AO2 LEARNING

In AO1 I explained that skill was a learned process that includes lots of subroutines. Now in AO2 I will be explaining about what learning is and the different types of learning and defining them. Everyone has there own way of learning people might have the same way of learning but some might learn skills quicker than others, some people might learn the skill verbally when it is explained to them and they pick it up right away others might learn from someone demonstrating the skill once and pick it up others might have to see it demonstrated a few times before they pick it up. Once a performer learns the basics of a skill it will take time before they perfect it, again some people will perfect it before others because of their natural ability. When a performer first does a skill it will be slow and the performer will be concentrating a lot but as the performer practices the skill and as the performer begins to do the skill fluently it will be fast ,it will look good, not a lot of concentration w ill be needed and it will be like this every time the performer does the skill.

Here are a few definitions of learning:

B.Knapp defines learning as "**the more or less permanent change in behaviour that is reflected in a change in performance"**

Mike Mines defines learning as **" an observable and measurable change in behaviour that is the result of an experience"**

As a co. P.E coach of a year 9 class I like to assess weather or not the skills that we have worked on have been learned and improved by the performers, there are a few ways of finding out if they have been learned or not. The general methods are to:

- Observe- the behaviour and performance of the performers
- Measure/test- the behaviour and the performance of the performer
- Evaluate- the behaviour and performance of the performers
- Translate- translate the information gained into meaningful conclusion e.g. if they have improved or not.
- Infer- let the performers know if they have learned and improved the skills

There are a few reasons why we like to evaluate if learning has occurred or not,

- To give the students/performers accurate and meaningful feedback on their performances and progression.
- To assess whether goals/targets that we have set for the students/performers have been reached
- To assess ourselves as coaches to see whether or not our coaching/teaching styles and strategies actually work and if adjustments have to be made to them.
- To record the progression and achievements overtime
- To assess to progression potential of the performers/students and the progression potential of our teaching/coaching styles and strategies .
- To carry out match/performance statistical analysis (e.g. accuracy, technique, timing, errors, amount , frequency)

The different types of learning:

- Intellectual: Dealing with the environment in a symbolic way a person can immediately understand a skill by a certain sign e.g stop signs on the road stop, slow down etc.
- Verbal: this type of learning is through stating your information/ideas through written or oral communication or body language (communication). When you have learned this stage of learning you will find it easier to communicate with your team mates in sport and people outside of sport.
- Cognitive: this style of learning requires learning to manage ones own learning , it also requires a large amount of memory processing were we store and retrieve new and old pieces of information e.g problem solving
- Attitudinal: 'acquiring mental states which influence choices of personal actions' . This is when a performer tries to take on knowledge to impersonate an individual , this could be the performers role model. This type of learning is very important in the development of a performer because if his/her role model has a bad attitude then they to are also going to gain a bad attitude if things aren't going their way.
- Motor skills: This style of learning is learning how to move your muscles in a coordinated, controlled and organised manner. Some movements will be easier than others but the more difficult movement will have to be practiced on a daily basis to make the skill fluent to them. When the performer has learned the skill and is able to apply these movement in the game scenario they will find out if it works and if not what adjustments need to be made to it e.g step over skills in football, do I need to slow down before performing them ,speed up etc.

Phases of learning

Cognitive or understanding phase: In this first stage of learning the performer is just learning the basics of the skill it might be the first time that he/she has ever attempted to do it, the performance's of the performer is inconsistent and success is not guaranteed. While performing the skill it requires all the attention of the athletes and they rely on the expertise of the coach. This is a process of trial and error with a success rate of 2 or 3 out of 10 attempts. When the performer performers the skill correctly it must be reinforced through external feedback.

Associative or Verbal motor phase: The performances of the performer are becoming more consistent as motor programmes are being formed. The easier parts of the skill are becoming fluent and are well learned, the more difficult elements of the skill require most of the spare attention. The performer is beginning to get a sense of internal kinaesthetic feedback when he/she performs the skill well. The performer is starting to detect and correct his/hers own mistakes and success rate has risen to 5-7 out of 10.

