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Opinion

"Beyond Competence", Why Should Outcomes be Adopted in Favour of Competences?

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1) A person with a medical qualification should be a capable practitioner at the start of their career and capable of adapting to future challenges.
2) Teaching models based on 'competence' teach technical accuracy, but do not necessarily prepare students to be capable of making sound clinical judgements or of adapting to new developments.
3) 'Outcomes' based curricula include technical accuracy and prepare students to make good clinical judgements and to continue to adapt to improve the quality of professional practice and performance.

Key words: outcomes, competence

INTRODUCTION

The concept of 'competence' has become widespread in medical education. It is widely used in the USA and has been adopted by the European Union as the preferred model for describing what is taught and assessed in higher education, including the healthcare professions. However, the concept of 'outcomes' is also gaining popularity in preference to competence. This paper sets out to explain why 'outcomes' are more appropriate than 'competences' in medical education.

PURPOSE OF MEDICAL EDUCATION

In order to discuss competences and outcomes, it is necessary to begin with some understanding about the purpose of medical education. A primary medical qualification is intended to prepare a young person for a life-time of clinical practice, but what does this mean for the students, and in particular what are the implications for the providers? In simple terms, Medical Schools have a duty to equip their students with the knowledge, skills and beliefs and behaviours necessary, at first to enter clinical practice, and then to continue with a life-time of professional development.

These two assertions are fundamental to medical education and lead to the definition of what a doctor is. A doctor is someone who has the necessary skills, knowledge, beliefs and behaviours required to carry out clinical practice, and to continue to develop their capabilities. Such a definition is an essential starting point for preparing a curriculum that is fit for the purpose of educating doctors.

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MEDICAL EDUCATION SHOULD PREPARE STUDENTS FOR THE PRESENT AND THE FUTURE

What kind of curriculum, then, is appropriate for the primary medical qualification? Dr Gro Harland Brundtland[1] illustrated this point well in her address to the World Federation of Medical Education in March 2003.

"Imagine that this is the year of 1963 and your task is to design a medical education which would prepare your students for the coming forty years of medical practice. Would you have included discussions about HIV/AIDS; about brain imaging methods; about the use of the internet for telemedicine and for learning; about genomics and biotechnology; about the ethics of artificial reproductive technologies or about caring for the ageing in their homes? Obviously not. Medical education is about transmitting large amounts of technical and increasingly complicated knowledge to young minds.

But mastering the reality of today does not prepare students for the challenges of tomorrow. Medical education is also-and today more than ever-about teaching how to manage change."

TRENDS IN THE WORLD

So, how are Medical Schools going to educate their students to master the reality of today and prepare for the challenges of tomorrow? This question has been explored by a number of national authorities and leading medical institutions, including The World Federation for Medical Education[2] the UK General Medical Council[3], the Council of Deans of Scottish Medical Schools[4] and the European Tuning Project[5]. They have all put forward recommendations or proposals that describe the intellectual attributes and abilities that are a required of a doctor at graduation. They define the attributes (outcomes) what a student should be able to demonstrate by the end of their period of training. Under the competence-based education, many objectives are described and students should be able to memorize or perform each objective. At least two of these projects use the terms 'outcomes' rather than 'competence', and the reason for this lies in the nature of 'being a doctor'.

THE SCOTTISH DOCTOR PROJECT OUTCOMES

The Scottish Deans' Medical Curriculum Group recognise three fundamental characteristics in their definition of a doctor: "what the doctor is able to do", "how the doctor approaches their practice" and "the doctor as a professional". Underlying these elements are three principles related to judgement in clinical practice, "knowing what action is required", "knowing why to act", "knowing when to act", and it is the need to develop the *capability* to make good *clinical judgement* in students that creates the distinction between a competence-based and an outcome-based curriculum.

WHAT IS COMPETENCE?

The initial impression of 'competence' is that it is an attractive concept for use in healthcare education. After all, a doctor must be competent. Also, most western education systems have a long tradition of instruction and examination that prepares students who are competent. This style of teaching is aligned with the philosophy of the Radical Behaviourists, of which Skinner[6] and Pavlov were notable examples. In this style, knowledge is broken down into small components (learning objectives) that are expressed by teachers and learned by students. The task of the student is to learn how to "know", that is how to absorb the chunks of knowledge and make some meaning from them. The topics that are taught have pre-determined standards or

levels of performance, so that the learner has to recall the fact or the action in order to demonstrate that learning has taken place. Pavlov demonstrated this form of response in his experiments on dogs, but it was Skinner's experiments on operant conditioning that established the basic models for teaching and learning skills and tasks.

