

Theories of learning

This handout will cover:

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How does learning occur?

People learn in different ways, think back to when you received your first mobile phone, an electronic device, new television or something else. Did you read the instructions first, did you ask someone to show or tell you how to use it, or did you jump right in and start using it not knowing what you were doing?

All people learn differently, perhaps influenced by experiences in their childhood, school, personal or professional relationships. When you learn something new, you will probably adapt, change or modify your behaviour as a result, the same will apply to your learners.

Learning preferences

Some people are in favour of using learning preferences (or styles), whereas others aren't. The current thinking is there is no valid research to justify their use. However, you need to make your own decision on whether using the results of learning styles' tests will work for your learners. You will also need to check whether the organisation you work for advocates their use or not.

There is an old Chinese proverb: *I hear - I forget, I see - I remember, I do - I understand.*

When you hear lots of information you may find it difficult to remember it all. If you can see something taking place that represents what you hear, you will hopefully remember more. However, if you actually carry out the task, you will understand the full process and remember how to do it again.

Once learners put theory into practice they should begin to understand what they have learnt. Learners might have a particular learning preference or style, a way that helps them to learn which is based on listening, seeing and doing. Your learners could take a short learning preferences test prior to commencing your programme to identify what these are (www.vark-learn.com is a quick online test). However, what you may tend to do is teach your sessions in the style in which you learn best – although it will suit you, it may not suit your learners.

Fleming (2005) stated people can be grouped into four styles of learning: visual, aural, read/write and kinaesthetic (VARK)

- Visual – seeing and looking
- Aural – listening and talking
- Read/write – reading and writing
- Kinaesthetic – doing

Honey and Mumford (1992) suggest learners are a mixture of the following four styles:

- *Activist* learners like to deal with new problems and experiences and like lots of activities to keep them busy. They love challenges and are enthusiastic.
- *Pragmatist* learners like to apply what they have learned to practical situations. They like logical reasons for doing something.
- *Theorist* learners need time to take in information, they prefer to read lots of material and think about something before applying it. They like things that have been tried and tested.
- *Reflector* learners think deeply about what they are learning and the activities they could do to apply this learning. They will then try something and think about it again.

Retention of learning

Pike (1989) showed that over a period of three days, learners remember:

- 10% of what they read
- 20% of what they hear
- 30% of what they see
- 50% of what they see and hear
- 70% of what they say
- 90% of what they say and do

Ways of increasing learner retention can include using different activities to cover reading, hearing, seeing and doing.

Most healthy teenagers and adults are able to sustain attention on one thing for about 20 minutes (Cornish & Dukette 2009). They can then choose to re-focus on the same thing for another 20 minutes. This ability to renew concentration enables people to stay on task for as long as necessary. However, there are other factors to take into consideration, such as self motivation, ability, tiredness and hunger. If a learner is really hungry their concentration may lapse as a result. If you find your learners losing focus, ask them if there's anything distracting them as you might be able to resolve it, for example, opening a window if it's too warm.

When planning to deliver your sessions, try and use lots of short tasks to enable your learners to stay focused. If you do need to use longer tasks, try and break these down into 20 minutes for each, with chance for a discussion or something different in between. If you teach long sessions, for example, over an hour, try and include a break to enable your learners to experience a change of scenery, obtain refreshments and visit the toilet if necessary.

Domains of learning: Bloom

Bloom (1956) stated that learning goes through five stages which can affect a person's *actions, thinking, and emotions*. These are known as *psycho-motor, cognitive, and affective* (respectively).



Psycho-motor
The hands
Skills



Cognitive
The head
Knowledge and
understanding



Affective
The heart
Attitudes

When planning to teach your subject, you will need to consider which domain you want to reach.

EXAMPLE

- *psycho-motor (subject – bricklaying) learners will build a two foot high wall*
- *cognitive (subject - geography) learners will state the reasons for coastal erosion*
- *affective (subject – the environment) learners will discuss their ideas for recycling.*

You will also need to consider how you can address all learning preferences, particularly if your subject is psycho-motor (skills) and the majority of your learners are read/write.

Attention is the first stage of learning, leading through to a change in behaviour once the learning has been successful:

- attention
- perception
- understanding
- short/long term memory
- change in behaviour.

Bloom also identified six different levels of learning with associated objectives that could be used when teaching and assessing learning:

- knowledge – list, recall, state
- comprehension – describe, explain, identify
- application – apply, construct, solve
- analysis – calculate; compare, contrast
- synthesis – argue, define, summarise
- evaluation – criticise, evaluate, reflect.

Knowledge is the lowest level and evaluation is the highest. It's useful to know which level your learners are aiming for, to ensure they can meet the objectives for that level.

Conditions of learning: Gagne

Gagne (1985) suggests that there are several different types or levels of learning. Each different type requires different types of teaching.

He identified five major conditions of learning:

- verbal information
- intellectual skills
- cognitive strategies
- motor skills
- attitudes.

Different internal and external conditions are required for each category of learning. For example, for motor skills to be learnt, there must be the opportunity for your learner to practise new skills rather than just learn about them. For attitudes, your learner must be able to explore these, for example, discussing environmental issues.

In addition, this theory outlines nine events that activate the processes needed for effective learning to take place.

