

How to ...

Begin to get to grips with educational theory

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INTRODUCTION

Historically medical education has been delivered via an apprenticeship model with knowledge, skills and attitudes acquired over time through this process. Much of what was formally taught within the university setting was also delivered via this transmission model in didactic lecture-based format. Knowledge was presented as hard evidence that needed to be memorised despite the contradictions experienced in clinical practice where it is seldom the case that a situation or a condition can be considered in absolute terms. Attention was firmly focused on the teacher as expert, with little or no consideration given to the learner.

Over time teaching methods have changed to acknowledge and incorporate the variety of different educational perspectives and strategies, both tacit and explicit, which can be utilised within clinical contexts to promote learning and ensure that healthcare professionals are equipped with the tools they need to ensure continuing professional development. There has been a shift of emphasis from didactic teaching practices to more facilitated learning, with university courses and postgraduate programmes providing learning opportunities that are informed by a variety of theoretical perspectives. Educators are now regarded as facilitators of learning rather than imparters of knowledge and educational principles are incorporated into curriculum design and delivery in order to provide a formalised framework incorporating instructional methods and assessment strategies. Health professionals have a responsibility to pass on their knowledge and teach others and there are immense benefits to be gained from having clinical educators. In recent years this role has become more formalised with increased numbers of clinical teachers gaining qualifications in medical education, leading to a professionalisation of the role and the recognition of academic clinicians in a variety of specialties. It is imperative that medical education continues to draw on the wealth of experience that clinical educators bring to the field and it is

important therefore that all clinicians have some awareness of the ways in which educational theories can inform and underpin their teaching. An overview of some of the main perspectives is provided below.

BEHAVIOURISM

This learning approach has its origins in the work of theorists such as Pavlov and Watson and focuses on observable and measurable behaviour. Behaviourist theory is concerned with the learners' response to stimuli; so the ability to make a differential diagnosis or perform a practical skill produces a consequence. This theory stresses the active role of the teacher who can direct the learning process, selecting a teaching method and controlling the 'stimuli' and reinforcing the appropriate responses. In a teaching setting behaviourist theory enables the teacher to use reinforcement to strengthen desired behaviours which can be in the form of tokens or rewards as reinforcers. This is a very controlling approach to education with the teacher determining what is learned and how and when the learning occurs. The limitations of this approach centre on the reductionism that it imposes on the objectives that are set and the structure and nature of the knowledge that is delivered. Behaviourism dictates a deductive approach to learning in which students are provided with a general statement followed by specific examples. So, for example, looking at the needs of a patient with diabetes, the teacher would state the needs and require students to assimilate and reproduce the information. It is also the main theory underpinning Advance Life Support type courses.

NEO-BEHAVIOURISM

This approach, whose proponents are Tolman, Skinner and Gagne, developed from a perspective in which the mind was seen as being capable of

selectivity rather than merely responsive to stimuli. In consequence, adopting this perspective enables the teacher to design a teaching event which takes some account of cognition, building from lower order perspectives to higher levels and including planned feedback.

HUMANISM

The humanist school developed as a reaction to the reductionism of behaviourism, with psychologists such as Rogers and Maslow arguing that students need to be encouraged to make the most of their learning opportunities. Within this perspective the teacher aims to promote self-esteem and motivation in order to encourage learners to learn. Students are central to the learning process and learn through active self-discovery rather than response to external stimuli. Experiential learning is promoted by the teacher with the student allowed to set the pace and direction of their learning. The teacher provides a positive learning environment with learning activities to guide, rather than direct the learning. Teaching is inductive, so taking a diabetic patient as the focus again, students would make observations about specific examples from the patients they have seen with this illness and then as a group would attempt to generate a list of needs from these observations. This move from behaviourist to more humanist principles is an appropriate model for adult learning

ANDRAGOGY

The term andragogy refers to the ways in which adults learn and this is distinct from pedagogy (the ways in which children learn). Malcolm Knowles identified key assumptions about adult learners which can be of help to medical educators.

- 1 Adults need to know the relevance of something before they begin to learn.
- 2 Adults are capable of self-direction.
- 3 Adults have a wealth of experience to draw on.
- 4 Adults have a readiness to learn what they need to perform effectively.
- 5 Adults need to be orientated to learning that has real-life application.
- 6 Adults respond best to internal motivation.

CONSTRUCTIVISM

This is a broad umbrella term that encompasses many of the more recent learning theories where learning is seen as a collaborative process with the learner playing an active role in the construc-

tion of knowledge. Reflection, experiential and self-directed learning are key elements in this broad perspective. Teachers need to ensure that they have a good understanding of the entry-level knowledge of the learners and a willingness to accept that learners will each construct individual meaning from what they learn. Learning is facilitated as the teacher aims to identify connections for the learners between the new knowledge and their pre-existing knowledge. Problem-based learning and case-based discussions can be used effectively here.

COGNITIVISM

Within this perspective the focus is on the students and their ability to engage with and actively organise knowledge. It acknowledges different learning styles and recognises that students will try to incorporate new information into their existing bank of knowledge and reflect upon the newly learned associations. Students are taught to think independently and analyse problems; the teacher facilitates learning, enabling learning through discovery as the new knowledge is assimilated and transformed as it is checked against existing frameworks and applied to new situations. For cognitivist theorists such as Dewey, Bruner and Ausubel knowledge is a process rather than a product and learners are encouraged to be active participants in all teaching events. Advance organisers can be used to prime the learners and activate prior knowledge they provide introductory material prior to the lesson which serves to aid recall, enabling links to be made between existing and new knowledge.

These different principles should be viewed on a continuum; they provide the educator with a number of different options and the choice of which approach is most appropriate and when, dependent in large part on the nature of the material to be learned and the level of the learners. Table 1¹ can be used as a guide to determine the most appropriate approach and shows how the theory underpinning the session dictates the type of learning and the most effective teaching methods.

CONCLUSIONS

It is helpful to know that there are learning theories and principles which can inform and underpin learning and teaching. Planning a learning event such that it takes account of the aims and objectives of the teaching session, the nature of the learners and the subject matter to be taught can help to ensure a positive experience for both the learner and the teacher. As a trainer, whilst it may not be necessary to have detailed knowledge

Table 1 Guide to selection of learning strategies¹

Type of learning	Theory	Methods	Behaviourist	Cognitivist	Humanist
Knowledge		Transmit	Memory Association	Lecture Class presentation Case study/reading	Discussion Games
		Assess	Question/answer	Test	Discussion
Psychomotor skills		Initial	Demonstration	Demonstration	Discuss action
		Practice	Worksheets	Case study	Project Simulation
		Application	On-the-job	Coaching/feedback	Action Plan/contract
Attitudes		Transmit and assess	Assessment Reinforcement	Vicarious experience Debate	Self-assessment Discussion of beliefs

of the range of educational principles which exist, it is nevertheless helpful to have an awareness of some of these different theoretical approaches. Learning can be planned or unplanned, it can occur in a variety of ways and in a range of settings. With just a little forethought, organisation and planning, the learning experience can be facilitated and enhanced.

Reference

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Further reading

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