Chapter 1 **Introduction to some theories of adult learning**

1.1 Learning outcomes

By the end of this chapter, readers will be able to:
- demonstrate familiarity with a number of theories of adult learning;
- show awareness of the contribution that it makes towards continuing medical education (CME).

1.2 Introduction

While adult learning has been described as 'an atheoretical field of practice',[1] there are some theories that are acknowledged as having a contribution to make to our understanding of the process involved in CME. These are not exclusive and there are other theories that you are directed towards in the annotated bibliography. For the purposes of this chapter, however, the focus will be on:
- experiential learning;
- constructivism;
- situated learning;
- group dynamics;
- reflective practice.

The purpose of this chapter, therefore, is to review some of the dominant methods of teaching in CME: to describe good practices; and, where appropriate, to relate these to theory. After this brief introduction to some important issues in adult learning, further chapters address each of the chosen teaching modalities, make recommendations as to their particular utility, describe good practices and suggest things to avoid. These chapters are not intended to be in any way prescriptive, but they are based on experience in education in a wide variety of educational settings. This chapter is designed

to supplement guidance from other sources and readers are recommended to look also at Mackway-Jones and Walker.[2] An annotated bibliography is also provided for those who wish to pursue issues relevant to CME further. The modalities that are of interest are:

• lectures;
• workshops and discussions;
• skills teaching;
• role play and scenarios;
• clinical teaching;
• e-learning;

and each of these is considered in turn. Before turning to these, however, this chapter considers issues related to the particular needs of the adult learner and explores some of the challenges that they bring to CME.

1.3 Adult learning

The adult learner differs from the child in a whole variety of ways, but the dominant ones relate to the extent to which adults are self-determining. This does not mean that adults are necessarily self-directed, although this should be an aspiration for them. However, it does mean that unless certain essential ingredients exist, the adult will resist the learning experience and thereby gain little or nothing from it. For the majority of learners you will meet in CME, this will not be a major issue because they will be intrinsically motivated: in other words, they will be attending the course because they want to learn as much as you want to teach. This does not absolve the course of the responsibility to ensure that appropriate and essential preconditions exist. These are often presented as a version of Maslow's Hierarchy of Needs, the most useful version of which is presented in Fig. 1.1.

This classic theory of motivation demands that much of the lower level needs have to be met before the learner can move up to the next level. In practical terms, this means that a course has to guarantee a number of conditions:

1 Adequate accommodation; regular refreshment breaks; and a working day that is tolerable.
2 A psychological corollary of 1 is that participants will need to feel safe: that they are not going to be put in a position where their ego is challenged.
3 An extension of 2 is that participants have a sense of belonging: that they are legitimate participants in the activities.
4 However, simply belonging is not enough: they have to value the group and their position in it.
5 The need to know and understand …
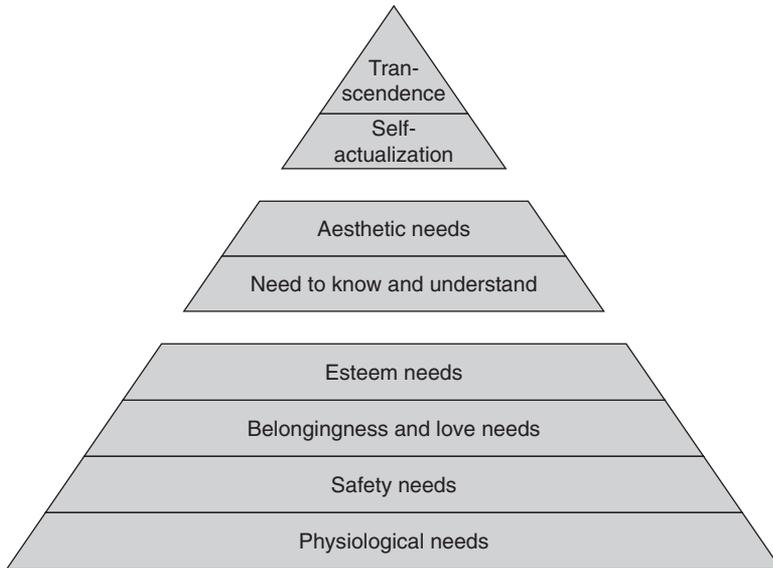6 … and to value the aesthetic components of an experience.

Figure 1.1 Maslow's Hierarchy of Needs. From http://chiron.valdosta.edu/whuitt/ COL/motivation/motivate.html [Accessed on 16 August 2006]

7 The state of independence and self-direction as a learner.
8 A later addition by Maslow, reflecting the desire among learners to enable other learners to achieve autonomy – this is manifested in the desire for interdependence.

Maslow's theory was based on very limited data (interviews with 140 women aged 18–28 years about their sex lives).[3] 'Maslow conducted semi-clinical interviews averaging about 15 hours with each participant. The subject of the interview included: sex drive; presence or absence of technical virginity; history of promiscuity; frequency and intensity of climax in heterosexual relations; ease of excitability; number of everyday objects regarded as sexual stimuli' and that it has never been tested empirically (i.e. how much can be left unsatisfied before moving on to the next level). This theory is widely accepted and one that makes a good deal of common sense, particularly at the lower levels. It might make some sense if you think about your own circumstances as you are reading this book. Think about:

'Am I cold, wet, uncomfortable? Am I hungry or thirsty?'

If the answer to any of the above questions is 'yes', the likelihood is that you will stop reading and satisfy the need.

'Am I psychologically comfortable? Am I receptive to some new, possibly challenging ideas?'

If the answer to any of these questions is 'no', you are unlikely to give due consideration to ideas that are new or significantly different from those you already hold.

Other levels in the hierarchy depend on learning occurring in the context of social interaction so, unless you are reading as part of a group exercise (e.g. preparation for a seminar), these do not apply to reading a book. However, I hope that it is clear that these lower level needs have to be satisfied before learning can even begin to take place.

What does it mean to be an adult learner?

