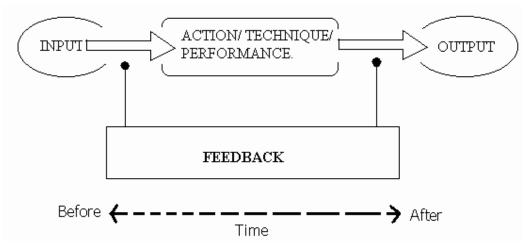
"Discuss the role of feedback in the teaching of skills"

"When I saw the finish line I felt excited, even more when I saw the time. I knew the world record was only a few strides away so I began to pump every last bit of effort I had left."

(Paula Radcliffe-The Times)

Feedback is the information that tells us about movements we made. (Applying Psychology to sport, Barbara Woods 1998)

Towards the end of World War 2 a scientist, Norbert Wiener was developing the concepts of feedback-loop control systems. In every feedback-loop, as the name suggests, information about the result of an action is sent back to the input of the system.



Feedback is split into two major categories:

- Intrinsic
- Extrinsic

Intrinsic feedback

This type of feedback is the 'sensory information that arises a natural consequence of producing a movement'. It can be sensed from organs in the muscles and the joints called *proprioceptors* and paramount in learning a skill. They send the brain all sorts of information on joint and muscle angles. When the skill's performed correctly, the mentor points this out, then the brain locks this information for future reference in the motor cortex.

``Today, I just felt tired. It was a long flight from Paris and I didn't get any sleep last night.

``But I feel that it's my record and I want it back."
(Maurice Green-http://www.asahi.com/english/sports/K2002091700445.html)

Extrinsic feedback

Another word for this is augmented feedback. Coaches, personal trainers and teachers provide feedback, it is an external source of information on ones actions or techniques. Extrinsic feedback branches off into Knowledge of Performance (KP) and Knowledge of Results (KR).

"With my back to the goal and the defender behind me, I received the ball but at a glance I realised the defender was to my right, so I quickly whipped the ball to my left and sliced it across the net."

Knowledge of performance (KP)

This provides information on how an action/ technique was performed, either well or poorly. It can be provided verbally by a coach or visually by video. The athlete will develop a kinaesthetic reference for the correct movement. For example, a sprinters action.

Knowledge of Results (KR)

The information consisting of the end results to determine whether an action is performed well. However, there can always be room for improvements, e.g. sprinters time at 100m.

Types of feedback:

- Concurrent: This is an ongoing source of instructions directed at the athlete whilst they are performing. It encourages the performer to change their technique whilst practising. This way the athlete can begin to feel the correct action and become more comfortable with it.
- Terminal: This occurs after the action or performance, to allow the athlete what was right, wrong and improvements pointed out.
- Delayed: Excellent after a strenuous match. This is giving the athlete time to think about their performance, feedback is given in time-"delayed".
- Positive: Praising the athlete for their actions, hopefully repeating it in the future.
- Negative: giving this type of feedback informs the athlete they are doing something wrong, following it should be constructive criticism for improvement to follow.
- Verbal: This is speech, talking to the athlete.
- Visual: This can be provided in the method of videos to clearly illustrate and pick out ways for improvement. This is an excellent source as the athlete can see their actions rather than being told about it.
- Summative: This is when information is given at the end of a session/performance. The coach summarises the areas of improvement or wrong actions.

The four possible functions of feedback are to provide:

- Motivation
- Information
- Dependence

Motivation aims to increase the athletes confidence to achieve the goals set for themselves.

Reinforcement follows either a negative or positive comment to repeat the correct skill or avoid the incorrect skil in the future.

Informing an athlete can be vital. It allows the performer to know how why they are doing a skill right or wrong. However, too much coaching can result in dependence. The athlete becomes less confident and tends to rely too much on the instructor.

Type of Feedback	Team	Racket	Individual
Verbal	"You all worked	"You need to	"When hopping,
	hard but I want to	lengthen your back	emphasise the
	see more	swing and then take	action on yopur
	movement and	the racket back	free leg, bend it and
	possession. Billy	sooner."-Tennis	almost kicked as
	and Joe work		far back in the air
	together up front,		to give you length"
	plenty of 'one		-Triple jump
	twos"'-Football		
Visual	"From the video I	"Watch how I step	"Can you see how
	can see that the	into the shot and at	your arm doesn't
	defence aren't	the last split second	follow all the way
	working as a unit.	flick my wrist,"-	through?"-Javelin
	The keeper has to	Badminton	
	be aware of this		
	and tell the back		
	four."-Football		
Delayed	A day after a	"Well done today,	"Go away and
	strenuous	get your things	think about what
	competition the	together and we	you did wrong. We
	team was taken	will discuss it on	will talk about it
	through their	Monday." -Squash	next session."
	mistakesHockey		

Positive	"Fantastic! The	"Your doing great.	"Because you lifted
	centre passed it to	Yes, a little	your arms up did
	the wing attack,	higherperfect"-	you see how you
	and swivelled to	Squash drive	travelled further
	the shooter, who	_	and higher?"-Long
	scored!"-Netball		Jump.
	centre pass.		
Negative	"The ball wasn't	"Your volleying	"
	passed via the	dramatically needs	
	bowler, that's why	improvingthat was	
	you went wrong!"-	awful."	
	Rounders		