5
Learning theories

What this chapter is about

• What is learning?
• Behaviourism
• Cognitivism
• Constructivism
• Humanism
• Educational neuroscience
• Motivation
• Intelligence
• Adult learning
• Situated learning

LLUK standards

This chapter covers, at least, the following standards:
AK 4.1; AP 4.1
BK 2.1; BP 2.1; BK 2.2; BP 2.2; BK 2.3; BP 2.3
CK 3.1; CP 3.1

What is learning?

‘Learning’ can have a wide variety of meanings which differ according to who is using the word and the circumstances of its use. In behaviourist terms it is ‘a change in behaviour and . . . changes in behaviour occur as a response to a stimulus of one kind or another’ (Pritchard 2009: 11).
'Change' features in most definitions of learning. This might be in terms of change in behaviour, knowledge, skills, ability and, in the wider sense, changing as a person. When we are planning courses and learning sessions we should consider not only the content of the programme but also the wider elements of how learners can change and what they can become. These might include: becoming independent and lifelong learners; becoming more autonomous; learning to learn, and coping with change.

Marton and Saljo (1976) researched students’ conceptions of learning and developed the following categories for understanding different ideas about learning:

1. Learning is an increase in knowledge, acquiring information.
2. Learning is memorising, storing information that can be reproduced.
3. Learning is learning facts, skills and methods to be retained and used as necessary.
4. Learning is making sense or abstracting meaning. Learning involves relating parts of the subject matter to each other and to the real world.
5. Learning is interpreting and understanding reality in a different way. Learning involves comprehending the world by reinterpreting knowledge.

Conceptions 1 to 3 suggest a less complex view of learning in which we acquire or ‘possess’ knowledge. This kind of learning might result from transmission approaches to teaching and learning in which the teacher dispenses knowledge and the learners attempt to retain it. There is nothing wrong with these conceptions of learning; it is often appropriate for learners to be told things and to memorise, repeat and practise them. Conceptions 4 and 5, however, imply a deeper and personal process of learning which is about individual change and understanding the world differently.

Why bother with theory?

Everyone learns – this much is undeniable. There is less certainty, however, about what learning is and how it happens and, consequently, we develop theories to explain it and try and understand how it happens. Jordan et al. (2008: 1) suggest that ‘consciously or unconsciously, everyone holds theories of learning’. These theories might be personal, ‘common-sense’ theories based on our own ideas and experiences of learning, or they might be the ‘accepted’ theories of learning developed by academics through research, experiment and investigation. These theories are vital to our understanding of learning and our professional development. Without some theoretical tools and concepts we will have little on which to base our reflections and to improve our teaching and our students’ learning.

Theories are not facts and we should be prepared to criticise, adapt or even reject some as well as use them as frameworks to understand, guide and improve our practice. An understanding of learning theory is essential for teaching in post-compulsory education and training. However, theory is most useful and more readily understood when it is put into practice. This is made clear in the LLUK standards, which state that teachers in the lifelong learning sector (LLS): ‘use relevant theories of learning to support the development of practice in learning and teaching’ (AP 4.1).
An understanding of theory, then, is one of the keys to improvement of learning and teaching. Biggs and Tang (2007) suggest three levels of thinking about teaching and learning:

1 *What the learner is.* In this level of understanding the responsibility for learning or not is seen to be the learner’s. It fits with theories of fixed ability. The teacher’s role is to transmit content. Those learners who understand it do so, this model suggests, because they have ability. Those who don’t understand it don’t have ability. It’s a kind of ‘blame the student’ model.

2 *What the teacher does.* This level of understanding is more positive in that it stresses the role of the teacher in improving their teaching. It’s about widening the range of teaching and learning techniques and improving effectiveness in order to ‘get the message across’ more effectively. This level, however, still lacks a coherent theory of how people learn.