It is likely that by the time you come to read this book, you will have spent quite a number of years learning: both informally in the context of parental care and family life, and more formally through school and university. As you sit and read this, remember that your understanding of it and your interpretation of the ideas are the product of many years of experience. The significance of this is that you do what you do and think what you think because you value your own behaviour and, accordingly, may be resistant to thinking and behaving differently. Try this:

Sit with your arms folded. You will notice that either your left or right hand is on top of your upper arm. Now fold them another way (i.e. reversing the dominant hand). Does this feel uncomfortable and awkward? Did you have to actively deconstruct what you need to do to achieve a (very simple) task? Many people find that this is a useful example of the challenge of doing something differently, even at a very low level in a hierarchy of learning. It could take some time and lots of repetition before you learnt the new way of folding your arms and doing it that way without thinking.

This notion of resistance to learning is explored later in this chapter. Ideas associated with taxonomies of learning are considered in Chapter 3.

What is learning?

Many doctors first come to teaching or instructing as a consequence of engagement in courses related to resuscitation in some form or train-the-trainer-type courses offered by many of the medical colleges. Many of the manuals associated with these courses describe learning as 'a relatively permanent change in behaviour brought about by planned experience'.[4] This definition has its origins in the work of Gagné, an educationalist from the behaviourist school, who argues that learners learn as a consequence of drills and repetition. There is clearly some relevance for this theory, particularly in the context of skills teaching, where there is evidence that repetition is an essential component of the learning process (see Chapter 5). However, it is an inadequate definition to describe or explain the complex changes

that arise when learners' knowledge, skills and attitudes are challenged and changed.

However, change is at the centre of the process and, as we know from a wide variety of contexts, this is often resisted.

Think of the ways in which your behaviour has become routine: a journey to work, where you sit in a coffee room and, as we have explored above, how you fold your arms.

Kurt Lewin[5] argued that individuals had to go through a particular process in order to learn:

Unfreeze → change → refreeze

Unfreezing		Change	Refreezing
(1) Tension and the need for change are experienced by the person	(2) Changes are proposed by the person or group members	The person tests the proposed changes, especially those implying new behaviour and attitudes	Those new behaviours and attitudes that prove to be more productive are reinforced and internalized

Change arises from the juxtaposition of new ideas with what is already known. Lewin talked about this as a period of disequilibrium and discomfort, and learners have to be prepared to accept this. Refreezing is the process by which the learner can act on their learning and function in the world. This will be a continual process, for as long as an individual is willing, or able, to learn.

Lewin also laid the foundations for what is now known as 'the experiential learning cycle', further developed by Kolb[6] and refined as a learning styles inventory by Kolb[7] and Fry (Fig. 1.2).
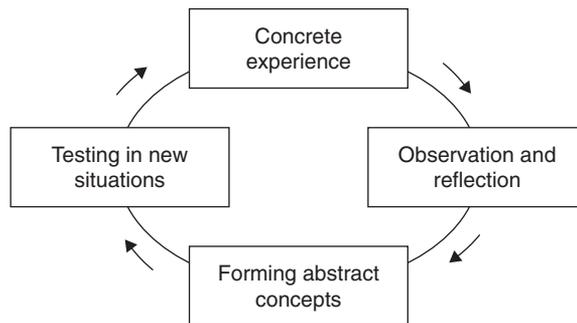

Figure 1.2 Experiential learning cycle. Reproduced from the encyclopaedia of informal education [www.infed.org]

This is a helpful source of explanation for what we do all the time: we have hundreds of experiences every day but most of them pass us by. However, if we are to learn from them, we have to be willing and able to go round the cycle, as follows.

Experience
Any event, however small.

Observation and reflection
The process of describing the event and trying to understand its significance. This stage can sometimes be captured by asking the following questions:
• what happened?
• what did it feel like?
These questions are intended to look in some detail at events and identify some of the emotional components.

Conceptualization
An attempt to generalize from the specific, by asking:
• What does it mean?
Take as an example, being late for a meeting. The focus of your observation and reflection will (inevitably) be related to that specific event (i.e. being late on that occasion) and your thinking might be: 'The next time I am due to meet my clinical director, I will set off a little earlier.' The conceptualization phase will explore being late in other contexts and the generalization would be framed in more general terms, thus: 'When I am due to meet someone, I will set off earlier than I think I need, just in case something holds me up on the way.' Therefore, this kind of thinking leads to experimentation.

Experimentation
Considering the question:
• How might I be different in the future?
Note that it is 'I' being different. It is easier to change one's own behaviour than it is to change that of others.

By going round the experiential learning cycle, a learner can capitalize on personal insight into events that are often taken for granted, but which can benefit from closer examination. Brew[8] argues that 'When we think we know, we should look again.' In the case of the vast majority of experiences, there may not be any advantage in doing this, but if behaviour seems to be working against us (e.g. in the case of being habitually late), there is some real merit in exploring experience.

Individuals have preferred styles and preferences as to where in the experiential learning cycle they are the most comfortable. These preferences are, almost by definition, context bound and can change over time. As an example, for a number of years, I taught English in high school and in order to keep lessons fresh and new for sometimes resistant learners, I put a lot of effort into experimenting with different approaches. I functioned therefore in the top left-hand quadrant, creating and providing new ways of learning. As a PhD student, I worked mainly on the bottom right-hand quadrant, where the focus was much more on reflection and conceptualization. Preferences can be identified by completing the Honey and Mumford Learning Styles Inventory.[9] This is available online for a small charge[10] and you may find it interesting to know what your preference is.

