Letters to the Editor

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The author's perspective of authoring online modules for continuing medical education

Dear Sir

There is increasing use of online learning modules for continuing medical education (Wutoh et al. 2004). Most of the providers will offer some guidance on how to approach the writing task and there are also numerous books and articles. However, our experience is that many providers will approach prospective authors with little specific guidance and we wanted to understand the experience of previous authors to inform our guidance.

To find out the experience of our authors we sent a semi-structured questionnaire to all authors who had recently written an online module for BMJ Learning. Eighty-eight questionnaires were completed (response rate 64%). Expert knowledge, enthusiasm for the subject and previous prepara-tion of a lecture was helpful. Authors stated that when writing the module it was time consuming to access resources, such as key documents or websites, as was the need to retrospectively obtain patient consent for clinical photographs.

Forty percent of authors found it helpful to personally discuss concerns with a member of the editorial team. Similarly, there was a desire to obtain feedback from peer reviewers of the draft module and also from the users, being keen to ensure that content was appropriate and useful to the intended audience.

BMJ Learning provides a prescribed format for the authors of each module. Overall, most authors found this useful to help structure their writing.

We were surprised by the extent of the author's need for support and structure, but this probably reflects the uncertainty of writing for a new medium. This has important implications for providers and we recommend further research to see if our findings are more widely applicable.

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Ethics

The research protocol was approved by the Medical Educational Research Ethics Committee of the School of Medicine at the University of Leeds.

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Wutoh R, Boren SA, Balas EA. 2004. E-learning: A review of internet-based. Continuing medical education. J Contin Educ Health Prof 24(1):20–30.

What students learn from a professional development course?

Dear Sir

Alongside knowledge and skills, professional behaviour is now an explicit subject in medical and health-related curricula. Professional behaviour is described as the way professionals deal with their tasks, with others and with themselves. In order to develop and improve professional behaviour, students and professionals need to reflect on this behaviour (Stern 2006). Students therefore have to learn to reflect on their own professional experiences. There are several ways of teaching students to reflect. However, little is known about the learning outcomes of these methods.

A qualitative study was carried out to assess what students learn in a course in which different methods to foster reflection are combined: small group discussions, written reflections and intensive coaching. The reflective essays by 77 speech therapy students about their personal learning were available for analysis. Saturation was reached after analysing 42 reflective essays.

The analysis enabled three categories of findings to be distinguished. Firstly, students indicated learning outcomes that corresponded with the three professional behaviour themes identified by Van de Camp (2006). Students showed their ability to reflect towards *the patient* when discussing the way they dealt with patient diversity. Students showed professional behaviour towards *other professionals* when discussing differences in their opinions about adequate professional functioning. And students mentioned an aware-ness of personal norms and values which influence profes-sional choices in practice. In all three themes they reported the learning outcomes in terms of personal awareness. Students formulated learning objectives based on these personal insights. While most students were positive about being reflective, some reported resistance to being open about themselves in the group or to giving meaning to their own experiences.

Secondly, analysis of the material also showed that some students prefer one particular reflection method over others. Some students learned more effectively from reflective *writing* than from group discussion about experiences, while other students reported the opposite.

Thirdly, students also suggested that their learning was influenced by their teachers. Students mentioned that teachers played an important role in encouraging reflection, depth

of analysis, understanding and in creating a safe learning environment.

In conclusion, it seems that a diversity of reflection methods in teaching combined with coaching meets the needs of a wide range of students and therefore provides ample opportunity to stimulate reflective skills as part of the development of professional behaviour.

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Workplace violence: A survey of paediatric residents

Dear Sir

After the mother of a hospitalized child physically assaulted one of our paediatric residents, we decided to investigate the prevalence of workplace violence in paediatric training programmes. In 2007, we conducted a survey of paediatric residents in the United States about their experience with verbal and/ or physical abuse while on duty. More than one-third (33%) of the respondents had been verbally abused or physically assaulted by patients and/or patients' families during their residency programme, although verbal abuse was much more common than physical assaults. Typically, more than one hospital staff member (including nurses, other residents, medical students and ancillary staff) was involved in the incident demonstrating that this problem affects many members of the healthcare team.