3 *What the learner does.* This level is more student centred and encourages teachers to understand how learners learn and how they can help them. It is based on constructivist theory which suggests that learning cannot merely be transmitted or ‘delivered’ to learners. They have to create their own understanding and connect it to what they already know.

(Biggs and Tang 2007: 16–19)

The main schools of learning theory we will consider are:

- behaviourism
- cognitivism
- constructivism
- humanist approaches
- adult learning
- situated learning.

We will also briefly review some ideas around intelligence and recent research in educational neuroscience. None of these theories is definitive or provides the ‘correct’ answer to how people learn. However, there is something for trainee teachers to learn from each of them. Successful teaching and learning is likely to be an amalgam of elements from a range of theories and ideas.

It is important that we avoid a ‘common-sense’ approach to the question of how people learn and not assume that how we learn best is how everyone will learn best. A simple theory of learning is the one I refer to as the ‘empty bucket’ theory. You might see this referred to as ‘transmission learning’. The basic elements are as follows:

- Teacher knows everything.
- Students know nothing (‘empty buckets’).
- Teacher’s job is to fill the empty buckets with knowledge.
• Students' job is to learn and retain the knowledge.
• Teacher tests students to assess if they have retained the knowledge.
• Students who have retained and can regurgitate the knowledge are successful.
• Students who cannot retain the knowledge are considered ‘leaky buckets’ who need further teaching or are deemed less intelligent.

You should be able to work out a number of reasons why this approach is flawed (e.g. teachers are experts but they don’t know everything) – more criticisms will become apparent by the end of this chapter.

**Behaviourism**

Early psychologists were mainly concerned with introspection – that is the interior, mental processes of individuals' thinking. Behaviourists rejected the notion that psychology was basically concerned with individuals’ mental processes. They considered such approaches to be unscientific and subjective, arguing that the mind could not be studied objectively. Behaviour, however, was observable and could be studied and measured scientifically. Behaviourism is concerned with observable changes in behaviour and suggests that we learn in response to external stimuli. A stimulus is an internal or external factor which stimulates an organism and causes action; it could be anything – a sound, a hunger pang, a pleasant or unpleasant smell, a colour, a particular classroom. A response is any action or activity generated by a stimulus, for example, picking up your mobile when it rings, or rapid move away from an unpleasant smell.

**Ivan Pavlov – classical conditioning**

Pavlov (1849–1936), a Russian physiologist, during his research into the digestive systems of dogs, observed occasions when dogs salivated at the smell of food. This is a natural response which Pavlov described as an ‘unconditional response’. In subsequent experiments the arrival of food was preceded by the sound of a bell and eventually the sound of the bell alone caused the dogs to salivate. This is known as a ‘conditional (or conditioned) response’. However, once a conditional response has been learned it will not remain indefinitely and will eventually fade away. If Pavlov’s dogs repeatedly heard the bell but no food arrived, the salivation would cease. This principle is referred to as ‘extinction’.

**B. F. Skinner – operant conditioning**

B. F. Skinner (1904–1990) is perhaps the most well-known behaviourist. His chosen animals for experimentation were rats and pigeons and his equipment was called the Skinner Box. Skinner showed that these animals could be trained to carry out increasingly complex tasks. Essentially, an animal would be placed in the Skinner Box and through a process of trial and error would learn to obtain food pellets by pressing a lever.
Skinner’s main contributions to behaviourism were the notions of positive and negative reinforcement. He maintained that positive rewards were far more effective than negative rewards or punishment in developing desired behaviour. Skinner also developed the idea of behaviour shaping, that is training humans or animals to carry out new tasks through a series of increasingly complex activities leading to the completion of the desired task. Shaping can be used to help learners who have severe learning difficulties, for example, in the acquisition of language.

What can we learn from behaviourism?