Kolb and Fry tell us that learners can be divided into:

- convergers;
- divergers;
- assimilators;
- accommodators;

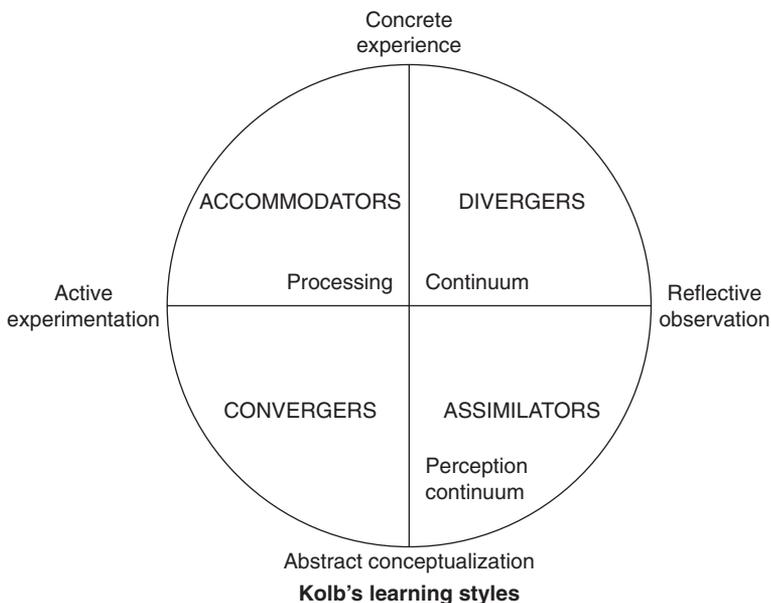and these relate to the four quarters of the experiential learning cycle (Fig. 1.3).

Kolb's learning styles

Figure 1.3 Kolb's learning styles. From http://www://www.cs.tcd.ie/crite/lpr/teaching/kolb.html [Accessed on 18 August 2006]

Characteristics of learning styles.   The *convergent* learning style relies primarily on the dominant learning abilities of abstract conceptualization and active experimentation. The greatest strength of this approach lies in problem-solving, decision-making and the practical application of ideas. We have called this learning style the converger because a person with this style seems to do best in situations such as conventional intelligence tests, where there is a single correct answer or solution to a question or problem. In this learning style, knowledge is organized in such a way that through hypothetical–deductive reasoning, it can be focused on specific problems. They prefer dealing with technical tasks and problems rather than social and interpersonal issues.

The *divergent* learning style has the opposite learning strengths from convergence, emphasizing concrete experiences and reflective observation. The greatest strength of this orientation lies in imaginative ability and awareness of meaning and values. The primary adaptive ability of divergence is to view concrete experiences from many perspectives and to organize many relationships into a meaningful gestalt. The emphasis in this orientation is on adaptation rather than action. This style is called divergent because a person of this type performs better in situations that call for generation of alternative ideas and implications, such as a brainstorming idea session. Those oriented towards divergence are interested in people and tend to be imaginative and feeling-oriented.

In *assimilation,* the dominant learning abilities are abstract conceptualization and reflective observation. The greatest strength of this orientation lies in inductive reasoning and the ability to create theoretical models, in assimilating disparate observations into an integrated explanation. As in convergence, this orientation is less focused on people and more concerned with ideas and abstract concepts. Ideas are judged less in this orientation by their practical value: it is more important that the theory be logically sound and precise.

The *accommodative* learning style has the opposite strengths from assimilation, emphasizing concrete experience and active experimentation. The greatest strength of this orientation lies in doing things, in carrying out plans and tasks and getting involved in new experiences. The adaptive emphasis of this orientation is on opportunity-seeking, risk-taking and action. This style is called *accommodation* because it is best suited for those situations where one must adapt oneself to changing immediate circumstances. In situations where the theory or plans do to fit the facts, those with an accommodative style will most likely discard the plan or theory. (With the opposite learning style, assimilation, one would be more likely to discard or re-examine the facts.) People with an accommodative orientation tend to solve problems in an intuitive trial-and-error manner, relying heavily on their own analysis. Those with accommodative learning styles are at ease with people but are sometimes seen as impatient and 'pushy'.

There are a number of other learning style inventories available on the internet. Given the self-report nature of all of these, they should have little to surprise the adult learner. However, they can provide a window into something adults rarely think about and, accordingly, they can be a helpful adjunct to understanding the learners' own learning processes and those of others who they may have responsibility for.

An aside: some thoughts about the adult educator

Much of the focus of this chapter is on the learner, and rightly so. However, a major contribution is made by the people responsible for the design and presentation of the materials, and it is worth a short diversion to explore some of their characteristics.

ACTIVITY 1.1

Complete the table below:
Characteristics of teachers at various levels and the teacher–student relationship

Primary	Secondary	Higher	PG/CME
Caring	Subject specialist	Active researcher	Professionally involved

See end of chapter for responses.

Paulo Freiré, a liberal adult educator with a reforming agenda, suggested the following list of characteristics and personal qualities that teachers should possess:

- authority;
- charisma;
- consistency;
- control;
- desire for learner autonomy;
- discipline;
- expert management techniques;
- humility;
- intelligence;
- love of learning;

- love for people;
- love of teaching;
- neutrality;
- political commitment to the oppressed;
- sense of humour;
- subject expertise;
- tolerance.

He also argued that learner's needs are not always paramount in the design of the curriculum and that there are two possible agendas in any formal educational setting: Institutional agenda (IA) and Learner's agenda (LA).

The IA is dictated by the needs of society as decided by policy makers and politicians. They in turn have their own institutional and individual agendas. In this type of agenda, the individual is often seen as a function of their potential to contribute to national development; however, that is understood. The task of the formal sector is to produce a skilled workforce. An extract from a consultation document about lifetime learning reinforces this view of the aims of education, as understood by the government of the time:

> The skill levels of the workforce are vital to our national competitiveness. Rapid technological and organizational change mean that, however good initial education and training is, it must be continuously reinforced by further learning throughout working life. This must happen if skills are to remain relevant, individuals employable, and firms able to adapt and compete. (Department for Education and Employment, 1996)

In Freire's philosophy, there are types of education that are dichotomous: banking or domesticating education, and emancipatory or liberating education. The former places power only in the hands of the teacher, and the learner is seen as a passive recipient of preconstructed knowledge. He/she is prepared for a life of political alienation. The teacher is a banker of this knowledge, and makes the choices as to how, when and how much to give to the students: Teacher/banker and Teacher/learner. Characteristics of banking education include:
- The teacher teaches and the students are taught.
- The teacher knows everything and the students know nothing.
- The teacher disciplines and the students are disciplined.
- The teacher makes choices and the students comply with these choices.
- The teacher acts and the students have the illusion of acting through the acquisition of facts and skills transmitted by the teacher.