Although many health care workers believe that workplace violence is increasing, there is a paucity of data to support these claims due to low reporting rates. The problem is further exacerbated by a lack of agreement on the definition of what constitutes aggression and violence within health care professions (Rippon 2000). The literature does not contain much information on residents' experience, especially paediatric residents' experience with workplace violence. In fact, there is little data on workplace violence in areas other than psychiatric and emergency departments.

Unfortunately, our survey revealed that 71% of the respondents had no teaching about workplace violence during their residency training. The majority (74%) indicated that they would like to receive more training in managing angry patients and families.

The high incidence and adverse consequences of verbal and physical assaults, in addition to the lack of formal teaching on workplace violence, suggests that all paediatric residents and indeed, all residents, should receive training in recognition, management and prevention of workplace violence. A universal curriculum on workplace violence and managing difficult encounters should be implemented during resident orientation. Communication skills training must include de-escalation and defusing of potentially dangerous encounters. A centralized systemized reporting system should be implemented through the security office in every training institution to document incidents of workplace violence and allow support and rehabilitation of the victims. Violence must not be tolerated in any of our training institutions.

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A comparative study of methods of feedback in medical education

Dear Sir

Constructive feedback is an essential component of medical education and is necessary for continuing personal and professional development. However, it is often done poorly and is a responsibility that some trainers avoid, misunderstand or are unsure how to carry out (Ende 1983). This limits the benefits trainees can acquire in clinical settings. Assessors in these settings have indicated that their greatest need is to learn how to give feedback effectively (Hewson & Little 1998).

There are numerous methods of feedback, but the two most widely accepted are Pendleton's rules, the conventional method of feedback in medical education (Pendleton et al. 1984) and agenda-led outcome-based analysis (ALOBA).

Pendleton's rules are structured so that a trainee's strengths are first discussed followed by their weaknesses.

The underlying principle of the ALOBA method is to identify what kind of help the trainee wants and feedback is targeted to address this. There is no clear evidence about which method is best, so we designed an ecological study to compare them.

We devised and distributed a questionnaire to 106 foundation and specialist trainees in Birmingham. It asked respondents to indicate the relative value of various aspects of each method of feedback.

All 106 trainees responded to the questionnaire. Overall, trainees indicated a preference for the ALOBA method. A total of 66.1% of respondents identified aspects of ALOBA as helpful when receiving feedback, compared to 54.3% for Pendleton's rules.

There was a significant difference in responses to all questions between foundation trainees and specialist trainees ($p < 0.05$). Specialist trainees thought it was more important to discuss strengths before weaknesses than foundation trainees (75.9% versus 57.7%, $p = 0.009$). Specialist trainees indicated a greater preference for thinking about aspects for improvement in their performance before the assessor suggested these (68.5% versus 19.2%, $p = 0.001$). There was no significant difference in responses between males and females.

Our study indicates that trainees prefer the ALOBA method as a means of receiving feedback; but as aspects of Pendleton's rules were also valued, a model combining both methods is ideal. The significant differences in views held between foundation trainees and specialist trainees indicate that clinical assessors need to be flexible in the way in which they deliver feedback. Foundation trainees seem to be less defensive when receiving feedback as they indicated a preference to discuss weaknesses before strengths, whereas specialist trainees preferred to be more actively involved in the feedback. These differences may reflect the different stages in training of the two groups.

Giving feedback constructively is a generic skill that can be learned (Chowdhury & Kalu 2004) and is of great value if delivered in the right way. Medical educators now know that they need to adapt their style of feedback according to the grade of trainee and employ elements of both methods of feedback for trainees to gain a better insight into their performance and to optimise their learning experience.

