

Current concepts in teaching and learning in surgery

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Abstract

Modern surgical teaching is evolving at speed. The environment in which we learn and teach is subject to a number of extrinsic pressures. These are influencing ways in which medical students and trainees learn and are taught the discipline of surgery. As a surgical educator it is useful to understand the reasons for these changes and to acquire the skills necessary to provide effective teaching. This short article looks at reasons why one would wish to develop surgical teaching skills, covers basic principles associated with delivery of effective teaching sessions and briefly reviews other avenues that may enhance teaching practice.

Keywords Competencies; eLearning; human factors; learning; simulation; skills; surgical education; teaching; technology enhanced learning

Introduction

Teaching and learning have always been integral to a career in surgery. Changes in modern surgical practice mean that the ways in which surgeons both learn and teach have had to evolve to cope with extrinsic pressures. Increasing patient turnover, refocussing patient care from inpatient to outpatient pathways, shorter hospital stays and increased public accountability means that exposure to clinical materials and operating opportunities are restricted. The European Working Time Directive (EWTB) reduces the number of hours available each week for training. These factors contribute to the long-term apprentice model (sometimes referred to as 'see, do and then teach') being replaced by tailored teaching and structured training programmes. If high calibre trainees are to be attracted and complete training, surgical units are obliged to provide quality education and training, rather than merely to acquiesce to service demands. At the same time, development of curricula for surgical specialties, technological

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advances in educational resources and new forms of assessment, both in the workplace and in examinations, is proceeding apace.

Not all surgical teaching is directed towards the qualified trainee. It is vital that medical students are exposed to the surgical specialties and receive good education in surgical disease and skills, if we are to recruit the brightest students to our discipline. The decline in application numbers to core and speciality training programmes illustrates the ongoing need to raise the profile of surgery. Increased tuition fees, the importance of ranking of medical schools on the basis of student perceptions in the National Student Survey and realization that student income plays a significant part of Faculty funding has encouraged universities to place more emphasis on quality teaching. Development of academic career pathways in teaching as well as research is driving forward new opportunities in surgical education.

Developing as a surgical teacher

The General Medical Council (GMC) expects that all doctors will play some role in teaching and acknowledges that the example of the teacher is the most powerful influence upon the standards of conduct and practice of trainees, whether medical students or junior doctors. In Good Medical Practice, the GMC highlights that any doctor 'should be prepared to contribute to teaching and training doctors and students' and that those formally involved in teaching 'must develop the skills, attitudes and practices of a competent teacher'.¹ The attributes of the doctor with teaching responsibilities are shown in Box 1, and demonstrate why there is a need for surgeons to undergo educational training.

However, there are reasons other than altruism as to why you might choose to develop your surgical teaching abilities. You might wish to include teaching as a formal component of your job plan or to enhance your curriculum vitae for career appointments (Box 2). Formal educational training opens up new opportunities with respect to educational management, organization of teaching and curriculum development.

One way to improve teaching competence is to obtain a formal education in teaching methods.

Training the trainers course

An excellent opportunity to obtain insight into educational techniques, with the added bonus of being able to practise teaching in a controlled situation, is to participate in a 'Training the Trainers Course', such as those run by the Royal College of Surgeons of England.² Completion of this course is a mandatory requirement of Higher Surgical Training in the UK. Recognizing that much of surgical training takes place in situ, 'train the trainers' programmes have been developed in endoscopy and laparoscopic surgery (<http://lapco.nhs.uk>).

The content of these courses includes small group teaching, techniques for facilitating group teaching, planning and structuring teaching sessions, staged approaches to teaching clinical skills, giving and receiving feedback and training without compromising patient safety. Each of these considers development of the individual's approach to teaching.

Higher degree

If you are interested in developing your teaching abilities further, you may well choose to study for a higher teaching qualification.

Personal attributes of the doctor with teaching responsibilities (GMC, 1999)¹

- An enthusiasm for his/her specialty
- A personal commitment to teaching and learning
- Sensitivity and responsiveness to the educational needs of students and junior doctors
- The capacity to promote development of the required professional attitudes and values
- An understanding of the principles of education as applied to medicine
- An understanding of research method
- Practical teaching skills
- A willingness to develop both as a doctor and as a teacher
- A commitment to audit and peer review of his/her teaching
- The ability to use formative assessment for the benefit of the student/trainee
- The ability to carry out formal appraisal of medical student progress/the performance of the trainee as a practising doctor

Box 1

Many medical schools run part-time courses in medical education leading to a Certificate of Medical Education or at a higher level to a Diploma, or Masters. These courses tend to offer structured modules in various areas of education with core components such as teaching, learning, evaluation, assessment and course design. These are assessed by course work or written assignments. Modular components include topics such as educational research methods, use of information and communication technologies in education, ethics, mentoring and supervision, developing communication skills, simulation, developing professionalism and using the arts and humanities in medical education.

Why should I develop my surgical teaching skills?

Personal benefit

- Satisfaction
- To enhance curriculum vitae for job application, promotion or retention
- As part of continuing professional development
- Re-accreditation/revalidation
- Change in career emphasis

For benefit of students

- Improve acquisition of knowledge, skills and behaviours
- Improve attainment of learning aims and objectives
- Improve performance in assessments
- Promote interest in subject

For the benefit of the institution

- Improve institutional results
- Attract students and high quality staff
- For quality assurance purposes

Box 2

Obtaining a master's degree in medical or surgical education will generally involve some pedagogical research into educational themes and the writing of a dissertation. Acquisition of the Fellowship of the Higher Education Academy (FHEA) demonstrates that you have complied with criteria described by the UK Professional Standards Framework for teaching and supporting learning in higher education. This may be a valuable asset if contemplating a career in surgical education.

What makes a good teacher?

A good teacher aims to be a role model, inspiring student learning. The good teacher encourages learning in an open atmosphere in which each student is at ease asking questions. Learning objectives are established early on in a teaching session, so that students know the boundaries within which they are expected to perform. Teaching is pitched at an appropriate level so that the student remains interested and challenged. The good teacher is organized, enthusiastic and incorporates adequate preparation into their teaching schedule.

Teaching sessions should be clearly structured with a summary of the points learned at the end of the session after taking questions. Good preparation will extend to the use of appropriate resources and facilities, simulators, visual aids and provision of lecture notes or handouts. Where feasible, lecture notes or summary slides can be uploaded to a website which the student can access to recap important points or to obtain revision material.

Lastly, good teachers don't cancel sessions at the last minute and although sessions may not always run to time, the teacher will arrive punctually and will deliver teaching at advertised times.

Preparation for a formal teaching session

Ramsden has identified six principles of effective teaching:³

- interest and explanation
- concern and respect for students and student learning
- appropriate assessment and feedback
- clear goals and intellectual challenges
- independence, control and active engagement
- learning from students.

If these principles are to be followed a formal teaching session needs to be thoughtfully planned and structured if it is to be effective.

Planning the session

Two alternative approaches to session planning are described, the first is based around specifics and the second around competency-based training:

Who am I teaching? You will need to consider this carefully. Are you teaching medical students or trainees and at what stage of their course are they? Is this a masterclass for consultants? How big is the group? What level of knowledge do they already have? Different techniques will be required to teach 4, 8, 24 or 250 students. Try to learn about your students' backgrounds where feasible and determine whether they have specific problems (i.e. undertaking resit examinations).

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