- The teacher confuses the authority of knowledge with his/her own professional authority, which s/he sets in opposition to the freedom of the students.
- The teacher is the subject of the learning process, while the students are mere objects.
- The learning process is evaluated by criteria established by the teacher.
- The teacher prepares, processes, packages and delivers knowledge and skills to the learner.

These two continua can be combined to produce a two-by-two matrix as follows:

	Institutional agenda	Learner agenda
Teacher as banker	*Conservation:* being proactive in perpetuating the status quo, and defending its superiority as a system	*Maintenance:* channelling one's energies into keeping the existing system functional
Teacher as learner	*Reform:* tinkering with minor improvements to a system in terms of equal opportunities, or improved access of teaching standards without looking deeper into causal relationships with systemic weaknesses	*Radicalism:* looking at the structural level for ways to recreate a better system on the basis of different value systems

Constructivism

In stark contrast to behaviourist theories of learning which argued, among other things, that rats could be taught how to collect rewards in mazes,[11] constructivism grew out of an alternative view of the human mind that focused on the nature of the human condition. Freidrich Hayek,[12] an early writer on constructivism, commented: 'Much that we believe to know about the external world is, in fact, knowledge about ourselves.'

Five themes encapsulate what we understand by constructivism:

1 Active agency
2 Order
3 Self
4 Social symbolic relatedness
5 Lifespan development

Active agency is in stark contrast to the passivity that is implicit in behaviourist schools of thought. Order arises from human capacity for meaning-making through patterning experience and tacit processes. The significance

of self is in recognizing the nature of experience and how it is used to make sense of the world. The social symbolic relatedness arises from the social contexts within which we function. Finally, lifespan development acknowledges the relationship with what we know and new situations which we try to makes sense of over time. By virtue of the changes in life events over time, this is a dynamic phenomenon and serves as the basis of change. The significance of this theory for CME is in the extent that it contributed, along with a parallel development in social constructivism, in situated learning and communities of practice.

Situated learning

In much of formal traditional education, there is an assumption that learning is an individual effort. Learning takes place 'in the heads'[4] of individual learners and, from time to time, attempts are made to assess how much learning has taken place. This became a very powerful model that had implications for teaching at all levels of education. However, most of our informal learning takes place within a social context and is, accordingly, the consequence of negotiated meaning and understanding. Effective adult education and CME attempts to come closer to more informal methods of learning, in which learners interact with the world and try to make sense of it. When this is done in the context of other learners, it becomes 'social constructivism', whereby learners interact with one another as well as their environment. This derives in part from attempts by the Russian psychologist, Lev Vygotsky (1896–1934), to explain what happens when children learn language.

   This theory was re-examined in 1991 by Lave and Wenger[13] who called it 'Situated Learning' and it is considered to have a number of characteristics which will be explored separately:
- zone of proximal development (ZPD);
- scaffolding;
- legitimate peripheral participation;
- cognitive apprenticeship;
- activity theory; and
- community of practice.

Zone of proximal development
Vygotsky[14] described ZPD as:

> The distance between the actual developmental level as determined
> by independent problem solving and the level of potential
> development as determined through problem solving under adult
> guidance, or in collaboration with more capable peers.

While this model refers specifically to children, it applies as much to adults entering new work or study situations: at that time, they are dependent on other members of the community for 'assistance' as they come to terms with patterns of social interaction, specific language and ways of behaving. Along with these social phenomena, they are also exposed to specific skills.

Scaffolding
Scaffolding is the operationalization of the ZPD in that it is the technique by which a full member of a community or practice provides support for the learners until they are able to manage more independently. Wells[15] identified 'Three important features that give educational scaffolding its particular character: (1) the essentially dialogic nature of the discourse in which knowledge is co-constructed; (2) the significance of the kind of activity in which knowing is embedded and (3) the role of artefacts that mediate knowing.' Responsibility for learning passes from the teacher to the learner as the learner demonstrates competence. From then on, the learner would be expected to develop full mastery and autonomy as the task becomes internalized. Scaffolding therefore can be seen as an infrastructure of information, either from prior knowledge or through teacher input, to which new material from the world can be anchored. It can involve any of the following:
• models;
• cues;
• prompts;
• hints;
• partial solutions;
• think-aloud modelling; and
• direct instruction.
   It also serves to:
• provide clear direction and reduces students' confusion;
• clarify purpose;
• keep students on task;
• clarify expectations and incorporates assessment and feedback;
• point students to worthy sources; and
• reduce uncertainty, surprise and disappointment.

Legitimate peripheral participation
Lave and Wenger,[13] the originators of this phrase, wrote that learning is: 'A process of participation in communities of practice, participation that is at first legitimately peripheral but that increases gradually in engagement and complexity.' There are a number of dimensions here that need to be explored.

Legitimacy. Membership of a community is, on the one hand, by virtue of past experience and attainment, and on the other through the capacity to manifest appropriate language and behaviour. This latter may be limited in the early days as individuals come to terms with socially specific linguistic norms.

Peripherality. At first, learners do not manifest full membership of the community so they function on the edges and move, over time, towards the centre. As Hilton and Slotnick[16] write:

> This movement from periphery to centrality carries with it different 'identities'. What students do and how they relate to others (patients, nurses, doctors) is different from what house officers do, which is different from what an independent doctors does. At each stage, learners' actions and interaction provide experiences and opportunities to reflect.

Peripherality is clearly not a physical concept which is why Lave and Wenger have resisted attempts to depict it in two-dimensional space.