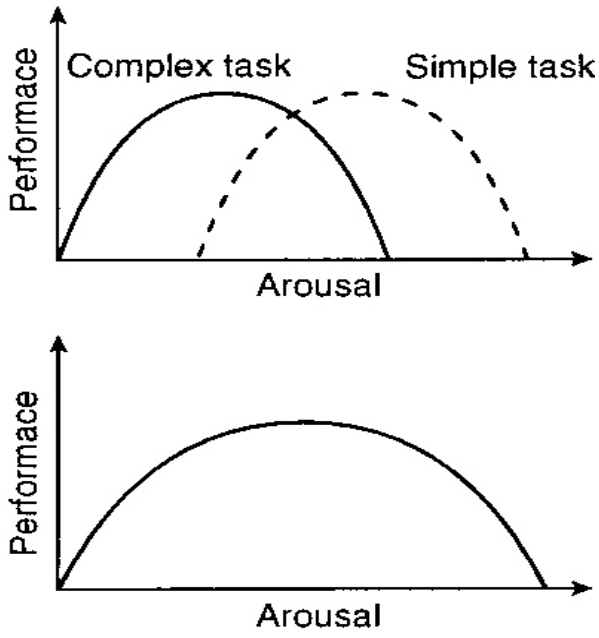
Autonomous or Motor phase: This is the final stage of learning, at this stage performances are consistent, fluent and aesthetically pleasing. The motor programmes involved are well learned and stored in the long term memory. The spare attention is

now focused on opponents and tactics. For the performer to maintain the new skill at this level, the performer must constantly practicing the skill to reinforce the motor programmes. Success rate is now 9 out of 10.

Performance Curves

As I have already mentioned a 'one off' performance does not mean that learning has occurred. For learning to have taken place there has to be a relatively permanent change in performance over time, this comes as a result of practice and/ or experience. Performance curves are an almost exact way of testing if learning has occurred, they measure the amount of learning that has taken place and the time it has taken for this to happen. The information that is plotted on performance curves is gathered over a period of time, this could be an hour, a term, a sporting season etc. Theses graphs can measure the performance of an individual or a group's progress. Very often these performance curves are mistakenly called learning curves but this is incorrect because it is performance that is being measured not learning. There is a theory that performance curves are not valid because of the many factors that can affect them, for example the weather , the crowd , the inverted U theory according to Yerkes and Dodson (1908) which states that :

- At low levels of arousal, performance will not be good, the athlete is not psyched up for the performance.
- As the athlete's arousal levels increase so does the performance, up to an optimal point.
- Any increase in arousal level after this point will lead to a decrease in performance.
- Each individual athlete has their own optimal level of arousal.



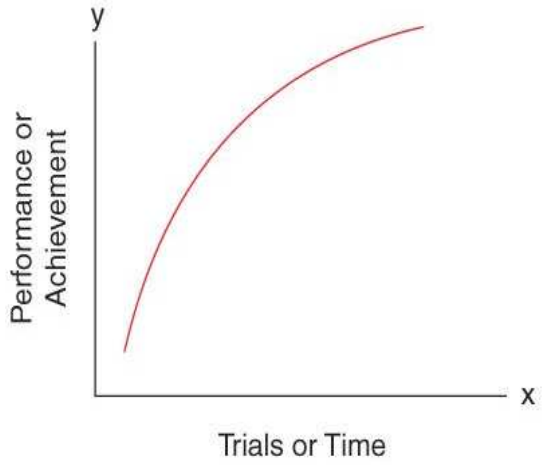
There are many more factors that can affect the validity of the performance curves.

