

Contents

	Acknowledgements	v
1	Introduction	1
2	Behaviourism	7
3	Implications of behaviourism for practice	22
4	Cognitive approaches	42
5	Implications of cognitive approaches for practice	56
6	The humanistic approach	78
7	Andragogy	93
8	Social learning	109
9	Attention, perception and learning	125
10	Memory and learning	142
	Glossary of terms	159
	Index	164

1

Introduction

If you have picked up this book, in all likelihood you are teaching in or are intending to teach in the lifelong learning sector. What do you/will you teach? Perhaps your subject is motor vehicle studies? If so, do you think that your learners can become effective mechanics without an understanding of the theories behind combustion and electrical circuits? Or maybe you teach accounting? Can your learners become effective accountants without a sound understanding of the theory behind double-entry book-keeping? Possibly you are of a more artistic bent and your chosen subject is music. Do you think your learners can become effective musicians without an understanding of the theory relating to scales and harmonics? The same questions could be asked of just about every subject in the lifelong learning curriculum, but hopefully these three examples are sufficient to make the point – every subject is informed by its own body of theory or **knowledge**.

This begs the question, can you be an effective teacher and bring about learning in others without an understanding of the theories of learning? You may not think it is necessary, citing examples of teachers who have been doing the job with some success for years without the need for any knowledge or reference to theory at all. You would probably concede, however, that as in any vocation or profession, the most effective practitioners – those who do the job best – understand the theory that underpins their practice. Certainly the current move towards professionalism in teaching in the lifelong learning sector would seem to support this view. According to Tummons (2007, p3), one of the major characteristics of any profession is *a theoretical knowledge on which practical or skill-based activity rests*.

The intention of this book is to help you to look at learning theory as a useful tool which can help you analyse and improve your current practice rather than something in a textbook you have to read to complete an assignment.

A note on the second edition

This second edition has afforded the opportunity to make several additions to the text in response to feedback received following the publication of the first edition. The major changes are:

- a new chapter on social learning theory (Chapter 8) which expands on areas such as scaffolding, referred to in the first edition, but also gives a reasonably comprehensive review of the major theorists such as Bandura and Vygotsky;
- cognitive neuroscience is gradually establishing a position for itself within the field of teaching and learning. Although, arguably, a coherent theory as such is yet to emerge an outline of its basic concepts are outlined in the chapter on memory and learning (Chapter 10);
- while the references at the end of each chapter give an indication of sources to go to if you wish to follow up what you have read, more specific guidance on further reading has now been added;
- a glossary of terms has been added to provide a quick reference guide to the language and terminology used within the text.

I hope these changes will prove useful and look forward to any subsequent feedback, which may lead to further improvement.

The nature of theory

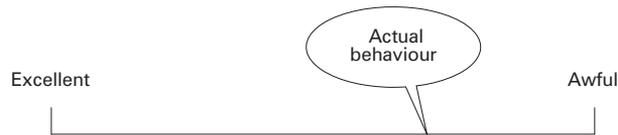
First, a little about the nature of theory itself. Suppose you were shown a particular pen. It is described to you before being passed to you so that you could examine it. You might look at it, sniff it, shake it to see if it rattles, squeeze it; in short, you could get to 'know' the pen by using your various senses. If it was then taken away from you and hidden and you were asked to write a description of this particular pen, it is likely that your description would be reasonably accurate. If there happened to be another 49 people in the room at the same time sharing the same experience, it is also likely that their descriptions would not only be reasonably accurate, but would tally with yours. Any that didn't, could be tested against the original pen and the reasons as to why they were wrong could be clearly identified. The final outcome is that everyone would have a common understanding of this particular pen, which could be verified and agreed upon. When it comes to learning, a repetition of this exercise would encounter several difficulties. Unlike a pen, learning is a process and not a real object – it is abstract as opposed to concrete. Rather than being shown 'learning' and passing it round for examination, you and the other 49 people would have to reflect upon your own experiences of learning in order to arrive at a description. This time, it is highly unlikely that the exercise would produce 50 identical descriptions. There may well be some similarities in the answers given; some may agree, but others may be completely different. Which answer is correct? Unfortunately each answer cannot be tested against the 'real thing' as with the pen. The different positions taken might well be debated and the evidence to support or deny each might be examined but the description ultimately settled on by any one person would be a matter of personal choice and would most likely be that which most closely resembled that individual's own experiences of learning.