Participation. As is known from other contexts, there are many ways to participate. In situated learning, it is the way in which the work place enables, by virtue of legitimacy, a new member of a community to engage with its practices. Billet[17] describes this as: 'How the workplace invites and structures individuals' participation in work'. In practical terms, Eraut[18] describes this participation as:
• Group activities;
• Working alongside others;
• Tackling challenging tasks;
• Problem-solving; and
• Working with patients.

ACTIVITY 1.2

Think of your own experience as a trainee. To what extent do you recognize the above as ways in which you learnt and developed in your speciality? *See end of chapter for response.*

Cognitive apprenticeship
Apprenticeship is a helpful way of describing how learners (novices) acquire expertise under the guidance of experienced practitioners (experts). The

transition from novice to expert goes through a number of stages (after Dreyfus & Dreyfus[19]):

Novice	Learns objective facts and features and rules for determining actions based on these facts and features
Advanced beginner	Starts to recognize and handle situations not covered by given facts, features and rules without quite understanding what s/he is doing
Competent	After considering the whole situation, consciously chooses an organized plan for achieving the goal
Proficient	No longer has to consciously reason through all the steps to determine a plan
Expert	Knows what to do based on mature and practiced understanding

Activity theory

Much of the development work in activity theory in relation to medicine has been undertaken at the University of Finland by Engeström,[20] who writes:

> In the model [Fig. 1.4] the subject refers to the individual or sub-group whose agency is chosen as the point of view in the analysis. The object refers to the 'raw material' or 'problem space' at which the activity is directed and which is moulded and transformed into outcomes with the help of physical and symbolic, external and internal mediating instruments, including both tools and signs. The community comprises multiple individuals and/or sub-groups who share the same general object and who construct themselves
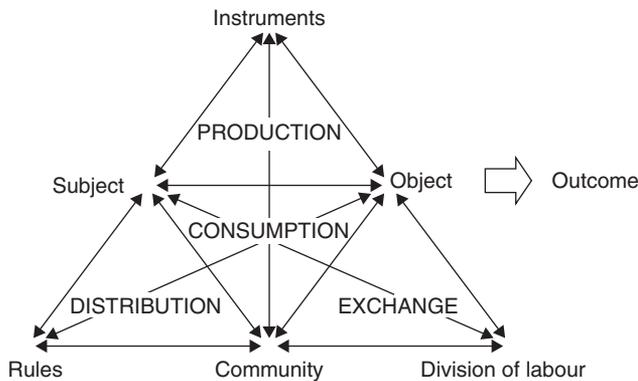

Figure 1.4   Active theory

as distinct from other communities. The division of labour refers
to both the horizontal division of tasks between the members of
the community and to the vertical division of power and status.
Finally the rules refer to the explicit and implicit regulations, norms
and conventions that constrain actions and interactions within the
activity system.

This can be made more explicit by consideration of a clinical context.
A patient attends an emergency department suffering from an ill-defined
condition. The patient is the 'object' and the desired 'outcome' would be an
accurate diagnosis and appropriate treatment, although here may be unin-
tended outcomes arising from the treatment. 'Instruments' include assorted
diagnostic tools, medical records and medical technology (X-ray, computed
tomography [CT] and magentic resonance imaging [MRI] scans). The
'community' comprises other clinicians, nursing staff and other health care
professionals. The 'division of labour' allocates different levels of respon-
sibility to members of the community and the 'rules' regulate use of time
(including waiting times) and measurement of outcomes.[21]

Communities of practice
In the same way that we belong to many groups, we also belong to a number
of communities of practice and each has its own features:
- practices;
- routines;
- rituals;
- artefacts;
- symbols;
- conventions;
- stories; and
- histories.

These can contribute towards more global perspectives in terms of how
individuals relate to, for example, their patients. In a study of the differences
between doctors and nurses in their care of psychiatric patients in 1996,
Robertson[22] found some similarities and differences between the two com-
munities in respect of:
1 Beneficence:
   - utility-based;
   - virtue/relationship-based.
2 Autonomy:
   - rights-based;
   - rationality-based;

• abilities-based;
• relationship-based;

and the tensions that can exist between them.

As Robertson writes in his conclusion:

> The prime professional goals of nurses were daily care and helping
> patients live as normally and independently as possible; these goals
> were pursued through ongoing relationships whose sustenance
> demanded the demonstration of character virtues. Doctors' most
> important goals were systematic problem solving, improving organic
> function, and research; commitments that emphasize beneficial
> consequences and fit more readily into an unadulterated utilitarian
> mould.

This difference highlights the subtlety of community boundaries and
demonstrates that while different communities subscribe to shared aspir-
ations, their mechanisms for achieving those aims may differ dramatically.
Members of communities of practice develop 'expert' abilities in manifest-
ing the features introduced above (e.g. there are very few examples of non-
clinicians managing to impersonate doctors).

ACTIVITY 1.3

By virtue of your membership of a medical community of practice, consider
the following table:

Conflict between autonomy and beneficence

Within occupational groups	*No of events*
Doctors	
Nurses	
Between occupational groups	
Doctors advocating beneficence and nurses advocating autonomy	
Doctors advocating autonomy and nurses advocating beneficence	

Indicate 'more' or 'less' in each of the cells in the right-hand column. *See end of
chapter for response.*

Group dynamics

Group dynamics as a field of study has expanded significantly, since its boundaries began to be established in the late 1940s under the guidance of Kurt Lewin and his associates.* The purpose of this section is to introduce three theories to help develop and understanding of how groups function.