Behaviourism is frequently criticised for being too simplistic and reducing human behaviour and learning to nothing more than a process of stimulus and response. Pavlov and Skinner may well have produced learning in their animals but we can be fairly certain that it was learning without understanding. Human learning, it is argued, is much more complex and involves thinking, reasoning and social factors. Apart from brief discussions, behaviourism is largely absent from the discourse of learning theory. McLay et al. (2010: 88) assert that behaviourism ‘diminishes the richness of learning’, although they suggest that we shouldn’t dismiss it completely as it offers some insights into how the role of reward, in the form of praise and achievement, can positively benefit learning. Behaviourism can also offer insights into the origins of some learners’ fears and anxieties.

Clearly there are instances in early child education where the role of behavioural learning is obvious. Discipline can be reinforced by rewarding appropriate behaviour and punishing inappropriate, although the child might learn to carry out inappropriate behaviour where it cannot be seen. We may, however, find it hard to understand how behaviourism can provide any useful insights into post-compulsory and adult education. The following points summarise some useful aspects of behaviourism:

- Positive rewards and encouragement are more effective than negative responses. For learners in post-compulsory settings, encouraging comments in response to class contributions, for example, are likely to encourage further learner involvement. Constructive and developmental comments on learner’s work are preferable to the old-school style ‘could do better’.
- For many adults considering a return to learning, memories of authoritarian and rigid schools can act as negative stimulus and affect their willingness to enrol and participate. It is up to us to provide friendly and supportive learning environments.
- There are instances where teacher demonstration followed by student practice and repetition are appropriate, for example, in learning and developing skills such as bricklaying; drawing, or playing a musical instrument. Skills cannot be acquired without frequent practice. Active learning is more effective than passive learning. ‘Learning by doing’ is important.
- Behaviourist theories suggest that learning is more effective when learners are clear about the objectives. Learning objectives (for example, ‘At the end of this session learners will be able to . . .’) are frequently referred to as ‘behavioural objectives’.
Cognitivism

Cognitivism is the scientific study of mental processes and the ways in which people receive and process sensations and perceptions; how they organise knowledge, and their learning and memory. Cognitivism differs from behaviourism, which doesn’t recognise mental processes, in that it sees humans not simply as organisms which react to stimuli but as processors of knowledge.

One of the key concepts in cognitivism is the schema. Schemas are mental models or frameworks which every individual creates to organise and understand the world and to store this in the long-term memory. Each schema consists of discrete pieces of information that are connected together in ways which are meaningful to the individual. Every human has a need to organise and categorise and schemas provide a sort of mental store for this to happen. An adult may have thousands of schemas and although individuals may have similar schemas everyone is unique.

Figure 5.1 shows a diagram of a schema representing the Industrial Revolution in England, a historical period which can be difficult to understand because of the interlinking of so many technological, economic and social elements. This schema will develop and change as new information is acquired, but the key point is that it provides a flexible framework for organising a big idea and its constituent parts.

Advance organisers

The schema of the Industrial Revolution shows how we can create devices to help learners organise their knowledge and to provide them with advance frameworks for

![Concept map representing schema of Industrial Revolution.](24711.indb)
new learning. The psychologist David Ausubel (1918–2008) developed the concept of ‘advance organisers’ (Ausubel 1960) which are devices for providing organisational frameworks that teachers present to learners to prepare them for what they are about to learn. They link previous knowledge and learning to the coming topic or provide the ‘big picture’ for new learning. As well as preparing for learning to come, organisers can be used for revising learning, connecting learning and discovering new ideas and concepts, analysing and thinking. Examples of advanced organisers include:

- concept maps
- flow charts
- diagrams
- written overviews
- charts
- timelines
- maps
- tree diagrams
- bullet points.

