Educational outcomes and leadership to meet the needs of modern health care

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Abstract

If professionals are to be equipped better to meet the needs of modern health care systems and the standards of practice required, significant educational change is still required. Educational change requires leadership, and lack of educational leadership may have impeded change in the past. In practical terms standards refer to outcomes, and thus an outcome based approach to clinical education is advocated as the one most likely to provide an appropriate framework for organisational and system change. The provision of explicit statements of learning intent, an educational process enabling acquisition and demonstration of these, and criteria for ensuring their achievement are the key features of such a framework. The derivation of an appropriate outcome set should emphasise what the learners will be able to do following the learning experience, how they will subsequently approach these tasks, and what, as a professional, they will bring to their practice. Once defined, the learning outcomes should determine, in turn, the nature of the learning experience enabling their achievement and the assessment processes to certify that they have been met. Provision of the necessary educational environment requires an understanding of the close interrelationship between learning style, learning theory, and methods whereby active and deep learning may be fostered. If desired change is to prevail, a conducive educational culture which values learning as well as evaluation, review, and enhancement must be engendered. It is the responsibility of all who teach to foster such an environment and culture, for all practitioners involved in health care have a leadership role in education.

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Education and training, and strategies to implement change and improve quality of care, lie at the heart of a modern health service. The delivery of health care is undergoing constant change and patient expectation, professional accountability, and interdisciplinary teamwork are now the paramount drivers. While reformed practice demands change in education,¹ the widespread belief is that it is through education that change may be delivered (and, of course, education is a change process).

Quality improvement, revalidation, evidence based practice, and multiprofessional working are just some of the current issues demanding a different philosophy and approach to learning. Lifelong learning is the new norm but, all too often, traditional models of education and continuing professional development still predominate.² If the goal of equipping doctors better to meet the standards of practice required throughout the continuum of their professional lives is to be realised, significant educational change is still necessary and this will require strong leadership. This cannot be seen in isolation from the overall process of organisational change. Improvement, change, and learning are "deeply united".³

Curricular change itself has been slow. The ills of healthcare education have long been recognised and it may be argued that the slow progress in its reform is due, not only to the lack of institutional recognition of the importance of educational innovation and change, but also to lack of leadership.⁴ In academic medicine, teaching often comes last in priority

Key messages

- A new concept of educational development in health is essential to meet the needs of a modernised health service and public expectation.
- Educational change requires effective leadership, and lack of leadership may have impeded change in the past.
- Vision, an understanding of the educational process, and the ability to implement change are the hallmarks of effective educational leadership.
- The necessary "vision" should be based on the transparent definition of learning outcomes fit for the purpose, the design of an educational experience enabling their achievement, and criteria for ensuring they have been met.
- There are desirable similarities between cycles of education that use experiential and self-directed learning strategies based on adult learning principles, and models for quality improvement.
- Creation of a conducive educational environment, which not only values learning but also evaluation, review and improvement, is paramount to success.
- All practitioners have a leadership role in healthcare education, and all therefore have a responsibility to understand the principles of educational and change management.

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after service, research, and administration. With certain notable exceptions, those who rise to positions of authority and influence are appointed because of their expertise and success in scientific achievement rather than pedagogical proficiency and vision. Even though the last decade has seen the widespread adoption of new educational approaches, as late as 1996 Macleod was moved to write, in relation to the future of medical schools: "... chief among the qualifications to be sought in a prospective dean is the ability to lead in an environment characterised by rapid change. Any aspirant ... must relish the current uncertainty about future directions in medical education and must have a strong interest in innovation, particularly in the educational sphere."⁵

While effective educational change cannot be achieved without visionary leadership at the institutional level, our thesis is that all involved in healthcare education, at whatever level, serve as role models and therefore have a duty to "lead". In writing about staff development, Nowicki⁶ has emphasised the individual contributions each member of the team must make in educating health professionals. Bordage and colleagues, in an international survey of employers of healthcare educators, provided a measure of empirical support for Nowicki's assertion that those with leadership roles at the undergraduate, graduate, and postgraduate levels will be "... increasingly recognised as experts of the education process and facilitators of learning".⁷

The traditional role of the medical teacher is changing from one of expert delivering factual information to that of facilitator of learning, mentor, and source of inspiration. Whether an academic in the medical school or a clinical teacher in hospital or the community, all have responsibility to support and guide students' learning. Leadership and learning are inextricably linked. If educational excellence is to be achieved and change accomplished, all involved must also recognise the need to assure appropriate standards and an educational process fit for the purpose.