Before this, however, consider the following definitions of a group from David Jacques:[23]

> A group can be said to exist as more than a collection of people when it possesses the following characteristics:

- Collective perception: members are collectively conscious of their existence as a group.
- Needs: members join a group because they believe it will satisfy some needs or give them some rewards.
- Shared aims: members hold common aims or ideals which to some extent bind them together. The achievement of aims is presumably one of the rewards.
- Interdependence: members are interdependent in as much as they are affected by and respond to any event that affects any of the group's members.
- Social organization: a group can be seen as a social unit with norms, roles, statuses, power and emotional relationships.
- Interaction: members influence and respond to each other in the process of communicating, whether they are face to face or otherwise deployed. The sense of 'group' exists even when members are not collected in the same place.
- Cohesiveness: members want to remain in the group, to contribute to its well-being and aims, and to join in its activities.
- Membership: two or more people interacting for longer than a few minutes constitute a group.

Before exploring some theory, consider Fig. 1.5. Among this group of four people, how many interactions are taking place?

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* The National Training Laboratory (NTL) was established in Bethel, Maine in 1947 and became the base for the development of the study of group dynamics. It still exists today and runs courses for managers, leaders and others interested in how learners function collectively.
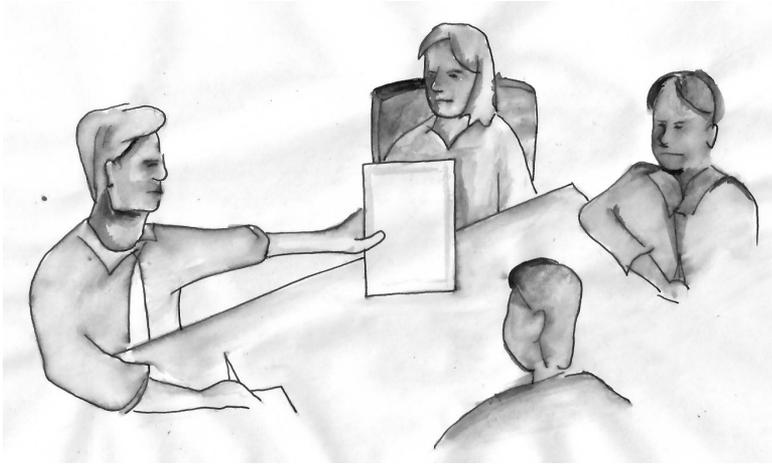
Figure 1.5   Group interactions

You might be surprised to know that there are 24 possible interactions. The answer to the questions is found by multiplying $4 \times 3 \times 2 \times 1$ usually shown as 4! If another person were to enter the group, the number of inter- actions would rise to 120 ($5 \times 4 \times 3 \times 2 \times 1$) and so on:

Number of people	Number of potential interactions
6	720
7	5040
8	40,320
9	362,880
10	3,628,800
20	2,432,902,008,176,640,000

You may think this is unlikely but it does go some way to explaining the complexity of group life.

It was this unpredictability that led Kurt Lewin and his associates to develop the science of group dynamics in the 1940s. Driven by a desire to understand how people behaved the way they did in Nazi Germany, Lewin set up experimental groups in order to observe their processes. A number of helpful theories about group life emerged from this work and the next

section explores three of these. What these and other theories led to was the notion that in groups, you know what is going to happen, but you do not know what is going to happen next.[24]

Tuckman

Tuckman[25] and his colleagues argued that groups go through phases of activity:

1 *Forming:* during which time a group comes together;
2 *Storming:* when group members vie for status, leadership, etc.;
3 *Norming:* the tacit process of agreeing standards of behaviour;
4 *Performing:* when the group gets on with its set task.

This model has a degree of explanatory power and most people recognize that when (particularly) a group of strangers come together, they go through some or all of these phases.

When they first meet, they make introductions, and share some personal information and expectations of why they are where they are.

Storming often represents the biggest challenge to people's understanding as it seems to suggest high levels of disagreement and argument. However, it can manifest itself as subtle claims for status by virtue of professional role, qualifications or by virtue of charisma.

Norming is also interesting: it is a process by which codes of behaviour emerge. Accordingly, it is very unlike 'establishing the ground rules' which is often the self-appointed, and invariably futile, task of the leader of a group. The difference between rules and norms can be illustrated by this case study.

Case study. A group of postgraduate students and their two tutors are meeting for a weekend workshop designed to explore the characteristics of group behaviour in a module called 'Facilitating change in organizations'. They meet for the first time on the Friday evening from 7.30 until 9.00PM. At the end of the session, one of the facilitators reminds the group that they are to meet again at 9.00AM the next morning. When that time arrives, the two tutors and four students are there. Over the next 20 minutes or so, the remainder arrive. What follows is a long and vociferous discussion about how important it is to be on time and a rule is agreed that people are expected to be punctual. Everyone agrees to this. At the start of the next session six people are missing, and in the first session after the lunch break the two tutors are late, having been caught in traffic. Every session started without 100% attendance over the whole weekend.

One of the rules of the group was that people would be punctual. The norm, however, was that someone would be late.

Can you think of examples from your own experience where the rules suggest one behaviour and the norms another?

Norms are powerful determinants of group behaviour and it is a major responsibility of a facilitator of a group to ensure that the norms are positive and productive rather than negative and unproductive.

The final phase of Tuckman's model is performing and it is at this point that the group does the work it has come together to do.

Do you recognize this model from your professional or other experiences?

A final stage has been added to the Tuckman's model, that of 'mourning', the emotional response to the 'death' of the group. This is going to arise more often when the group has unfinished business – of the interpersonal rather than the professional (e.g. when one member of the group has never fully agreed with the group's 'choice' of leader). The popularity of websites such as Friends Reunited is an example of this sense of loss.

The most serious limitation of this model is its apparent linearity: the implication that all phases have to be visited in sequence. This is also the case with the next model.