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Is simulation the future for vascular surgical training?

Dear Sir

Higher surgical trainees (HSTs) have witnessed their total work-hours during training reduced from the pre-European Working Time Directive (EWTD) era of 80,000 h to the current 21,000 h. In addition, with the establishment of hybrid rotas, reduced service training opportunities and the implementation of national guidelines relating to 'emergency surgery out-of-hours only', it is estimated that in 2009 the average time spent training consultant surgeons will decrease to 7640 h, i.e. 10% of their predecessors (White et al. 2005).

The effects of these time constraints on vascular surgical training will be further compounded by endovascular technologies. Adopting these new technologies into the vascular surgeons armamentarium means the diverse collection of skills vascular surgical trainees are required to achieve competency in has increased exponentially, whereas the timeframe to achieve competency is becoming increasingly narrowed.

Endovascular surgery remains in its infancy with relatively few experts, thus making its incorporation into structured training programs difficult. Traditionally, core endovascular skills – basic percutaneous catheter and wire manipulation – have been acquired through invasive diagnostic angiography. However, the development of accurate non-invasive imaging technologies has diminished these training opportunities. These difficulties were recently evident in the field of carotid artery stenting (CAS). The 'endarterectomy' versus 'stenting' in Patients with Symptomatic Severe Carotid Stenosis (EVA 3S) trial was prematurely terminated due to an excess stroke and death risk in the stenting cohort. (Mas et al. 2006) This was primarily thought to be as a result of inexperienced endovascular surgeons in the technique of CAS ascending the learning curve whilst participating in the trial. Subsequent trials with experienced technicians have yielded vastly improved results.

In order to ensure patient's safety, it is imperative we guarantee as a profession that only appropriately trained individuals perform these high-risk procedures. As result of the aforementioned training difficulties this can only be accomplished through the development of a structured training program that incorporates 'novel' methods of skill acquisition, as well as standardized and objective methods of assessment. As such, we feel that simulator-based training must play an increasingly important role in the near future.

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One-week course helps prepare medical students for internship

Dear Sir

At academic medical centers, each year the progression of medical students to physicians begins anew. Despite the completion of the medical school requirements in preparation for this transition, the increased autonomy of internship is not only stressful for new interns but may also pose a risk for patients. In response to this, we specifically designed a 1-week course, Internship Boot Camp, to prepare fourth-year medical students for the transition from medical school to internship.

The course is offered to students within 3 months of graduation using high-fidelity mannequins, standardized patients, procedural task trainers, and problem-based learning to help students apply their knowledge and develop a framework for response to the challenges they will face as interns. The students care for simulated patients longitudinally throughout the week, managing common issues they are likely to encounter as interns with rotated on-call responsibilities, hospital admission and dismissal of patients, code coverage, cross-coverage for other residents, and the handling of phone calls from nurses, family members, and staff. Some issues are managed individually followed by a group discussion, while others require a team-based approach. Faculty for the course includes physicians from multiple specialties, nurses, respiratory therapists, and a psychologist.

Evaluations of Internship Boot Camp have been consistently positive since its inception in 2006. A blinded 2007 survey of all 40 medical student graduates (12 of whom attended Boot Camp) was conducted early in their internship, with an overall response rate of 80%. Graduates were asked to list components of medical school that best prepared them for internship. Of those who had attended Boot Camp, 89% listed it as helpful, with the next highest response being subinternship in 33%. Of those who did not attend Boot Camp, the highest response was subinternship, given by 40%. In response to the enthusiasm for the course, it is now offered to all fourth-year medical students.

The 1-week Internship Boot Camp is highly regarded among students and is recalled by graduates as the most helpful of all components of medical school education in preparing them for internship.