Standards

The term "standards" was defined by the Higher Education Quality Council (HEQC) of the UK as "... the balance of attributes (types of

knowledge, understanding and skills) that are acquired through the study of a particular subject, field or collection of subjects", their purpose being to provide information to stakeholders (including teachers and learners, employers, government, and the public) about the attainment denoted by awards.^{8,9} Standards therefore refer to the outcomes of educational programmes and are intended to answer the question of what can be expected of the learner at every point of progression in the educational continuum.

An outcome based approach is one in which the results of learning are expressed in a form that permits their achievement to be demonstrated and measured, and in its simplest form has three components¹⁰:

- an explicit statement of learning intent expressed as outcomes which reflect the educational aims, purposes, and values of the programme of study;
- an educational process to enable the outcomes to be achieved and demonstrated;
- the criteria for assessing whether intended outcomes have been achieved and, when appropriate, for differentiating performance.

In this paper we describe current thinking about outcome based education and relevant educational principles, and discuss some of the challenges facing educational leaders.

Learning outcomes

Outcome based education is not about telling the teacher how to teach or the learner how to learn. Learning outcomes set the agenda and define what the learner is accountable for—that is, what is and what is not essential. Learning outcomes should therefore focus on the combination of attributes and competencies required for practice at a particular stage of the continuum (graduate, pre-registration house officer, etc).

In deriving outcomes and designing provision for each stage, the following questions should be addressed¹¹:

- what will the learner be able to do (that is, are they prepared to do the right thing)?
- how will they approach their practice (that is, are they prepared to do the thing right)? and
- what, as a professional, will they bring to practice (that is, are they the right person to do it)?

Although the underlying framework and terminology may vary from setting to setting, this approach to defining professional competencies is increasingly being used in a wide range of contexts in healthcare education—for example, in designing curricula for undergraduate medical students,¹¹ postgraduate doctors,¹² and clinical educators.¹³ Recent consultative papers in the UK from the Quality Assurance Agency for Higher Education in its benchmarking exercise for medicine¹⁴ and the General Medical Council on its latest recommendations for undergraduate education¹⁵ also take what is essentially an outcome based perspective. The possible outcome domains for undergraduate medicine are shown in fig 1.

What the doctor is able to do	How the doctor approaches his/her practice	The doctor as a professional
Competence in: <ul style="list-style-type: none"> • clinical skills • practical procedures • investigating a patient • patient management • health promotion and disease prevention • communication • handling and retrieval of information 	<ul style="list-style-type: none"> • with understanding of basic and clinical sciences and underlying principles • with appropriate attitudes, ethical stance and legal responsibilities • with appropriate decision making, clinical reasoning and judgement 	<ul style="list-style-type: none"> • an understanding of the doctor's role in the health service • an aptitude for personal development

Figure 1 Possible outcome domains for undergraduate medicine.¹¹

Outcomes should where possible be “SMART”—that is, Specific, Measurable, Achievable, Relevant, and Timed. Unfortunately they are often written in rather vague terms—for example, “to understand” or “to appreciate”—or merely point the learner in a particular direction without specifying any changes that might take place. At worst they are simply a list of topic areas to be covered (more correctly referred to as a syllabus). Advantages claimed for an outcome based approach are that it makes the educational process transparent, provides a framework for the curriculum, and promotes relevance. Criticisms include that it is overly bureaucratic, emphasises skills at the expense of knowledge, and that not all learning can be accommodated. Indeed, there will be outcomes that are difficult to define but which are nonetheless educationally and professionally significant. These should not be omitted simply because of their apparent imprecision or aspirational intent. In the words of Hamilton,¹⁶ outcomes should be “wide, long and deep”.

Learning process

Having defined the outcomes, the next step is provision of an appropriate educational experience. Key considerations include understanding how people learn, the importance of the learning environment, and pedagogic methods and approaches that might be adopted.

“Adult learning” is a term that is often used in relation to new approaches to professional education (box 1).

The concept of the “adult learner” is based on five assumptions¹⁷:

- (1) People become less dependent and more self-directed as they mature, thus more capable of determining and meeting their own learning needs.
- (2) Personal experience is a rich resource for learning.
- (3) An adult’s readiness to learn is related to the tasks facing them in their work and they value learning relevant to those tasks.
- (4) Adults value learning that can be put into practice immediately.