What these organisers do most effectively is ‘fix’ an idea or concept so that new learning can be related to it. In English literature a teacher can fix the structure and characters in a play or novel by a visual representation. Organisation charts help business studies students to see clearly and to analyse the structure of businesses. Advanced organisers which use a visual element are sometimes called ‘graphic organisers’. Edward de Bono’s book *The Greatest Thinkers* (1976) provides essays outlining the work and ideas of significant thinkers from Moses to Sartre. Each essay is introduced by a diagrammatic overview the ideas. Figure 5.2, from the essay on Charles Darwin, shows a simple visual representation of the prevailing notion that God created all creatures and they remained unchanged. This is contrasted with the model after the publication of the *Theory of the Origin of the Species* which represents evolution as a series of adaptations and changes with some branches dying out and others adapting and surviving.

Advance organisers that use a visual element are sometimes called ‘graphic organisers’. Thinking visually can help learners and teachers to become more familiar with the big concepts in a subject and structuring ideas and solving problems. In his book *The Back of the Napkin* Dan Roam (2008) shows how initial thoughts and ideas can be captured and developed using a range of visual techniques. Similarly, concept mapping provides opportunities for teachers and learners to produce the big picture and explore connections. There are several concept mapping tools available which you can buy or sometimes download for free on your computer; MindGenius is a good example.

Sometimes an advance organiser can consist simply of a concise spoken or written introduction to a session which sets out the key issues to be considered or questions to be answered. Margaret Archer, writing about educational systems, begins her article with an admirably simple overview:
‘How do educational systems develop and change?’ This first question about the characteristics of education can be broken down into three subsidiary ones: ‘Who gets it?’, ‘What happens to them during it?’ and ‘Where do they go after it?’

(Archer 2002: 363)
Immediately we know where we’re going and what the main issues are.

Ausubel favoured the use of *expository learning*, or direct instruction by the teacher. However, as Legge and Harari (2000: 32) suggest:

What is interesting about this approach is that although it is presented as completely teacher-led, Ausubel actually argues that it is constructivist because the student is not a passive recipient of information, but actively learns from it.

In other words, the use of advance organisers is not simply a method for organising and processing knowledge but a way in which learners can create meaning. This notion of meaning making takes us to the theory of constructivism.

**Constructivism**

Constructivism is based on the idea that learning is a result of mental construction whereby new information is connected to what we already know and our mental frameworks adapt and develop. Constructivist theory suggests that we must provide, and help learners to create, frameworks for learning. (Note the frequent use of construction metaphors in this theory – building, scaffolding, framework.) The most effective learning is active, student-centred learning – the opposite of the ‘empty buckets’ view outlined earlier. Whereas cognitivism sees learning as *knowledge processing*, constructivism sees learning as active and personal *knowledge construction* or meaning making. This idea of ‘meaning making’ suggests that:

We never really understand something until we can create a model or metaphor derived from our own unique personal world. The reality we perceive, feel, see and hear is influenced by the constructive process of the brain as well as by the cues that impinge upon it. It is not the content stored in memory but the activity of constructing it that gets stored . . . Humans don’t *get* ideas; they *make* ideas.

Costa (2001: xvi)

As Woolfolk et al. (2008: 411) point out, constructivism draws on the work of a wide variety of philosophers, psychologists and educators as well as the research of the Gestalt psychologists and Piaget, Bruner and Vygotsky. There is no one constructivist theory but most constructivists share two ideas:

- Learners actively construct their own knowledge.
- Social interaction is vital to knowledge construction.

**Gestalt psychology**

‘The whole is greater than the sum of its parts.’ This frequently made observation captures the essence of gestalt psychology. Gestaltists believe that psychologists should be concerned with the total structured forms of people’s mental experiences rather than individual elements:
‘[Gestalt] ... refers to people’s tendency to organise sensory information into figures and whole forms. Instead of perceiving bits and pieces of unrelated information, we usually try to make sense of events or objects by seeing them as a whole. (Woolfolk et al. 2008: 298)

Gestalt psychologists refer to the notion of ‘insight’ when a learner suddenly becomes aware of the significance or relevance of something, rather like when the last piece of a jigsaw goes into place. These moments of illumination might be when a mental framework becomes complete or when a major connection is made. Such insight, however, is not just a matter of luck; it depends on teachers and learners building frameworks for learning.