Gagne believed all teaching and learning sessions should include a sequence of events through the nine levels. Each has a corresponding cognitive process (in brackets below):

- 1 gaining attention (reception)
- 2 informing learners of the objective (expectancy)
- 3 stimulating recall of prior learning (retrieval)
- 4 presenting the stimulus (selective perception)
- 5 providing learning guidance (semantic encoding)
- 6 eliciting performance (responding)
- 7 providing feedback (reinforcement)
- 8 assessing performance (retrieval)
- 9 enhancing retention and transfer (generalisation).

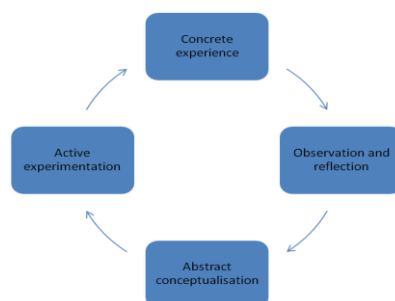
Sensory theory: Laird

Laird (1985) stated learning occurs when the five senses of sight, hearing, touch, smell and taste are stimulated. Laird's theory suggests that if multi-senses are stimulated, greater learning takes place.

You could therefore adapt your teaching styles and resources to enable your learners to use as many of their senses as possible.

Experiential theory: Kolb

Kolb (1984) proposed a four-stage experiential learning cycle by which people understand their experiences, and as a result, modify their behaviour. It is based on the idea that the more often a learner reflects on a task, the more often they have the opportunity to modify and refine their efforts.



Kolb's (1984) Experiential Learning Cycle

Concrete experience is about experiencing or immersing yourself in the task and is the first stage in which a person simply carries out the task assigned. This is the *doing* stage.

Observation and reflection involve stepping back from the task and reviewing what has been done and experienced. Your values, attitudes and beliefs can influence your thinking at this stage. This is the *thinking about what you have done* stage.

Abstract conceptualisation involves interpreting the events that have been carried out and making sense of them. This is the *planning how you will do it differently* stage.

Active experimentation enables you to take the new learning and predict what is likely to happen next or what actions should be taken to refine the way the task is done again. This is the *redoing* stage based upon experience and reflection.

The process of learning can begin at any stage and is continuous i.e. there is no limit to the number of cycles you can make in a learning situation.

This theory suggests that without reflection, people would continue to repeat their mistakes.

Humanist theory: Rogers

Rogers (1983) and others developed the theory of *facilitative learning*. This is based upon a belief that people have a natural human eagerness to learn and that learning involves changing your own concept of yourself.

This theory suggests that learning will take place if the person delivering it acts as a *facilitator*. To facilitate learning, you should establish an atmosphere in which your learners feel comfortable and are able to discuss new ideas

Your learners should be able to learn from their mistakes (if it's safe to do so), to find things out for themselves by experience and to not feel threatened by external factors.

Behaviourist theory: Skinner

Skinner (1974) believed that behaviour is a function of its consequences. Your learner will repeat the desired behaviour if positive reinforcement follows. Your learner should not repeat the behaviour if negative feedback is given. Giving immediate feedback whether positive or negative, should enable your learner to behave in a certain way.

Positive reinforcement or rewards can include verbal feedback such as '*That's great, you've produced that document without any errors*' or '*You're certainly getting on well*

with that task' through to more tangible rewards such as a certificate at the end of the programme or a promotion at work.

Reading list

Bloom BS (1956) *Taxonomy of Educational Objectives: The Classification of Educational Goals* New York McKay

Cornish D Dukette D (2009) *The Essential 20: Twenty Components of an Excellent Health Care Team* RoseDog Books Pittsburgh

Fleming N (2005) *Teaching and learning styles: VARK strategies*, Honolulu Honolulu Community College

Gagne R (1985) *The Conditions of Learning* (4th Edn) New York Holt, Rinehart & Winston

Gravells A (2014) *The Award in Education and Training (Revised)* London Learning Matters SAGE

Gravells A (2013) *Passing Assessments for the Award in Education and Training* London Learning Matters SAGE

Honey P & Mumford A (1992) *The manual of learning styles* (3rd Edn) Maidenhead Peter Honey Associates

Kolb DA (1984) *Experiential Learning: Experience as the Source of Learning and Development* New Jersey Prentice-Hall

Laird D (1985) *Approaches to Training and Development* Harlow Addison Wesley

Pike R W (1989) *Creative Training Techniques Handbook* Minneapolis MN Lakewood Books

Rogers CR (1983) *Freedom to Learn for the 80s*, Columbus Merrill

Skinner BF (1974) *About Behaviorism*, San Francisco CA Knopf

Website list

Honey & Mumford - www.peterhoney.com

Honey & Mumford Learner Types free online quiz: <http://resources.eln.io/honey-mumford-learner-types-1986-questionnaire-online/>

Learning preference test – www.vark-learn.com

Learning styles overview: <https://www.learning-styles-online.com/overview/>

Learning theories - www.learning-theories.com

Teaching and learning theories –

http://cehdclass.gmu.edu/ndabbagh/Resources/IDKB/models_theories.htm

Thinkers and theorists - <http://www.infed.org/thinkers/>