Theorists find themselves in a similar situation. Different theorists will have different ideas as to what constitutes learning and will offer different arguments and evidence to support their position. So there is not one theory of learning. There are several, each derived from a different viewpoint. Although we can have one view of a pen and can agree as to what it is, we have several different views on what constitutes learning, each with its own particular merits. These different views arise because we don't all perceive the world in the same way – this is where psychology comes in. It contains different schools of thought, each with a different way of interpreting and understanding the world. Consequently, each has its own view on what learning is and how it takes place. These different views or perspectives on learning will be explored in different chapters of this book along with the implications of each for practice. As there is no single theory which adequately explains all the different facets of learning, you will probably identify different aspects of each in your own teaching as you read through the book.

How does a knowledge of theory help you become a better teacher?

It is not uncommon in normal conversation to make comparisons in order to convey meaning. My new car, for instance, is much more economical than the sports model that I used to have but not nearly as economical as the diesel estate I had prior to that. The new car doesn't correspond exactly to either of the other two but by using them as reference points I

can give an indication of its relative performance. Alternatively, I might be describing the behaviour of a group of learners I teach. I may well refer to the terms 'excellent' and 'awful' in my description. It is highly unlikely, however, that the behaviour of the said learners will fit exactly into either the 'excellent' or the 'awful' category – it will be somewhere in between. To identify this in-between position, however, I need the two extremes of 'excellent' and 'awful' as reference points.



Learning is a much more complex affair than either fuel consumption or behaviour and to discuss it in any meaningful way, additional reference points are needed. Two of the theories of learning explored in this book are behaviourism and cognitivism. These might be used as the two reference points within which to locate the learning that is taking place at any given time in a particular teaching session. As with the other examples, it would be highly unusual if this learning fell neatly into the category of either reference point. It would be unusual to see a teaching session that was conducted purely along behaviourist lines or purely along cognitive lines. The characteristics of each type of learning might well be exhibited to different degrees at different points in the entire session. Learning as a whole will lie somewhere in between the two chosen reference points. Those very reference points of 'behaviourism' and 'cognitivism' are needed, however, to help in identifying and explaining more clearly the exact nature of the learning that is taking place.



So what does this tell us about learning theory? Popper (1992) suggests that theories are *nets cast to catch what we call 'the world', to rationalise, to explain and to master it*. Achieving such mastery, however, initially involves simplification and generalisation and so it is important to recognise that theory, by its very nature, rarely provides a complete match with reality. Teaching and learning invariably don't fit neatly into the boxes that theory provides for us. What those boxes do provide, however, are reference points against which you can compare and analyse your practice, leading to a more informed view of what you do, ultimately enabling you to become a more effective teacher.

But practice, not theory, is how you get better

You might argue that the improvement of teaching comes through the 'doing' of it rather than through reading books about it, especially theory books. It is true that teaching is a skill and like any other skill is acquired through practice – but that doesn't mean that theory shouldn't inform this practice. The constant practice of crossing your hands when turning a corner in a car is not that useful to someone who is learning to drive. It would be more useful to practise turning corners by 'feeding' the steering wheel through the hands in the approved

PRACTICAL TASK PRACTICAL TASK PRACTICAL TASK PRACTICAL TASK PRACTICAL TASK

From the list below, tick the words you might use to write SMART objectives. Check your answers against those at the end of the chapter before reading on.

define		choose		describe		differentiate between	
state		appreciate		calculate		identify	
report		list		understand		know	
comprehend		perform		sympathise with		explain	
recognise		be aware of		classify		draw	
select		sort		demonstrate		be conscious of	

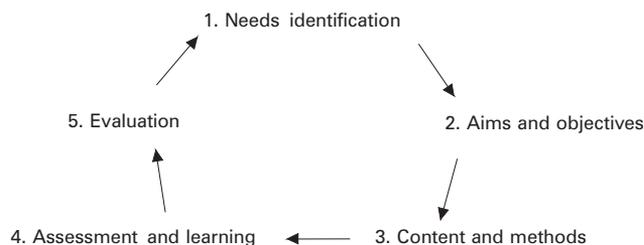
According to a behaviourist perspective, planning should start from a clear statement of the final expected outcome, phrased in terms of the expected behaviour change. One of the perceived advantages of this approach is that it leads to a systematic approach to planning. Once the learning that is to take place has been identified and stated in an appropriate manner, other planning decisions can be made concerning:

- the content of the session which is required to achieve this;
- the most appropriate methods and activities to deliver this content;
- the resources required to support the chosen methods and activities;
- the assessment techniques which will best determine whether or not the identified learning has taken place;
- how best to evaluate the session.