Applied to learning this means, simply, that learners need the ‘big picture’. This idea is at the heart of gestalt and of constructivism. In the same way as it is difficult to do a jigsaw without the picture on the box, it is difficult for learners to start with details and elements without a structure in which to locate them. Film studies students will benefit from a textual analysis of a film’s camera work, sound, lighting and script, but a film is more than just the total of its elements – it is a complete work.

Jean Piaget

The formalisation of constructivist learning theory is generally attributed to Jean Piaget (1896–1980). The key ideas from Piaget’s work are that people construct knowledge from their active engagement with the world and through the processes of assimilation and accommodation.

Our mental schemas are not fixed; they are incomplete and always evolving. Constructivism is concerned with how they grow, develop and adapt. Piaget used the terms assimilation and accommodation. Assimilation is the process in which new information and ideas are added to existing schema leading to an increase in knowledge. The schemas do not change but they grow to include the new information. We can understand an increasing amount of information, but there will be times when new knowledge conflicts with existing. Piaget uses the term accommodation to describe the process by which schema change to make sense of new knowledge and ideas. Assimilation adds to existing schema; accommodation changes schema. These additions and changes happen throughout our lives.

Jerome Bruner

Bruner (1915–) believed that learning is a social process in which learners construct their understanding of the world through communicative interaction. In addition, he regarded learning as a continuous, active process involving intellectual development and problem solving, not the production of a body of knowledge. From Bruner we get two important connected educational theories: a theory of learning and a theory of instruction (teaching). Bruner’s theory of learning has three elements.

1 Acquisition. The acquisition of new knowledge which (in Piaget’s) terms may be assimilated or accommodated.
Transformation. Basically, learners do something with this new knowledge. They manipulate it and apply it to work out problems. It might be used in a new situation (transference).

Evaluation. The learner assesses and evaluates the utility of the new knowledge in relation to the problem or task.

Bruner’s theory of instruction has four elements:

1 Readiness. Learners should have a predisposition to learning. He believed the most effective motivation was for learners to be confronted with problems to be solved. The problem/s should arouse curiosity and uncertainty.

2 Structure. The content must be structured so that the learner can understand it. He suggested, perhaps controversially, that ‘any idea or problem or body of knowledge can be presented in a form simple enough so that any learner can understand it in a recognisable form’ (Bruner 1996). The content can, according to Bruner, be represented in three main ways:
   - by a set of actions or enactive representation – for example, a lecture in plumbing could provide a demonstration
   - using images or iconic representation – the plumbing lecturer can provide the information using pictures or a Powerpoint presentation
   - symbolic representation – the lecturer may present the information in the form of a diagram using symbols specific to plumbing and heating. The learners interpret this information using their prior experiences.

3 Sequence. Material must be presented in the most effective sequence to allow learners to acquire, transform and transfer learning. Bruner uses the term spiral curriculum to denote the method by which students revisit ideas and concepts over a period of time but at increasingly complex levels. In history, the very difficult question of the origins of World War I could be encapsulated in a visual chart showing the main combatants, alliances, etc., and revisited to develop an increasingly sophisticated understanding.

4 Motivation. The final element is concerned with the nature of pacing and rewards. Initially, learners may be motivated by positive feedback from teachers (extrinsic motivation), but ideally will move towards intrinsic motivation which comes from the satisfaction of solving problems and developing new ones to be solved. This intrinsic motivation can make the process cyclical, in that the learner will become ready to start a new, related stage of learning.