Adults will be motivated by learning which:

- is relevant to their present working situation
- takes account of and builds on their previous experience
- is directed towards their perceived needs
- involves them in planning
- allows them to diagnose their own needs
- is practical rather than theoretical, and is focused on real life problems
- actively involves them and is geared to their own style and pace of learning
- is designed so they can take responsibility for their own learning
- promotes an atmosphere conducive to learning
- involves them in evaluation through self and peer assessment

Box 1 Principles of adult learning.

(5) Motivation to learn comes as much from internal as from external influences.

SELF-DIRECTED LEARNING

The principle of self-directed learning (SDL) underpins many theories of learning, not least adult learning.¹⁸ In SDL the learner takes initiative for his or her own learning, identifying learning needs, formulating objectives, accessing resources, implementing appropriate activities, and evaluating outcomes. It is seen as a cyclical process and has essential similarities to the quality improvement cycle.³ SDL has been proposed as the most efficacious approach for the continuum of healthcare education, and the one most likely to produce healthcare professionals prepared for lifelong learning, able to meet the changing needs of the service and their patients.¹⁹

SDL is said to encourage a so called “deep approach” to learning. Deep learning involves an active search for meaning. Learners are motivated by interest in the subject and its vocational relevance, their goal being to reach an understanding of the material. In contrast, surface learners are predominantly driven by anxieties about passing examinations. They are encouraged merely to regurgitate what has been learnt, the outcome being superficial understanding. Such an approach is common in courses with a heavy workload, little opportunity to pursue subjects in depth, and assessments that reward recall (not comprehension) of information. Courses that foster deep learning, however, provide a motivating context and promote active learning. Implicit to the concept of SDL is acceptance of personal responsibility for learning. Self-directed learners also need feedback on their performance.

The concept of “adult learner” has been challenged, partly because it is based on the assumption that people are effective in identifying their own learning needs. Indeed, there is considerable evidence that, if learners are left to their own devices, there is a tendency for them to identify “wants” (driven by personal choice and interest) rather than “needs”.²⁰ One solution may be to use methods that identify areas of real need. One research and development project into continuing professional development identified no less than 48 such methods ranging from clinical audit to significant event analysis.²¹

Traditional models of continuing medical education (CME) are in almost every way the antithesis of the “adult learner” approach. This has been confirmed in several systematic reviews of the efficacy of CME and methods of changing doctors’ behaviour.^{2 22} Interventions least likely to produce change are one-off events, unsolicited dissemination of materials, didactic lectures, and passive participation. Change is more likely, however, when there has been some assessment of need, when education is linked to practice, when motivation for participation involves some personal incentive, and when there are reinforcing features. Single interventions more likely to be effective include: audit with individualised feedback; advice from a respected colleague; educational

outreach (for example, a visit from a non-commercial adviser); and patient mediated interventions with reminders. Multifaceted approaches are more likely to work than single ones and, indeed, most interventions are effective under some circumstances. Unfortunately, none is effective under all circumstances. There are no magic bullets!²²

LEARNING ENVIRONMENT AND LEARNING STYLES

The term “learning environment” describes the educational context. It goes beyond physical resources and the provision of appropriate settings for experiential learning to include emotional and intellectual climates. Furthermore, the context for learners is inextricably bound up with, and cannot be seen in isolation from, the organisational environment. A wide range of factors contribute to this overall climate, including the underlying “culture” (how much learning is valued and supported), institutional goals, relationships between teachers and learners, resources provided, and the educational impact of assessment. Often ignored but of crucial importance is the recognition of the importance of emotional factors in learning; stressed and pressurised clinicians perform badly and make poor learners.²³

The learning environment is widely regarded as one of the most powerful influences on motivation, and getting it right is an essential prerequisite for effective teaching and learning. An environment conducive to learning is one which is supportive and safe, fosters collaboration, values the contributions of individuals, and is based on mutual respect. One of the key roles in educational leadership is to foster such an environment, one that motivates learning through cooperation, considers individuals’ needs, and encourages participation in problem solving.²⁴

There is considerable evidence that individuals learn in different ways—for example, having differing preferences for certain kinds of information and ways of using it.²⁵ In considering individual needs, learning *style* is thought to be a relatively stable phenomenon related to personality. The concept has been viewed from a number of perspectives, the differences stemming largely from underlying theoretical frameworks. One popular inventory is derived from management studies, classifying people in four dimensions: activist, reflector, theorist, and pragmatist.²⁶ Another is based on the concept of personality type.²⁷ As with any attempt to classify human behaviour, there are limitations to all models. Whatever the differences, understanding their own style may help people to become more effective learners. Educators need to appreciate this and to tailor conditions to provide learners with choice and flexibility. They must also recognise how their own preferred learning style may influence their *teaching* style.