Because it provides a structured, procedural approach to planning, this approach is nearly always introduced into initial teacher training programmes; it provides a logical, step-by-step method of planning and organising teaching sessions.

This systematic approach to planning forms the basis of the 'Product' model of curriculum, so called because it emphasises the products or outcomes of the learning process. This model was championed by Ralph Tyler (1949) in his book *Basic principles of curriculum and instruction* and at the time was considered to have brought a new degree of clarity to the planning process.

The model below, known as the 'Rational Curriculum Model' or more popularly nowadays as the 'Training Cycle' is derived from Tyler's work and sets out the systematic approach to planning.



Classroom management

When it comes to the issue of classroom management, it will by now have become apparent that the focus for the behaviourist is not the individual who is displaying the behaviour to be addressed, but rather the behaviour itself. The methods employed are therefore aimed at influencing and controlling actual behaviours. The setting of ground rules falls into this category as these identify behaviours which are acceptable and those which are not. As with any rule-based approach, strategies to encourage compliance then have to be put into place. These will normally involve punishment and the different types of reinforcement which were explored in the previous chapter, as these are the means through which behaviourists hope to influence what people do.

REFLECTIVE TASK

Of the two approaches – reinforcement and punishment – which do you consider to provide the most effective approach to classroom management? Can you see any potential problems with either?

With regard to the two options of reinforcement and punishment, punishment is regarded as the least effective for a number of reasons.

- Punishment may give rise to feelings of anxiety, fear, anger or resentment in the recipient which can exacerbate rather than solve behavioural problems.
- Punishment generally has only a temporary effect.
- If the undesirable behaviour is attention seeking, punishment can provide reinforcement, thus actually strengthening rather than eradicating it.

The main concern, however, is that punishment tells whoever is on the receiving end what not to do but does not inform them about what they should do. As a consequence, punishment can lead to the replacement of one undesirable behaviour by another.

Programmes of behaviour modification thus normally start by identifying what are deemed as acceptable behaviours, making these the focus. If these behaviours are seen, they are rewarded in some way – they are positively reinforced. Behaviours which fall outside of those which are regarded as acceptable are ignored on the basis that if they go unrewarded, they will eventually disappear altogether (extinction). The accent then, is on positively reinforcing the behaviours that are to be encouraged.

A variation on this theme is assertive discipline first introduced in America by Lee Canter (1979; Canter and Canter, 2001). Assertive discipline is a system of behaviour management which relies upon the consistent reinforcement of a limited number of clear, concise rules. Desirable behaviours are rewarded and undesirable behaviours lead to predetermined consequences. The assumption behind this approach is that generally, there is no acceptable reason for inappropriate behaviour. If learners know what is expected of them through the establishment of rules and procedures, reinforcement of these on a consistent basis will lead to effective classroom management. Such an approach clearly has behaviourist overtones but the concept of assertive discipline has evolved since its original inception into a form that is now rather less authoritarian and intends that learners, to a large extent, self-regulate their own behaviour.

REFLECTIVE TASK

Concepts form the language of any subject specialism. Consider your own particular specialist subject. What are its basic concepts? At what stage do your learners encounter these?

Some concepts such as 'bricks' and 'mortar' are concrete in nature – we can identify them through our senses by seeing, hearing touching, tasting or smelling them. They are real to us. Others such as 'credit' and 'health' are abstract – they are ideas, processes, situations or events which cannot be directly experienced through the senses. Regardless of type, however, the acquisition of the relevant basic concepts is the first step in the learning of any subject.

Some concepts you will have encountered in your reading about teaching and learning will include:

motivation, memory, attention.