Bennis and Shepherd

Writing somewhat earlier than Tuckman and his colleagues, Bennis and Shepherd[26] were associates and students of Kurt Lewin and were instrumental in formalizing some of the insights that has been gained through the National Training Laboratories (NTL), created in 1947 to study behaviour in groups. What Bennis and Shepherd identified was that groups would pass through two phases during their lifetime: power relations and personal relations. Each of these phases would have three sub-phases as follows:

Phase 1 – Power relations	Phase 2 – Personal relations
Dependence	Enchantment
Counterdependence	Disenchantment
Resolution	Consensual validation

Dependence. This is the state that groups find themselves in when they meet for the first time, regardless of the formality or otherwise of the setting (e.g. at the most loosely defined, people waiting to see a general practitioner in the surgery waiting room, to the more formal, people assembling for an educational event). Behaviour is cautious, and group members look for people or things to tell them what to do: behaviour can be characterized as 'flight – the fear of getting things wrong'. Behaviour is often passive and invariably obedient: 'No smoking' and 'Please turn off your mobile phone' notices are recognized as having legitimate authority. Even junior members of staff seen as being representatives of this authority can determine behaviour (e.g. 'Could you now follow me through to the teaching room', or 'The MCQ starts now'). Individuals expect to find this and are not, on the whole, uncomfortable and resentful. Indeed, if no structure were provided at the beginning of an event, there would be considerably high levels of anxiety as participants struggle to work out what is going to happen.

Counterdependence. This is often characterized by resistance to authority, often revealed as complaints about the room, the temperature, the programme and the journey to get to the venue. Members will refer to their back home status and how much important work they have given up to attend this event. This is referred to as 'fight'.

Resolution. This is the point at which the group gets on with the task: they have a sense of obligation (to authority) to complete it and there is a need to get things done. Often characterized by intense activity, this sub-phase is productive but potentially driven by external forces (e.g. status anxiety, a desire to do well, to please the instructor).

Enchantment. This is the point at which the task has been fulfilled and members of the group feel good about their achievement. They refine their outcomes and demonstrate high levels of commitment to them.

Disenchantment. This represents a standing back and an opportunity to express doubts about what a group has achieved. Individuals are uncertain about the contributions of individuals or sub-groups (think multi-agency meetings) and there is an implication (more often than not unstated) that some people did not do much to achieve the shared goal.

Consensual validation. This final sub-phase is where there is widespread recognition of the achievement of the group and the contributions (albeit different) that all members have made to this achievement.

Wilfrid Bion

Authors of the previous two models of group behaviour were sociologists, adult educators and psychologists. In comparison, Bion[27] was a psychiatrist and ex-army officer who developed his theory of group behaviour during a brief interlude in the Second World War when he was given the job of remotivating soldiers who were resistant to taking orders.

At Northfield Hospital, Middlesex, he found a group of men who seemed happy to spend their days sitting around their wards and making no effort to engage in any meaningful activity. Bion established a regime whereby all soldiers had to engage in group activity of some sort: this could be gardening, chess, keep fit. In addition, there would be a daily parade when all the men would come together to review the day. Each day, Bion would gather a small group of men and together they would wander around the various groups observing their behaviour.

What became apparent to Bion was that when they were not directly being observed, the men would waste time, lounge around, complain: anything but engage in the task. Bion concluded that groups in these circumstances were either in something he called 'basic assumption' mode or in 'sophisticated' mode.

This table may help to illustrate this more clearly:

Basic assumption (ba)	Sophisticated
Fight/flight (baF) Dependency (baD) Pairing (baP)	Work

These four modes of behaviour were considered by Bion to be exclusive: groups could not be in one mode at the same time as another mode.

Fight/flight. This is the condition in which group members either avoid the task or actively resist it by diminishing its value. Similar to dependence and counterdependence in the Bennis and Shepherd model, members' priority is to resist engaging on the task, either because it is too difficult (fear of failure) or seen as beneath them (either because of the task itself, or the environment within which the group is being asked to work.) BaF is characterized by hostility and aggression (not necessarily overt), or by avoidance of a problem or withdrawal from participation. The baF is anti-intellectual and hostile to the idea of self-study or reflection. The behaviour

is invariably characterized by task avoiding, small talk, joking or attacks on the leader, the process or the room.

Dependency. The state of waiting to be told what to do: the group is unable to act without someone in authority telling them how and when they must engage with the activity. Dependency is the condition within which individuals are unwilling to act without the express instruction – either explicit or implicit – of one individual, usually possessing ascribed authority and the right and duty to lead. While a leader in baD is thought to be omnipotent and omniscient, the led are inadequate and immature.

Pairing. Somewhat more complicated, pairing is premised on the notion that the salvation for the group will arise out of the union of two of its members, regardless of gender. Other group members are not bored. They listen eagerly and attentively to what is being said. An atmosphere of hopefulness pervades the group. The group, through the pair, is living in hope of the creation of a new leader, or a new thought, or something that will bring about a new life. There is much expression of warmth, intimacy and supportiveness. It is in this ba that the group leader is not required, for within the group a new leader is going to be created, at which point, the group would shift readily to baD once more.

Work. In contrast to these ba groups is the sophisticated 'work' group, the point at which group members strive to complete their task. Bion argues that groups are very resistant to this phase and prefer to return to the relative security of ba. It is, of course, possible for the skilled facilitator to use Bion's theory in order to maintain a group in work mode. Consider the following.

ACTIVITY 1.4

A group of students are given a task to complete (e.g. to discuss strategies for implementing a new training programme in child protection), without the direct input of a facilitator. It becomes obvious to the facilitator that the group is in a state of baF. What kinds of behaviour might they be manifesting? What should he or she do? *See end of chapter for response.*

Bion's theory has, I believe, enormous explanatory power. What distinguishes it from Tuckman *et al.* and Bennis and Shepherd is that it is

dynamic rather than linear, and it acknowledges some at least anecdotally accurate experiences.

Central to the success of groups, Bion believed, was the role of the facilitator, and this short extract gives a flavour of what Bion has in mind:[28]

> When I read Bion I finally had a theoretical perspective on these processes. Moreover, he said that such debacles [basic assumption behaviours] were inevitable, and they inevitably rope in the leader or facilitator. The trick is to be able to think under fire, to keep some part of your mind able to reflect on experience while having experience. If the group – or at least some of its members – can learn from experience and apply that learning to new situations, they can, just about, keep some semblance of the peace.

