantages	How could it be used in the teaching of a somersault?	How could it be used in the teaching of a golf swing?
Visual					
Verbal					

Type of Guidance	What is it? Who should use it?	Advantages	Disadvantages	How could it be used in the teaching a somersault?	How could it be used in the teaching a golf swing?
Manual					
Mechanical					

Feedback to Optimise Performance

Feedback in sport is vital for keeping performers **motivated**.

Use the descriptions below in order to complete the **description column** in the table below. Try to explain why each type of feedback will/won't be useful for a beginner or expert.

Type of Feedback	Description	Useful for a beginner?	Useful for an expert?
Intrinsic			
Extrinsic			
Knowledge of Performance			
Knowledge of Results			
Positive			
Negative			

Information about what was good – praise & encouragement

Gives an indication of whether the skill has been successful – concerned with outcome

Error correction and information about what is going wrong

Comes from the performer themselves, as they think about how they performed

Gives reasons why the skill was successful or not – concerned with technique

Comes from an outside source e.g. coach/teacher



How do you think that feedback should be received in the following situations? Explain your answers.

A group of U9 footballers playing in their first competitive match.

An England netball player training for the Olympics.

An elite basketball player, returning to training following a lengthy injury.



Sample Exam Questions

When taking a penalty, a footballer will often be more successful if they can use selective attention effectively.

Using an example, explain how selective attention can be used by a footballer when taking a penalty, in order to improve performance. (4 marks)

Extrinsic and intrinsic feedback are used when performing in sport.

Assess the relative importance of each of these types of feedback to a group of people who have just started to learn to swim.

(i) Extrinsic feedback (3 marks)

(ii) Intrinsic feedback (3 marks)

Key Terms

Information Processing – The methods by which data from the environment is collected and used

Input – Information picked up by the senses from the display

Selective Attention – Filtering out irrelevant information from the display

Decision Making – Using the short and long term memory to make a decision

Output – Information sent to the muscles to carry out a response

Feedback – Understanding what went right or wrong during the output stage

Visual Guidance – Guidance through a visual demonstration or video

Verbal Guidance – Guidance through a verbal explanation

Manual Guidance – Guidance through actual contact with a performer

Mechanical Guidance – Guidance through the use of a device e.g. harness

Intrinsic Feedback – Comes from within a performer

Extrinsic Feedback – Comes from an external source such as a coach or teacher

Positive Feedback – Encouragement and praise

Negative Feedback – Error Correction and highlighting what went wrong

Knowledge of Results – Feedback received by looking at the outcome of the skill

Knowledge of Performance – Feedback received by looking at the technique/performance