Suppose I now tell you that:

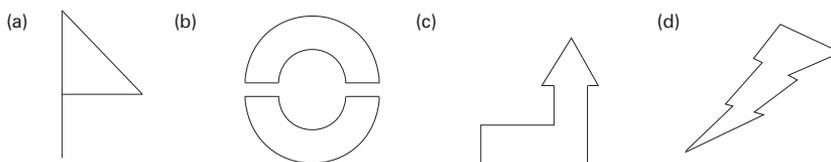
memory is enhanced when motivation is high and attention is focused solely on the material to be learned.

We now have a statement of the relationship between these concepts known as a 'principle'. A principle is a proposition or rule that operates within the subject you teach and links together the different ideas or concepts upon which the subject is based. The learning of subject principles is the next stage on from acquiring the necessary concepts.

Subject	Principle
Accounting	The sum of all <i>debits</i> should be equal to the sum of all <i>credits</i> in <i>double-entry</i> bookkeeping
Bricklaying	Adding <i>plasticiser</i> to a <i>mortar</i> mix gives greater adhesion between <i>bricks</i>
Catering	A balanced <i>diet</i> contains the six key <i>nutrient</i> groups essential for good <i>health</i> in appropriate amounts
Chemistry	In a <i>reaction</i> between an <i>acid</i> and a <i>base</i> , a salt and water are formed

A knowledge of the basic concepts and principles is therefore fundamental to the learning of all subjects. This begs the question of how they are best taught.

Suppose I wanted to teach you the concept of 'rolt'. First I would check that you didn't already know what a rolt is. Try the following multiple-choice question.



Which of the above is a rolt?

7

Andragogy

Chapter overview and objectives

There is a view that the nature and characteristics of adult learners have particular implications for the learning process in which they engage. This chapter builds upon the previous chapter by exploring the concept of andragogy – a vision of adult learning based upon humanistic principles – and some of the practices it encourages.

When you have worked through this chapter you will be able to:

- **identify Knowles' assumptions about the nature of adult learners which underpin the andragogical approach;**
- **describe the implications of these assumptions for practice;**
- **recognise the form and purpose of a learning contract and the characteristics it shares with an individual learning plan (ILP);**
- **describe the stages in successfully setting up and implementing a learning contract;**
- **acknowledge the significance of the process of negotiation within an andragogical approach to learning;**
- **identify different forms of negotiation and differentiate between what may and what may not be negotiable within a learning environment;**
- **describe Kolb's model of experiential learning;**
- **distinguish between different forms of experiential learning;**
- **manage experiential learning activities in a systematic fashion.**

This chapter contributes to the following values and areas of professional knowledge as contained in the professional standards for teachers, tutors and trainers in the lifelong learning sector:

The andragogical approach to adult learning

Andragogy, a term which has been around since 1833 when it was first used by Alexander Kapp, a German schoolteacher, was popularised in the 1970s by Malcolm Knowles, who defines it as *the art and science of helping adults learn* (Knowles, 1990, p54). Knowles used the term to describe his own theory of adult learning which he based around *what we know from experience and research about the unique characteristics of adult learners*. His interest was first aroused when observing adults being taught in the same fashion as children, a practice he considered as wholly inappropriate. Such practice provided the focus of Knowles' early work in which he compared andragogy with pedagogy – the art and science of teaching children. He later came to regard this comparison as unhelpful, subsequently adopting the view that the principles of andragogy could contribute to a model of good practice applicable to all learners.

Social learning

- encouraging learners to make and test predictions;
- modelling a thought process for learners through a process of 'thinking aloud';
- engaging in joint problem-solving activities;
- helping learners to devise a plan of action;
- giving praise where appropriate to maintain motivation;
- using 'what if' questions or scenarios to arouse curiosity or guide thinking;
- establishing the usefulness of the task or problem to be tackled to stimulate motivation;
- suggesting possible strategies to use during independent practice.

REFLECTIVE TASK

REFLECTIVE TASK

Repeat the reflective task centred on Bandura's work (see p111) using Vygotsky's list of teaching behaviours this time as a checklist against which to compare your own practice.

In keeping with the ethos of the approach, these activities vary in the level of direction they give and their specific use will depend on learner need and rate of progress.