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What influences performance in the OSCE exam? The medical student perspective

Dear Sir

Previous academic achievement can only account for 23% of the variance in performance at medical school; this was after correction for previous academic ability, medical training and the narrow range of high academic scores seen in medical students (Ferguson et al. 2002). We wanted to know what medical students thought affected their performance in a stressful examination. The Objective Structured Clinical Examination (OSCE) is a performance-based exam now commonplace in the routine assessment of clinical competencies in undergraduate medicine. Through focus group enquiry we posed the question, 'What influenced your performance in the OSCE exam?' to 26 self-selected fifth-year medical students who had recently completed their final MBChB OSCE.

Discussion centred on factors that *students* perceived to increase their anxiety and reduce their performance. The factors were themed into: the environment, examiners, and preparation. They discussed the negative impact of hearing other students, of unclear instructions, and of encountering simulated patients they had met before on the course. Students worried that by having high levels of anxiety, the examiners would perceive them as less confident. They reported difficulty controlling their anxiety describing it as 'spiralling out of control' and finding difficulty in refocusing after perceived mistakes. Others appeared to overly concentrate on the differences between real clinical life and the OSCE. For some students, it is doubtful that a higher degree of theoretical medical knowledge or strategy would reduce their anxiety. No students expressed a mechanism for coping with these factors.

Researchers have demonstrated the role of personality type, self-efficacy, gender and stereotypes on OSCE outcome, finding that competent OSCE performance to be the product of complex relationships between knowledge, mediated by perceptions of anxiety, self-confidence and preparedness (Mavis 2001). They acknowledge the benefit of an individual's psychological resilience and self-awareness in performing well in OSCEs, and have demonstrated that better, self awareness

can lead to a greater understanding of ones limitations and thus improve performance.

Our findings demonstrate that the OSCE challenges students in additional ways to their clinical competence and highlights inadequate coping mechanisms which may affect their final score. Within undergraduate medical training, little attention is given to developing effective skills to enhance a student's ability to perform under pressure. Performance problems could be carried forward and manifest in the workplace. Skills should be introduced that develop students' coping mechanisms and can be used in future aspects of professional life.

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User response to audio (podcast) elearning modules

Dear Sir

BMJ Learning, a medical education website, published three audio (podcast) learning modules and invited comments from users, mainly primary care physicians. The growth of digital technology and the internet means that the use of audio is increasing. Here the word podcast describes a digital audio file distributed over the internet.

Each module on BMJ Learning takes about an hour to complete. Most modules are text and picture based. The three modules (on cardiology, respiratory medicine and chronic kidney disease) contained an audio track of a consultant being interviewed by a general practitioner, and displayed coordinating PowerPoint slides. There is a free text comment box at the end of each module. We collected all the comments on the podcast modules and grouped them into themes, in which 600 out of the 1093 users commented.

The most frequent topic was *Useful* with 213 comments, followed by *Clear* with 123, *Excellent* 89, *Good* 63, *Interesting/informative* 26, *Format* 25, *Improvements/technical issues* 23, *Particular medical techniques* 22, *Revision/review* 12, *Problems* 2 and *Other* 2. 94.6% ($N = 591$) were wholly positive and 5.4% ($N = 34$) contained a negative comment or suggestion for improvement.

The positive comments included 'An extremely clear and useful overview. An excellent learning tool' and 'Really worthwhile. Enjoyed listening rather than doing written module'. Several users asked us for more podcasts 'Brilliant. More like this please'. Many comments praised the conception of the audio format '...like listening in on a real-life discussion between colleagues...set a level helpful to the general practitioner' and the visual slides '...slides were helpful.... A good resource'.

The small number of negative comments relate to problems with the technology itself or the way it worked. For example, four people suggested adding a summary slide and seven suggested including a test MCQ. Three people suggested improvements to the usability of the module.

It is clear that users liked the format, the content and the accompanying slides, and enjoyed their learning experience. Criticisms were mainly suggestions for improvement, suggesting that users' expectations – such as being able to download or navigate through the material – are informed by their other experiences of technology. Creators of e-learning resources need to use the most sophisticated technology and best web design to make user's experiences as fulfilling as possible.

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