EXPERIENTIAL LEARNING

Learning is an active process; we all “learn by doing” and should recall the ancient Chinese proverb:

*“I hear and I forget,
I see and I remember,
I do and I understand.”*

While experience creates powerful learning opportunities, it is not the entire source of learning. In the context of work based learning, practice (experience or “doing”) needs to be linked to theory (underlying concepts) and this happens through the process of reflection. Several models of experiential learning have been described,²⁸ the common theme being the concept of a cyclical process linking concrete experience (doing) with abstract conceptualisation (thinking), via reflection and experimentation (fig 2).

The cycle can be entered at any point, although usually via concrete experience. Wherever it is entered, learning will be most effective if the learner can move through all the stages and complete it. This requires an environment in which an individual’s experience is valued and there is support and structure for learning. Advantages of an experiential approach include catering for individual learning needs, allowing learners to learn according to preferred styles, enabling them to build upon what they already know, and permitting flexibility.

Traditionally, medical education at all levels has been good at providing opportunities for “doing” and “thinking”, but perhaps less for the promotion of reflection. Reflection is about standing back and thinking about an experience. It happens automatically but, in the hurly-burly of a busy working day, often only fleetingly. Learning will be more profound if reflection can become conscious and, as such, needs to be built into the learning cycle. The process involves not only describing experience (“What happened?”), but also analysing and evaluating it (“How does it relate to previous experience?” “How have I changed?”), and attending to the feelings evoked (“How did I feel?”). It has been shown to be an effective tool in raising awareness of professionals to the wealth of learning in everyday practice, enabling practitioners to examine their actions, reasoning and feelings, and hence to become more skilful and effective.²⁹

The stage of experimentation (or application) is also a neglected component of learning and, again, needs to be built into the process. It involves planning how to prepare for and test out new theories and skills. A simple way of

Figure 2 The experiential learning cycle.

- (1) Clarify terms and concepts
- (2) Define the problem(s) and agree which phenomena need explanation
- (3) Analyse the problem (usually by “brainstorm”)
- (4) Develop working hypotheses and explanations
- (5) Generate and prioritise learning objectives
- (6) Research the learning objectives (usually through independent study)
- (7) Report back, synthesise explanations, and apply newly acquired information

Box 2 The seven steps of problem based learning.

doing this is to ask the questions “What have I learnt from this?” and “What will I do differently next time?”

The complexity of most learning situations, particularly in clinical practice, means that learners at any time may be engaged in several parallel cycles with different time scales and at different stages. This begs the need for record keeping to keep track of the process—for example, learning portfolios. For individuals to exact full benefit from experiential learning, they must accept responsibility for directing and managing the process themselves.

PROBLEM BASED LEARNING AND EVIDENCE BASED PRACTICE

Problem based learning (PBL) is a self-directed approach, particularly useful in the early years of medical education. It has been described as one of the most significant developments in professional education. There is no universal definition of PBL, the term being used to describe both an educational method and a curricular philosophy. Nonetheless, it is generally understood to mean a process in which learners identify issues raised by specific problems to help develop understanding about underlying concepts. New knowledge and understanding arise from working on the problem, in contrast to traditional approaches in which new knowledge is a *prerequisite* for tackling the problem. It is often confused with problem *orientated* or problem *solving* approaches. The idea itself is not new, educationalists having long recognised that giving students ready made solutions to problems is relatively ineffective in promoting deep learning.

PBL is usually a group activity and follows a particular sequence such as the Maastricht “seven jump” named after a Dutch children’s song (box 2). Generally, steps 1–5 are undertaken in an initial group session, step 6 involves independent enquiry, often over a period of time, and step 7 is dealt with at a further group session.³⁰

PBL is underpinned by the principles of SDL. It is also supported by findings of cognitive psychology about learning³¹ in that it:

- “activates prior knowledge” (a powerful starting point, given that learning builds on what the learner already knows);
- motivates (through learning things in context);

- promotes elaboration of knowledge (learning is an active process in which meaning is generated by interplay between new information and existing concepts);
- fosters an inquisitive style (and thus a deep approach to learning).

PBL in undergraduate education has been extensively researched and its benefits and limitations are reasonably well understood.³² However, there are relatively few descriptions of its use in postgraduate education. Since one of its main benefits is fostering group and interpersonal skills, it is argued that PBL would be an ideal method for multiprofessional education.