Bruner advocated the use of discovery learning as the most effective method to encourage the kinds of active, problem-solving learning implicit in his theories of learning and instruction. Problem-based learning is a very similar method, frequently used in health education and training in which learners start from a problem to be solved. They then draw on their learning and develop the new learning and research required to solve the problem. An excellent overview can be found in Harkin et al. (2001). Project-based learning, in which learning is based round an integrated theme, can include a discovery element.
Discovery learning is, essentially, an active student-centred approach in which the teacher’s role is to provide opportunities for learners to work out problems and evaluate and transfer their learning. As Geoff Petty points out, it is ‘teaching by asking’ rather than ‘teaching by telling’ (Petty 2009). Petty goes on to stress that in many cases teachers will need to provide initial information and examples to kick-start active learning and, to ensure differentiation and motivation, some learners will need more support than others – this he describes as ‘guided discovery’.

**Activity**

Consider an element from a course or module you teach. Briefly outline a task/s which would encourage discovery learning with your students.

For example – Motor Vehicle students could be confronted with a car which fails to start and asked to find out why and what can be done to rectify it.

**Lev Vygotsky**

Vygotsky (1896–1934) developed his ideas during the Stalinist period in Russia. It was forbidden to discuss, disseminate or reprint his work until 20 years after his death. He believed education should liberate children (and people) by developing their thinking and learning skills and particularly the development of language. Vygotsky is most closely associated with social constructivism which sees learning not as an individual process but as a social and cultural process which happens through social interaction and dialogue.

Vygotsky maintained that education is an active process. However, people need help to learn and for Vygotsky the teacher is a more knowledgeable person who challenges the learner to achieve more by providing scaffolding to help them climb to higher levels. He refers to the difference between what the learner can do alone and what they can do with help as the zone of proximal development (ZPD). Alan Pritchard (2009: 25) explains the ZPD as ‘a theoretical space of understanding which is just above the level of understanding of the given individual. It is the area of understanding into which a learner will move next’. This move will be facilitated and aided by the teacher. Although the most effective learning will aim for the higher levels of the ZPD, the zone will be different for each learner and, consequently, we must know our learners as individuals in order to assess how high we can ask them to aim and to provide the right amount of scaffolding – too high, unsupported will feel threatening for some learners; a small rise with too much support will not represent a challenge, possibly leading to a decrease in motivation. As with scaffolding in construction, the framework is temporary. Once the higher levels have been attained and made safe for the learner to access alone, the scaffolding is removed.

Scaffolding activities might include discussion to guide and support learners as they learn new concepts, or practical tasks in vocational education may be supported...
by demonstration and observed practice. Scaffolding is not just provided by the
teacher; learners can also support each other in their learning through groupwork
problem-based learning.

**Active learning**

Constructivism is essentially a theory of learning in which learners construct understand-
ing from their experiences; it doesn’t prescribe what those experiences should be. Constructivism, however, is generally associated with approaches based on *active learning*. Active learning doesn’t mean learners are busily involved in physical activity, although they might be. Active in this sense means being actively involved in making meaning rather than just being given information. Passive learners are reactive rather than proactive and, typically, are involved in taking notes, listening, copying – just being ‘filled up’ with information. In passive learning the content is structured and organised by the teacher. Active learning is more likely to result from active teaching; surface learning is likely to be the result of passive teaching.

**Deep and surface learning**

The notions of deep and surface learning developed from Marton and Saljo’s (1979) work on the five conceptions of learning. *Surface learning* is characterised by rote learning, memory and low-level cognitive activities rather than on understanding. It can only usually be reapplied in the same situation in which it was learned. While memorisation is not in itself undesirable – learners may be required to memorise the periodic table or the lines of a play – deep learning only occurs when the information is connected to previous learning.

*Deep learning* is about really understanding a subject, making connections and recognising underlying principles. It is learning which is based on student-centred activities such as problem-based learning; reflection; case studies; application; evaluation and analysis. Deep learning is long lasting. It is associated with constructivism in that it requires the development of schema and the making of connections. Deep learning is best achieved when learners have their curiosity aroused and are set challenging problems.