COMPETENCE IS NOT SUFFICIENT

Michael Eraut[7] has written extensively about the importance of competence in profession life including the healthcare professions and justifies the inclusion of 'competence' in professional training. His point is that clinical protocols, skills and other actions must be performed to a known professional standard. Healthcare professionals must be trained to perform at the specified level and must therefore be competent. Training to achieve competence is a part of medical education, but training is concerned with the technical elements of being a doctor, and does not address the other central elements that distinguish education above training. Eraut supports the view that competence is not sufficient, when he writes about the importance of 'judgement', which he defines as "an attribute of personal expertise that goes beyond that competence which any fully trained doctor could be reliably expected to demonstrate."

WHY OUTCOMES ARE DESIRABLE?

If competences are not sufficient, why then are 'outcomes' desirable? The reason why an outcome-based education is desirable is that the philosophy is 'constructivist' and focuses upon developing capability and judgement. Constructivists believe that real learning takes place when the learner finds meaning and builds up conceptual frameworks through their own experience. The point of understanding is reached because the learner has taken actions that lead to that cognitive position. They have not been told what to remember (which is the behaviourist view) but have worked through the material for themselves and arrived at their own conclusions.

Constructivist teachers apply a number of principles to guide their teaching. Learning is an active process in which the learner finds meaning. Students can learn to learn if they are encouraged to do so. Learning involves language (both spoken and written expression). Learning is a social activity (requiring teachers, other professionals and peers). Learning is contextual and relates to experience. Learning for understanding takes time and may require reinforcement. Motivation is essential and is reinforced by achievements. It is no coincidence that these statements describe the nature of learning by professional people in the work place. Students who are educated in a constructivist system are good at making accurate judgements and it is this that provides the link to *capability*. John Stephenson[8] has argued that 'capability is an integration of knowledge, skills and personal qualities used effectively and appropriately in response to varied, familiar and unfamiliar circumstances.' The point made by Brundtland[1] is that medical students must be able to respond to the familiar and the unfamiliar with equal effectiveness.

THE DIFFERENCE BETWEEN COMPETENCE AND OUTCOMES

The difference between competence and capability may be illustrated by the following example of communication. Most schools teach communication skills (an example of the model might be, introduction, put patient at ease, ask open questions, pose hypotheses, establish differential diagnosis, explain diagnosis and gain patient compliance for treatment, check patient's understanding). Schools commonly use an OSCE

to assess if the student is competent in these various stages, but because of pressure of time, it is unlikely that the whole communication sequence will be tested in one examination. However, in a busy clinic, with a long list of real patients (not the simulated patients as in the OSCE), the student is confronted with the variance of reality, and it is then that their real capability is put to the test. In a reality, communication is part of the clinical context, and not a separate part. There is pressure on time, and many issues to consider. In this situation, is s/he able to recognise and accommodate any ethical issue? If a physical examination is required, is s/he able to recognise the signs? Can s/he reach a differential diagnosis if the patient is not very articulate and may not have a good vocabulary, may be highly anxious or embarrassed about their problem, or may have symptoms that are psychosomatic rather than organic in origin. Or, if the condition is not so common will s/he have the *capability* to deal with unfamiliar reality?

It is because graduating doctors have to *capable* of dealing with the reality of the present and cope with the new realities of the future that The Scottish Deans' Medical Curriculum Group began with the three particular characteristics in their definition of a Scottish Doctor, and used them as the framework for setting out the Outcomes. The three Slovak Medical Schools[9] adopted the same strategy, for the same reason, when describing the Slovak Doctor

CONCLUSION

To be effective, an outcomes-based education must be delivered in a curriculum that promotes capability through integrated sciences, early patient contact, and in particular promotes active learning to prepare the student for a life-time of learning. Assessments should be designed to drive students towards appropriate professional behaviours. Are these ideas new and revolutionary? They are not. They are advocated by the two great reforming figures, Abraham Flexner[10] and William Osler, who both advocated approaches to teaching that are 'constructivist' and argued that *clinical capability* is the primary purpose of medical education. Their judgement was correct then and remains good today.

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和文抄録

1) 医師など医療専門家として資格を与えられる者は，卒業時点で確かな実践力と，将来の変化に適応できる能力を備えているべきである．
2)「コンピテンス」で表現される教育モデルは，正確な技能教育にとっては有用な概念であるが，妥当な臨床判断力・医療の進歩に対する適応力については必ずしも触れられていない．
3)「アウトカム」の概念には，正確な技能修得とともに，正しい臨床判断力と，専門家として常に診療能力を向上させてゆく姿勢が含まれており，これらをカリキュラムの基本として学生に示すことが重要である．