The ability to find and appraise evidence is obviously a crucial skill in PBL, and it should be no surprise that the “evidence based practice” model also emerged from McMaster. Evidence based practice has been proposed as a means of closing the gap between research and practice, and ensuring that clinical decisions are based on best available evidence.³³ The steps involved are similar to those for PBL: identify the clinical question, track down the best evidence, critically appraise the evidence for validity (closeness to the truth) and usefulness (clinical applicability), apply the findings in practice, and evaluate performance.

Learning is enhanced when we know how well we are doing. Feedback is the life blood of learning. Unfortunately, feedback in medical education has historically often been either non-existent or, worse still, negative and destructive rather than affirming and constructive, with a predictably inhibitory effect on learning. There are several tried and tested methods for giving feedback^{34–35} but, whichever approach is used, the feedback should be non-judgemental, balanced and objective, specific (rather than general), focused on behaviour (rather than on personality), helpful and informative, checked out with the recipient, given in digestible amounts, solicited (rather than imposed), and ideally focused on things that can be changed.

ASSESSMENT

It is impossible to overstate the importance of assessment in the educational process.³⁶ It is one of the most important influences on learning, not only what is learnt but also how it is learnt. This principle is often bemoaned (“the tail that wags the dog”), but can be exploited effectively by ensuring that assessment drives learning appropriately. As such, assessment must relate to intended learning outcomes, and also needs to be seen as part of the educational process and not, as has all too often been the case in medical education, as a “bolt-on” extra. Again, there are parallels with models for quality improvement where explicit aims and goals are seen as crucial.³

Assessment can be defined as a systematic procedure for measuring a sample of learners’ thinking or behaviour in order to make a judgement about them. It serves many functions ranging from measuring academic achievement to predicting future performance,

but ultimately the purpose is to assure that outcomes have been achieved.

An assessment procedure can be either “formative” or “summative”. *Formative* assessment is intended to provide the learner with feedback on progress (addressing the question “How am I doing?”) to help them identify strengths and areas of weakness. It should be an informal, ongoing process forming an integral part of feedback.³⁷ On the other hand, *summative* assessment is formal and usually occurs at the end of a prescribed period of instruction (“How did I do?”). It requires learners to demonstrate the “sum” of their knowledge and skills, and its purpose is usually to decide about progress or certification. When, in addition to a mark or grade, feedback is given as part of a summative process, it may also be formative. Historically, in medical education at both undergraduate and postgraduate levels, despite a growing understanding of its “technology”, assessment has been heavily influenced by prejudice, hunch, and ignorance. Paradoxically, it is arguably the area of education for which there is the most robust evidence base.

Unfortunately there is no perfect assessment instrument for measuring clinical competence.³⁶ The challenge is to approximate assessment to the real world while maintaining standardised test conditions at a level appropriate to the learner. It is useful to consider the “utility” or usefulness of an assessment instrument in relation to several factors. In addition to the traditional considerations of validity (does it measure what it is supposed to measure?) and reliability (does it consistently and repeatedly measure what it is supposed to measure?), account must also be taken of an instrument’s acceptability, cost, and its educational impact. All assessment instruments have advantages and disadvantages and there is usually a trade-off between these elements.³⁸

APPRAISAL

Appraisal, a process that originated in the business sector, brings together formative assessment and feedback. It has been taken up in the professional world, including medicine and education, traditionally as part of a hierarchical system of performance review and career development. Many purposes of appraisal have been described, but principally it is used to reinforce acceptable and effective behaviour and to identify factors impairing performance. The process has been modified for use in non-hierarchical settings as “peer appraisal”. A system of peer appraisal adopted in the USA and Australia, whereby a number of colleagues report on the performance of an individual, has proved reliable and has been proposed as a possible approach for revalidation in the UK.³⁹ Ideally, appraisal should be conducted within a supportive environment. One setting for appraisal already well established in other professions and gaining ground in the health service is mentoring. The traditional model, whereby a senior person acts as guide and role model to a junior colleague, still pertains, but another less hierarchical approach has emerged which is

consistent with the principles of adult learning. Co-mentoring or co-tutoring is a particular approach based on a peer relationship which may enable professionals to enhance performance and handle stress more effectively.⁴⁰

Challenges

The evidence in favour of adopting more learner centred and strategic approaches in the context of an outcomes based framework is overwhelming and this is reflected in policy documents, both academic and political. However, a number of tensions will need to be acknowledged and challenges embraced.