This is explored in more detail in Chapter 4.

Reflective practice

> We shall not cease from exploration
> And the end of all our exploring
> Will be to arrive where we started
> And know the place for the first time[29]

Or, more mundanely:

> If you think you know you should look again. Too often we close off possibilities by not looking enough.[8]

Reflection (and observation) feature in Kolb's theory of learning from experience and learning styles. However, it is the product of some earlier thinking about how we, particularly as adults, learn. Before we explore this, let us consider what it means to reflect.

ACTIVITY 1.5

Write a sentence describing what it means to reflect. *See end of chapter for response.*

Your definitions and the two dictionary ones given at the end of the chapter are probably descriptive of a process that is suggestive of fairly casual explorations of experience. However, theorists suggest it is somewhat more

than this, describing the process as being about 'perplexity [and] mental difficulty',[32] 'disequilibrium'[33] and 'emotional stir-up'.[34] Dewey had a more challenging definition:[32]

> Active, persistent and careful consideration of any belief or supposed form of knowledge in the light of the grounds that support it and further conclusions to which it leads … it includes a conscious and voluntary effort to establish belief upon a firm basis of evidence and rationality.

Mezirow goes further:[35]

> A deliberate act: to develop a critique of the presuppositions on which our beliefs have been built.

Reflection on action has become a feature of medical practice in recent years but some of the ways in which it is encouraged are not necessarily likely to engage people in real reflective practice. Some examples of these are: audit, critical incident accounts and, more informally, discussions on the corridor. Rather, they will go through the appearance of reflection but are not engaging at a deep level and this will lead to replication of error rather than error correction. The target behaviour is 'reflection in action' as opposed to 'reflection on action' and this subtle alteration makes for different responses when faced with challenging situations. The use of supportive critique in many short courses is an example of an effort to encourage effective reflection. Notwithstanding this, there are some challenges.

Barriers to reflection
- Presuppositions about what is and what is not possible for us to do.
- Not being in touch with one's own assumptions and what one is able to do.
- Past negative experiences.
- Expectations of others: society, peer group, figures of authority and family.
- Threats to the self, one's world view or to ways of behaving.
- Lack of self-awareness of one's place in the world.
- Inadequate preparation.
- Hostile or impoverished environments.
- Lack of opportunity to step aside from tasks.
- Lack of time.
- External pressures or demands.
- Lack of support from others.
- Lack of skills: in noticing, intervening.

- Intent that is unclear or unfocused.
- Established patterns of thought or behaviour.
- Inability to conceive of the possibility of learning from experience: 'this is not learning', 'this is not possible'.
- Stereotypes of how we learn.
- Obstructive feelings: lack of confidence or self-esteem, fear of failure or the response of others, unexpressed grief about lost opportunities.[36]

Reflection is not an easy option and it may involve challenging some comfort zones if learners are going to gain full advantage from their experiences.

Conclusions

In this chapter we have explored some important theories of adult learning and how these relate to CME. In the following chapter, we explore the extent to which these can be realized in practice.

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Responses to Activities

Activity 1.1

Characteristics of teachers at various levels and the teacher–student relationship			
Primary	Secondary	Higher	PG/CME
Caring	Subject specialist	Active researcher	Located in community of practice
Fostering social norms	Fostering social norms	Inducting students into the academic community	Maintaining standards of professional practice
Formative	Formative	Lecturer	Facilitator
Unequal power relations	Unequal power relations	Hierarchical	Assessor
Child-centred	Subject-centred	Constrained by institutional demands	Mentor
Somewhat constrained by external forces (assessment at 5, 7 & 11)	Constrained by institutional demands	Supervisor	
	Constrained by external forces (assessment at 14, 16, 17 & 18)	Examiner	

Activity 1.2

As a trainee in anaesthesia, the first few weeks consist of being on the periphery. You do not have the knowledge or skills to perform any of the skilled tasks. However, you were part of the group, expected to visit patients and observe the process of anaesthesia. It was a whole new world of machines and words that I had not heard of before, but gradually you were allowed more responsibility, allowed to perform parts of the performance but not all at once. It had a community feel from the start, it was all about team work and I suppose working in a technical service specialty really emphasizes that.

The way I really remember the progression of participation through training is thinking about emergency abdominal aortic aneurysm repairs. These are true emergencies that anaesthetists are involved in and usually there is more than one anaesthetist present.

The first one I saw was as an SHO – all I remember was standing in corner thinking that looks like a lot of blood, watching the other anaesthetists running around and wondering how did they know what to do. The second time I had the important job of recording the vital signs, what was done to the patient, counting blood bags and syringes, filling in forms and answering phone calls. The third time I performed the skills like canulation, line insertion and squeezing the blood bags.

When I was a registrar, I would direct the SHO what to do, call the consultant (if not present), inform the surgeon of blood loss, order more blood and products, arrange an intensive care bed and feel like I was running the show. As a consultant I oversee the registrar and, depending on their seniority and experience and patient factors, may actually become the scribe again.

Activity 1.3

Conflict between autonomy and beneficence	
Within occupational groups	*No of events*
Doctors	15
Nurses	24
Between occupational groups	
Doctors advocating beneficence and nurses advocating autonomy	8
Doctors advocating autonomy and nurses advocating beneficence	1

Activity 1.4
The group will be engaging in small talk, will be drawing on back-home status to justify their opinions, they will criticize the task or make negative comments about the facilitator and will talk about how much more important it would be for them to be back at work. The extent to which this continues will be determined by their levels of motivation: if they have been 'pressed' to attend, this may be significant.

The facilitator should put the group in dependency mode: 'OK, let us think about the progress so far …' and then restate the requirements of the

task. While possibly continuing to manifest signs of baF, the group may have sufficient motivation to move into work.

Activity 1.5

Definitions range from the general: 'Careful or long consideration or thought'[30] to somewhat more specific: 'Mental consideration of some subject matter, idea or purpose, often with a view to understanding or accepting it, or seeing it in its right relations.'[31]