According to Entwistle (2000), surface learning is characterised by students:

- intending to cope with course requirements
- drawing on lower level cognitive skills
- treating the course as unrelated bits of knowledge
- memorising facts and procedures routinely
- studying without reflecting on purpose or strategy
- finding difficulty in making sense of new ideas presented.

Deep learning is characterised by students:

- intending to understand ideas for themselves
- relating ideas to previous knowledge and experience
• looking for patterns and underlying principles  
• checking evidence and relating it to conclusions  
• examining logic and argument cautiously and critically  
• becoming actively interested in the course content.

Deep and surface learning are best understood as metaphors for learning rather than theories of learning and we need to be wary of labelling individual learners as deep learners or surface learners. Learners can also take a ‘strategic approach’ in which they actively choose a more surface approach to parts of a course or a module that they have to pass but perceive as having little relevance. The adoption of a strategic approach could, in some cases, be evidence of rational choices and students being responsible for organising and structuring their own learning.

Humanism

In essence, humanism in education could be summed up as the removal of barriers to learning and creating an emotionally safe and secure learning environment. It also revolves around the simple notion that we all need to feel good about ourselves.

You might have memories of your own or of friends’ school experiences. Most of us can provide examples of teaching that has been threatening, humiliating and occasionally frightening. My own memories of maths in school are associated with fear – of failure, punishment or humiliation. Consequently, my number skills did not develop until I got my first job in a shop – a good example of ‘situated learning’. These kinds of barriers are not confined to schoolchildren; 14–19 year olds and adult learners may well have similar psychological baggage which affects their learning and their feelings about learning. For adults returning to learning, the creation of a non-threatening environment is one of the keys to success. This, it could be argued, is an instance where humanism links to behaviourism.

Activity

Consider your own or another person’s experience of education (in school, college or university).

• Identify an experience which was negative or something which was a barrier to learning.
• In what ways did it impede learning?
• How did it make you feel about that subject, about the school or college, about education?
• How did it make you feel about yourself?
The activity above may have illustrated the notion of the self-fulfilling prophecy, whereby an individual's self-perception is moulded by what others say about them and how they act towards them. Thus, a person who is frequently told they are a failure will come to believe they are a failure, with negative consequences for their future learning. Often in lifelong learning we are faced with the task of helping to repair those who have been damaged by early educational experiences. Humanist theorists regard every human as unique. Their aim is the education of the whole person and the development of individuals with positive self-esteem. Positive self-esteem is both a goal of education and a basis for lifelong learning.

Carl Rogers

Rogers (1902–1987) is generally associated with the fields of counselling and psychotherapy, but he provides much useful advice for learning and teaching. As a therapist he believed that most people had the solutions to their problems within them and that the role of the therapist is to provide a safe environment in which they can express themselves openly and reach their own conclusions for the best way to deal with their problems. In this way the clients will develop confidence and self-esteem. Similarly, in education, Rogers argues that the most effective learning is student-centred learning in which the teacher acts a facilitator who creates a safe and secure learning environment and provides the necessary opportunities and resources for learning.

For Rogers one of the keys to learning, as well as psychological well-being, is the development of a positive self-concept. Self-concept is the view you have of yourself as an individual – this may be positive or negative – and it arises from your communication with others since childhood. As Legge and Harari point out:

We all have a self-concept, but are we conscious of what that self-concept is and how it affects our lives? For example, individuals may feel they are too unlovable to form successful interpersonal relationships, but once they become aware of, and acknowledge this feeling, they can begin to understand why their relationships fail.