A distinction is often drawn between “education” and “training”, the former implying a process of personal growth and development, the latter the acquisition of a set of skills for a specific job with little critical reflection involved. Education aims to enable the learner to respond creatively to unfamiliar situations and challenges; its hallmark is universality. In contrast, training aims to prepare the individual to deal with specified foreseen tasks; its key feature is its particularity. However, the terms are often used interchangeably and, in any case, it is something of a false dichotomy. For example, it is hard to imagine an intelligent person learning a set of skills without putting them into a broader context. Nonetheless, the distinction highlights wider tensions between “education” and “service”. The busy practitioner will often feel there is no time for activities such as reflection, and this highlights the importance of trying to embed learning in everyday practice and, at a strategic level, of developing effective partnerships between education and service.³

Health care is increasingly becoming a managed environment in which professional practice is guided and monitored by an increasing number of processes and systems. At least some of these processes (for example, league tables) are at variance with the principles of adult learning and could result in conflict with potentially adverse effects, not least a damaging effect on morale. Nonetheless, it does not make sense to separate education from the overall management process and, in theory at least, a system such as clinical governance offers a framework within which some of these tensions can be reconciled.⁴¹

Whichever educational approach is used, the crucial question is whether the loop of learning is closed and followed through. Strategies need to be in place to ensure that the cycle of learning feeds back into practice when required (which will probably be in almost every instance) and that processes and, where possible, outcomes are continually evaluated. It is important to ask not just “What happened?”, but also “What happened next?”⁴²

Curricula on the whole have tended to focus more on producing doctors for practice in today’s circumstances rather than practising in tomorrow’s world. In the words of Boaden and Bligh⁴³: “... professional education often reflects the needs of a past situation, serving the professional claims and values which were the basis

of an earlier system and which sustained the original claims to professional legitimacy.” Thus, there is an increasing awareness that previously neglected areas such as management, quality improvement, population medicine, teamwork, and leadership—all pertinent to the work of “tomorrow’s doctors”—must be formally included in core curricula. This is beginning to happen—for example, through the introduction of major themes of personal and professional development into undergraduate medical courses⁴⁴—a process enabled by an outcomes approach (such as the domains in the right hand column of fig 1).

Of course the educational leader may face many challenges and problems including institutional inertia, the timescale often required to introduce innovation, and problems facilitating change.⁴⁵ Many models of change have been described including one specifically in the context of medical education⁴⁶; all emphasise the need for vision and clear goals, ownership through consultation, provision of support, and evaluation. Clearly these are areas in which leaders should play a major role.

Conclusions

A growing belief that standards (that is, outcomes) of academic and professional competency can and should be more transparent and accessible has emerged from the debate about the need for educational change and greater accountability. The basic idea behind an outcome based approach is that learning and teaching should be determined by explicit outcomes rather than a content based syllabus. The philosophy behind the approach is simple yet compelling. An explicit statement of learning outcomes provides both learners and teachers with clear guidance as to what is expected of them, facilitates development of a learning experience that allows the outcomes to be achieved, and indicates how performance will be assessed in order to certify attainment. As previously mentioned, it may be argued that this approach emphasises skills at the expense of knowledge but, in medical education where historically the curriculum has been overburdened with factual information, this may be no bad thing.

A new concept of educational development in health is essential if the needs of a modernised health service and public expectation are to be met. Review and redefinition of outcomes enables construction of a profile of the intellectual tools, knowledge and understanding, practical attributes and professional attitudes that a healthcare professional will have at any point of progress on the continuum of education and personal and professional development. Constructing such profiles and implementing appropriate educational strategies requires vision which accommodates political and public expectation alongside evidence and professional experience. The first role of educational leadership must therefore be to provide this vision: to digest, assimilate, and provide evidence for the various demands and requirements and to synthesise and express the “digest” in terms of a set of measurable and

achievable outcomes fit for the purpose. The second leadership role is to facilitate change and realise the vision. Success here will depend, not only on an understanding of educational and change management principles, but also on how well managerial (top-down) and faculty and student (bottom-up) values can be brought together and expressed in practical change to the teaching, learning, and assessment process. A “transformational” style of leadership⁴⁷—one which can energise, enthuse, and harness the collective talents and wisdom of the organisation, whether it be a small team of teachers or an entire organisation—is probably the one best suited to this purpose. Creation of a conducive environment is paramount to success, one in which not only learning is valued but also evaluation and review and a commitment to improvement.³ The principles and philosophy of the “learning organisation” reflect contemporary thinking in this area.⁴⁸

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