A performance curve consists of three areas:

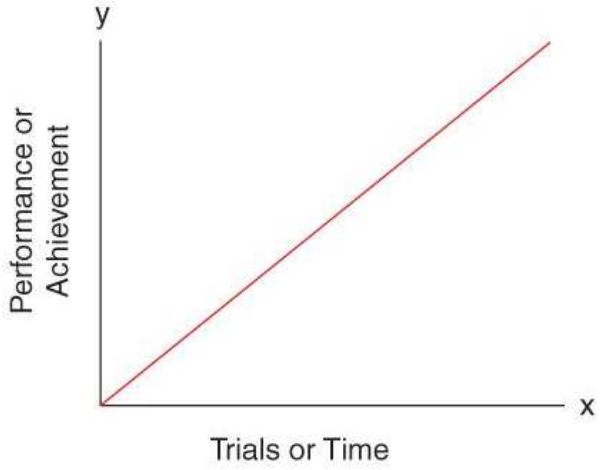
- **"The vertical y-axis of the graph, showing the level of performance being measured.**
- **The horizontal x-axis of the graph, indicating the amount of time over which the performance has been measured.**
- **The shape of the curve, from which inferences can be made about the amount of learning taking place."** OCR PE for AS

Types of performance curves:

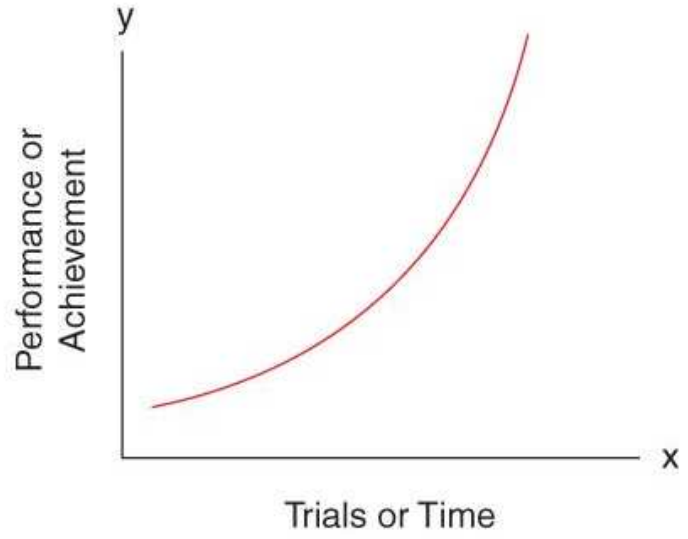
When performance curves are looked at thoroughly, it is found that the graphs are made up of several different shapes within the overall context of the general performance curve.