(Legge and Harari 2000: 11)

Self-concept and self-esteem are closely linked but easily confused. Briefly, the former is how we view ourselves; the latter is how we feel about ourselves. Both are dependent on our communication with others, not least with our teachers. In the same way that teachers can contribute towards negative self-esteem by the self-fulfilling prophecy, they can positively affect learners by what some psychologists refer to as the ‘Pygmalion effect’ in which people can be encouraged by positive, friendly attentions. If they feel that they are valued by others, they may begin to value themselves. The ‘Pygmalion effect’ links to Rogers’ notion of unconditional positive regard in which teachers have respect for learners and value them whatever they do. This might seem a very tall order when faced with a particularly difficult or demanding learner, but a refusal to be aggravated and the use of continued politeness may eventually be ‘modelled’ by the learner.
Carl Rogers’ ideas on learning are expressed in his *Freedom to Learn* (1969). He sees the teacher’s role as facilitating learning and creating the right climate for learning to take place. Some of his key principles of learning are as follows:

- People have a natural potential for learning.
- Learning is more likely to occur when it is perceived as relevant to learners’ needs.
- Learning is more likely to occur when learners do not feel threatened.
- Much significant learning is acquired through doing.
- Self-initiated learning is the most lasting.

**Abraham Maslow**

Abraham Maslow (1908–1970) provided a hierarchy of needs that he developed from his experience as a psychologist and psychotherapist. In his hierarchy Maslow suggests there is a range of human needs from basic to higher levels. The lower levels, particularly physiological, safety and belonging needs, are deficiency needs which must be satisfied before others can be addressed. Obviously, if we are homeless, cold, hungry and/or unloved we will not be especially concerned about our intellectual development. The higher levels, relating to our learning and cognitive needs and our need for self-fulfilment cannot be attained until the basic needs have been met (see Figure 5.3).

For teachers in lifelong learning, Maslow’s hierarchy makes us think about the total experience of our learners. From physiological factors (is the room too hot or too
cold?) to relationships (do we give positive regard and developmental feedback?) to self-esteem needs (‘I’m no good at English’), his hierarchy provides a useful device to help us understand learning and motivation.

**Learning styles**

Learning styles of various kinds have been prevalent in the lifelong learning sector for nearly 20 years. The most widely used are VAKT (visual, auditory, kinaesthetic, tactile), Kolb’s learning cycle and Honey and Mumford’s variant of Kolb. One of the main attractions of learning styles is that they seem to offer a ‘magic key’ to unlock the mysteries of each individual’s learning style, thus allowing teachers to use the matching teaching style so that everybody in the class would learn.

Coffield et al. (2004) carried out a comprehensive review of learning styles in which they identified 71 different models of learning style and evaluated their effectiveness. They concluded that in nearly all cases learning style methodologies had limited or no effect and, further, there was very little evidence to support their effectiveness. In addition, they point out that most learning style methods are tied to expensive training and resource packages and that there is, in effect, a ‘learning styles industry’ which is more concerned with selling products than enhancing learning. Coffield particularly singles out VAKT for criticism and he is worth quoting at length, if only to get a feel of the passion with which he expresses his views:

There is **no** scientific justification for teaching and learning strategies based on VAKT and tutors should **stop** using learning style instruments based on them. There is **no** theory of VAKT from which to draw **any** implications for practice. It should be a dead parrot. It should have ceased to function.

(Coffield 2008: 32, original emphasis)

Teachers are busy enough without being asked to administer and analyse learning styles questionnaires. It might be more appropriate to rely on the professional expertise of teachers at a local level to understand their learners and discover the best ways to help them learn rather than buy in expensive ‘solutions’ which have the appearance of scientific rigour but are of dubious value.

**Evidence from educational neuroscience**

Initially, learning styles were seen a part of the ‘brain-based’ learning movement along with other activities such as ‘brain gyms’. The claims for the success of these methods were frequently based on evidence from neuroscience. The rapid recent growth and development of neuroscience based on functional magnetic resource imaging (fMRI) has, however, provided evidence to undermine learning styles theories.

John Geake (2009) is critical of the claims of learning styles theorists’ that the way in which we receive information through a particular ‘sensory modality’ is the same as the way in which we store it. So, for example, the belief that things