

The future of medical education: blending new with old

Sir,

The traditional role of the educator has changed from disseminator of knowledge to facilitator of learning. The use of information and communication technology is of vital importance in this new role of educators. Faculty, administrators and learners recognize that e-learning is a powerful force in medical education and, used effectively, we believe it has a pivotal role in the future of medical education.

We read with great interest Dr Granger's editorial (vol 74(8), 2013, p. 424) on the future of medical education and echo the comments regarding acquisition of knowledge to pass examinations, rather than to enhance professional development. However, we disagree that we are becoming reliant on modern technology at the expense of clinical experience.

The question remains: how can we as clinicians promote education among future doctors and how will we encourage competence and compassion? Traditionally, medical curricula have focused on the assessment of lower order thinking skills, such as data recall or comprehension (Ozuah, 2002). The General Medical Council's (2013) document *Good Medical Practice* proposes that postgraduate examinations and continuing professional development must evolve to incorporate higher order thinking where evaluation and critical appraisal are used to develop analytical skills.

Medical education has had an astonishing growth and development because of new technologies and innovations (Harden, 2002; Bates, 2005). Professional bodies have invested heavily in information and communication technologies, not only to deliver education, but also to improve the quality of health-care services. The World Health Organization and the United Nations have acknowledged that information technologies are useful tools in the field of medical education and health-care delivery, particularly in the developing world, where access to experts in different areas and resources may be limited (Drury, 2005).

Examples of newer technologies include e-learning, simulation and social media. It is important to recognize that these 'tools' are not designed to replace clinical learning or practical experiences, but have been developed to facilitate and support learning. In our own practice the development of a distance e-learning Masters Programme in Perioperative Medicine through the application of robust pedagogical theory underpins the development of a syllabus. This draws on aspects of traditional educational theory and promotion of higher learning skills. The course content is easy to access, is effective for busy clinicians to partake in and is entirely complementary to more traditional learning activities.

High quality e-learning materials increase the accessibility to information, ease in updating content, personalized instruction, speedy distribution, standardization of content and accountability. It allows educators to revise their content simply and quickly and learners have control over the content, learning sequence, pace of learning, time and, often, media. Such flexibility allows the student to tailor his/her experience to meet personal learning objectives. The best examples of internet technologies permit the widespread distribution of digital content to many users simultaneously anytime and anywhere (Ruiz et al, 2006).

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Translational units in occupational health: an innovative operational concept?

Sir,

Translational research is a rapidly growing discipline in biomedical domains and is being developed in many medical fields. It aims to expedite the discovery of new diagnostic tools and treatments by using a multidisciplinary, highly collaborative, 'bench-to-bedside' approach (Woolf, 2008). In public health, translational medicine is focused on developing proven strategies for disease treatment and prevention.

In occupational health, the Global Plan of Action for Workers' Health 2008–17, of the World Health Organization (2007), defines five objectives:

1. To devise and implement policy instruments for workers' health
2. To protect and promote health in the workplace
3. To improve the quality of and access to occupational health services
4. To provide and communicate evidence related to action and practice
5. To incorporate workers' health into other policies.

In order to achieve these goals, the concept of a translational unit in occupational health has been created.

The translational unit in occupational health was created with three major aims: research, teaching and clinics. Research activities are performed in relation with a research unit for important occupational problems. Teaching activities focus on the introduction of medical students to basics of occupational health, initial training for occupational health residents, and continuous medical education for occupational health professionals or other practitioners. Clinical activities are offered directly to patients in a consultation, to provide them with occupational disease diagnosis, prevention and compensation, as well as information and education.

Direct transfer from research to patients and to physicians is achieved via this operational concept of a translational unit in occupational health. Furthermore, the translational unit in occupational health provides direct contact for all stakeholders.