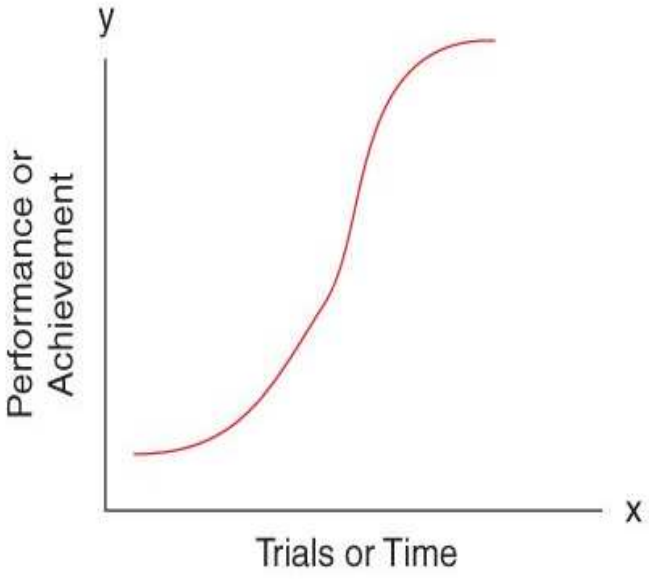
- Graph 1: Linear curve of performance



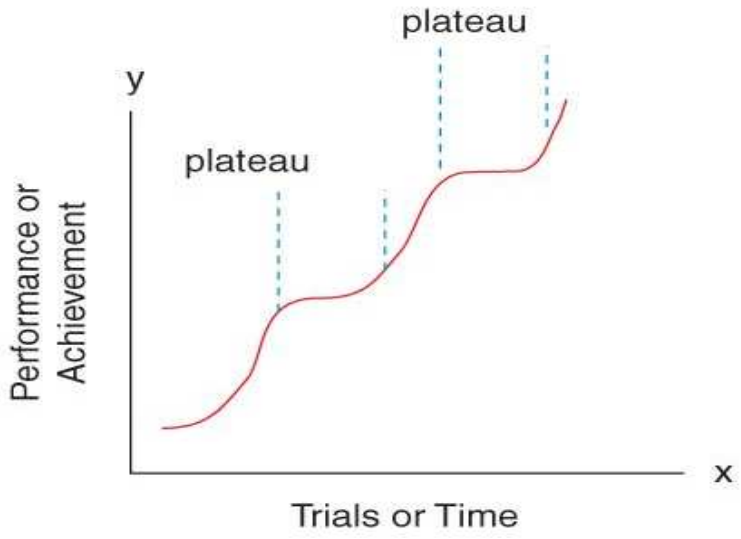
- Graph 2: Negatively accelerated curve of performance



- Graph 3: Positively accelerated curve of performance



- Graph 4: Ogive or S-shaped curve of performance



- Graph 5: Plateau in performance

Graph 1: shows that the performance improves directly in proportion to the amount of times or trials

Graph 2: shows that the curve of decreasing gain shows that there was a lot of improvement early on in practice. Improvement usually continues ,it is very slight in relation to the continued amount of time or trials.

Graph 3: shows small improvements at the beginning of practice, then a large amount of improvement later on in practice.

Graph 4: is a combination of all the previous curves

Graph 5: indicates that during certain periods of practice, or from one particular trial to another, there was no improvement in performance.

Feedback

There are two types of feedback **intrinsic** and **extrinsic.** Below is the explanation nof the both of them:

Intrinsic feedback: intrinsic feedback is also known as internal or inherent feedback, this type of feed back comes from within the performer, he tells himself if he has done something right or wrong or good or bad, this information comes from the propriocepters. When a footballer makes a pass or hits a shot he knows himself if he has “hit the sweet spot” as people refer it to. The player can usually tell before he hits the ball because his movement and balance will all be almost perfect. This is also referred to as kinaesthetic feedback. The footballer can feel the connection he gets with the ball and hears the ball being struck, this serves to back up the proprioceptive

information being received. All of this information is inherent to the task. The more experience and skill that the performer has the better use they will make of intrinsic feedback.

Extrinsic feedback: extrinsic feedback is made up of a series of different types and forms of feedback which are listed below:

- Continuous
- Terminal
- Knowledge
- Knowledge of performance
- Knowledge of results
- Positive
- Negative

Continuous: continuous feedback is also known as ongoing or concurrent feedback. This type of feedback is received while the activity is taking place. This feedback is usually received as proprioceptive or kinaesthetic information. An example of this would be a golfer hitting a shot, he can feel if he has hit the 'sweet spot' as it is known.

Terminal: terminal feedback is feedback that is given to the performer after the skill or task has been completed, it can be given immediately after the skill /performance or some time later.

Positive : positive feedback when the skill or performance has been completed correctly or successfully. This type of feedback can be used to reinforce learning which can lead to the successful performance being repeated (e.g a coach or teacher praising a performer when they perform a skill correctly at a young age.) Positive feedback is known to facilitate perceived competence and help intrinsic motivation but it is important that the coach/teacher des not give to much praise because it could affect the performer's own perceptions of their performance and possibly affecting motivation.

Negative: negative feedback occurs when a performer performs a skill or task incorrectly. An example of this would be in a match when a free taker in hurling or gaelic continue to miss frees. The see that the free has been missed, then they get comments from team mates this is followed by their own summary of what they did incorrectly not enough power in the shot, to much curl etc. The teacher or coach may indicate what faults happened/ is happening and suggest corrections. All of this feedback should help insure that the shots are more successful in future.