

Discuss the role of feedback in the learning of skills

Feedback is "information received in response to something done." (Collins English Dictionary) (1992)

There are different types of feedback:

Intrinsic feedback- this type of feedback comes from within the performer themselves about the skill they have just performed "kinaesthetic sense" (Edexcel book) (Frank Galligan, 2000). E.g. A cover drive in cricket- the performer will know how well they have done by the end result and the feeling they got from striking the ball.

Extrinsic feedback- this comes from an external source like coaches, fans or teammates. E.g. a tackle in football might be applauded by fellow teammates if it is good.

Positive feedback- concentrates on the good side of the skill, performed. This encourages the performer and makes him aware of the good things. E.g. a dive in swimming- a coach might have praised the beautiful entry to the water.

Negative feedback- these are the things that need to be improved about a technique and what was bad. E.g. drive in golf- the balance of stance might need to be improved in order to hit the ball straight.

Positive and negative feedback can be given intrinsically or extrinsically.

Terminal feedback- this is information given after a skill is performed. E.g. lay-up in basket ball- either positive/negative feedback will be given.

Concurrent feedback- this is given while a skill is being performed e.g. running a marathon, a performer will be given either positive or negative feedback from a coach or fans. Terminal and Concurrent can be extrinsic or intrinsic.

Finally Knowledge of performance (KP) and knowledge of results (KR) are forms of feedback, these both can be either be extrinsic or intrinsic. Knowledge of performance is basically how well the technique was performed in the skill. E.g. how good/bad the technique was in performing a seat jump. Knowledge of result is information about the end result of the skill. E.g. a penalty in football, whether the performer scored or not.

There are different stages of learning that we go through and different types of feedback are suited to each stage a learner goes through. These stages must be complete in order to go on to the next stage. A sequence on stages:

The cognitive stage is the first stage for the learner. This is where the performer cannot make any use of intrinsic feedback, as they do not have any motor output or kinaesthesia sense. They can benefit from a visual from a coach and have an image of the requirements of the skill. Extrinsic feedback would be effective at this stage. E.g. I start playing Netball, I haven't got any Proprioception therefore I need feedback from a coach who has experience. Also as I have very little experience and just starting I need more positive feedback, which will motivate me to develop the skill.

The Associative stage is where the information gathered from the cognitive stage, the learner could put the information into a motor output.

As the learner is in experienced he/she can't make use of any intrinsic feedback, they can only benefit from knowledge of Result. E.g. A volleyball spike- I have a visual of how the skill should be performed from the cognitive stage and the extrinsic positive feedback from what I was doing right I can then perform the skill. The feedback that needs to be given is extrinsic from a coach. He needs to start giving some negative feedback about what's wrong so the learner will become eager to progress and develop the skill further.

The Autonomous stage is when the performer/learner starts to have some kinaesthesia sense and therefore starts to gain some intrinsic feedback through sensory input. This starts to develop the performer's KP and he starts to understand wrong from right. This is stored in the learner's Motor memory. E.g. Autonomous stage in badminton I start to notice that I'm timing the shuttlecock better and the performance benefits from that. The coach should also add some extrinsic, negative and KP feedback to strive for perfection but also some positive feedback because you want to keep the performer motivated. Through out all three stages both terminal and concurrent feedback is beneficial extrinsically.

However there is another theory about the learning of skill, this is the "Schema and Loop" (Edexcel Book, Frank Galligan 2000) theory developed by Schmidt (1975) and Martenik (1973). The theory backs up the point that a more experienced performer doesn't need as much feedback as a learner. The theory consists of three different levels:

Level 1: open – loop control

Plan → Action

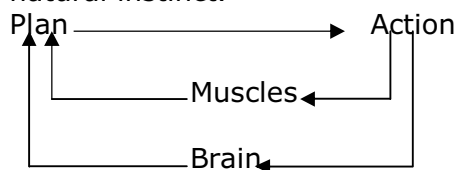
Involves "Subconscious control" (Edexcel book, Frank Galligan, 2000) The performer doesn't need to have any KP and feedback doesn't have any effect on the skill. The level of control is when the activity is so fast that the performer reacts accordingly not being influenced by any feedback e.g. table tennis- a player will instinctively move and hit a ball with fast top spin on it. The skill is always performed in the same way.

Level 2: Closed Loop control

This still involves subconscious control but this time the performer concentrates more on the requirements to perform the skill, like the motor output and the brain. E.g. a footballer dribbling will have to adjust to a sliding tackle.

Level 3: Closed loop control

This means the learner performs the skill consciously and has to adjust to the feedback. The feedback has an involvement in the processing of information. This control largely involves the brain and muscles. E.g. Badminton smash- more information is being processed it's not just a natural instinct.



Feedback is essential in developing a skill because it provides motivation, reinforcement, and vital information. Motivation is important because the performer will want to develop the skill further and learn more (positive, extrinsic feedback). Reinforcement is important: according to Thorndike's Law of Effects "when a performer is rewarded for behaviour it will tend to be repeated". e.g. receiving extrinsic feedback from a coach for performing a good tennis serve. I will then aim to repeat this. Information is important in giving feedback because this enables a performer to develop a skill. E.g. Extrinsic Negative feedback is given to me in order to improve my butterfly stroke; I then know how to improve my stroke.

Feedback has a role in enhancing skill as it can put the learner in the right direction. Both positive and negative feedback are important as they keep the learner interested in learning the skill. The coach must find the right balance and give accurate feedback. The quality of the feedback can correct any errors in a performer's technique, therefore enabling him to perform the skill better. KR and KP are important as well as they motivate the learner and keep the interest. E.g. learning tennis serve – a beginner would need KR/KP/positive feedback to motivate him and a bit of negative feedback to help him progress and make him determined to enhance skill.

Conclusion:

Skill can be learnt without the aid of feedback but can speed up the process especially with beginners. Beginners will look to feedback (KR) more than anything to enhance skill, as they need to have the information about the technique. It's important to note that different people respond to feedback differently so it's important to keep the attention of the performer especially at a raw stage. It must be accurate, given in little doses and motivate the performer in order to enhance skill.