It will also depend upon the context within which scaffolding is employed. Scaffolding can be a 'planned in advance' activity with predetermined outcomes undertaken with either groups or individual learners. In either instance, a consideration of outcomes, assessment methods and previous learner experience form the basis of planning and a more directive, teacher-led approach is likely to be adopted. Conversely, scaffolding can be a more spontaneous event, when a 'teachable moment' is encountered and scaffolding techniques are used to take advantage of this. This supportive use of scaffolding is much more learner-led in nature, addressing specific learner needs based on current ability and interest. Thus, under these circumstances a less directive approach is the more likely. There is no hard and fast rule, however. The way in which scaffolding is carried out in practice is determined by the need of the individual case or moment. This requires making a judgement as to what, out of the various options, is the most suitable – not always an easy task, hence the reservations expressed above by Ireson (2008) and Oakley (2004).

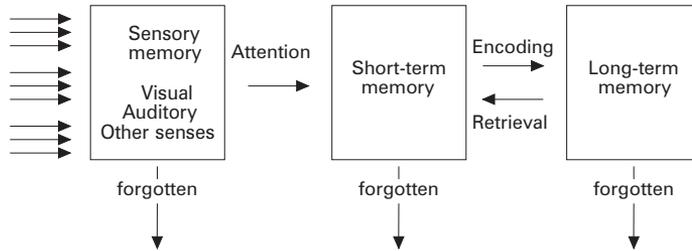
Piaget and Vygotsky

Piaget and Vygotsky are the two main theorists to examine cognitive development, particularly in the early years, but each presents a very different viewpoint. They share the common belief that children are active learners, constructing their own frameworks of meaning and understanding, but their views on development differ significantly.

Piaget's theory limits the child by identifiable development stages, which are encountered at different stages of maturity. Children's learning keeps pace with their rate of cognitive development and so they are only ready to learn new concepts that are commensurate with their stage of development. As children learn through direct contact with their environment, the role of language and contact with more knowledgeable others, are of minimal importance.

Vygotsky's ZPD, on the other hand, challenges the child to work beyond the potential defined by their developmental stage, regardless of age. Thinking is developed through social contact and language and scaffolding allows children to engage in tasks and solve problems that are beyond their current level of capability or development, although such

Memory and learning



This chapter will examine each of these different components of memory and the processes by which memory functions, before exploring strategies to improve the effectiveness of memory in the learning environment.

Sensory memory

Sensory memory has been discussed in Chapter 9 as it normally precedes the attention phase of information processing. It holds a fleeting impression of incoming stimuli before either discarding them or passing them on to the next stage of short-term memory. Sensory memory takes in all of the available environmental information, creating an all-round awareness. Suppose you are driving your car. You are taking in all sorts of visual information related to other traffic, pedestrians, road conditions, signals, lights and auditory information relating to other traffic users, your own car's engine noises... In short, there is a vast range of sensory information which is available. Most of it becomes background, however, and you do not actually pay it specific attention. It is only when your engine splutters, a pedestrian walks out into the road or a traffic light changes to red that it becomes the focus of your attention. In order to become the focus of attention, however, the stimulus must have been picked up in the first place and this is the function of sensory memory – to retain sensory information long enough for a decision to be made as to whether it is worth exploring further. Its capacity is therefore extremely large, but the trace left is fleeting. Stimuli are processed in their raw form, visual (iconic) information lasting for approximately half a second before fading away or being overwritten by the next incoming stimuli. Auditory (echoic) information lasts somewhat longer. The spoken word, for instance, retains a trace for between two and four seconds, essential if it is to be contextualised by the remainder of the sentence of which it is part.

Short-term memory

In the original Atkinson and Shiffrin model, short-term memory retains information for approximately 30 seconds. If you wished to memorise a telephone number only long enough to dial it, it would be stored in short-term memory but once it had served its purpose, it would be discarded rather than progress to long-term memory. It would then become forgotten. If you had to go to another part of the house to find a telephone you could use, you might maintain the number in short-term memory by continuously repeating it to yourself until you arrived at the telephone. This process is known as rehearsal and is seen as having two functions. The first of these is to retain information in the short-term memory by renewing its trace. By repeating the number you can maintain it in short-term memory long enough to be able to use it. The second of these is to transfer information from short-term to long-term memory. While it is not the only mechanism by which this transfer can be achieved, Atkinson and Shiffrin regarded it as the most commonly used. If your walk to the telephone was reasonably short, the number would be forgotten once you had used it.