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Letters to the Editor

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LETTERS TO THE EDITOR

Implementation of an audience response system improves residents' attitudes toward required weekly conference

Dear Sir

Structuring a didactic lecture series that keeps residents, medical students, fellows, and faculty members interested and involved can be a daunting task. An audience response system (ARS) is one tool that may aid in this by inducing everyone to become more engaged with the didactic activity while maintaining a veneer of comfort and anonymity (Nayak, Schackow). Although it is not a panacea, in an era of electronic gadgets, instantaneous e-mail, and multimedia cell phones, an ARS serves to increase the "coolness" factor of the conference and brings the sense of immediate connectivity to which residents have become accustomed.

We developed and administered a before and after anonymous survey to the residents of a university-based Emergency Medicine Residency Program to evaluate whether the implementation of an ARS enhanced residents' attentiveness and increased the perceived educational value of a weekly, required educational conference.

We found that the ARS significantly improved respondents' attitudes toward lectures that included questions ($p = 0.05$), the perceived usefulness of those questions ($p = 0.008$), and the perception of the overall quality of the audiovisual materials ($p = 0.03$). All respondents found the system easy to use.

The immediate feedback that the ARS provides is a useful educational device. For example, it decreases concern for being "singled-out" while increasing overall audience participation. Nearly all of our participants (94%) preferred answering questions using the ARS rather than being called on or speaking out in a traditional manner, both of which risk public embarrassment. The ARS allows each participant to see how all of the others in the group answered the same question, another feature that was felt to be valuable by our respondents. Finally, a majority of our participants (68%) felt that the ARS kept them more attentive during the conferences.

We found that the introduction of an ARS significantly improved residents' attitudes toward a required weekly conference. Further research is needed to determine the value of an ARS for knowledge transfer and retention.

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Feedback: A perennial problem

Dear Sir

While formative assessment and feedback can be powerful in helping learners improve, the quality and effectiveness of assessment and feedback are questioned at all levels of medical education. To determine the effectiveness of a day-long faculty workshop on evaluation and feedback, we used pre/post questionnaires to assess changes in teacher and resident perceptions of teacher feedback practice prior to and 3 months following the workshop. We invited faculty and residents in all training programs to participate. Questionnaire items on a 5 point Likert scale were matched for residents and faculty, addressing informal feedback and completion of the In-training evaluation report (ITER). Analyses included *t*-tests of pre-post scores, ANOVA to compare faculty-resident scores, and content analysis of open responses.

The 57 faculty participants rated the workshop highly. Faculty and resident response rates to the questionnaires were acceptable and ranged from 40% to 67%. Faculty scores were higher for items related to informal feedback than formal feedback (the ITER), and were significantly higher after 3 months for giving specific feedback, understanding the items and making suggestions for improvement while reviewing the ITER, and asking residents how they might improve. Faculty continued to have discomfort providing negative feedback. Residents did not perceive any change on the same items over 3 months.

Faculty rated their skills significantly higher than residents for 7 of 13 items. Residents agreed that they receive informal feedback, that is specific and that they understand all the items on the ITER. Residents did not agree that supervisors observe their performance, give specific examples to support the ratings on the ITER or are provided suggestions on how to improve. Residents who remained in the same placements during the study period had significantly higher ratings of faculty on 8 of 14 items than residents who changed placements. Qualitative responses supported the quantitative findings.

Limitations to the study include possible bias of faculty attendees compared to other faculty. Resident respondents may not have encountered faculty attendees thus attenuating any possible effects. Further studies would match residents and faculty.

Continuity may be needed to develop the relationship that allows for credible assessment and resident receptiveness to feedback. Resident perceptions of assessment and feedback

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do not correlate with faculty perceptions, and although a one-day faculty development workshop improved teacher perceptions of their skills it did not improve comfort with providing negative feedback.

We are exploring strategies to support residents in seeking effective assessment and feedback.

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Team Based-Learning (TBL) as a primary strategy for the development of generic competences in medical students: The Peruvian case

Dear Sir

An important challenge in the training of future physicians is the development of competences such as communication, team work, critical thinking and self-learning. Although most doctors manage to acquire them in the long term, it would be an important advantage to ensure their proper development from an early learning stage. In an attempt to address this issue, different methodologies such as the Problem-Based Learning (PBL) have emerged. However, it is known that the implementation (Finucane et al. 2009) of this methodology has not been successfully led in some international experiences due to its high cost in comparison with the more traditional approach of the master class. On the other hand, the average medical student in Peru is between one and three years younger than medical students from other realities worldwide, comes from a very traditional education and thus, finds it very hard to adapt to the PBL pedagogy at the university.

Faced with this reality, the School of Medicine at Universidad Peruana de Ciencias Aplicadas (UPC) poses the implementation of the TBL method during students' first years of study as a way to promote the successful development of the competences mentioned above.

During 2010, we managed to work with two groups of about 45 students each. They were gathered in classrooms where a number of activities applying the TBL method were carried out (Michaelsen 2008). At the end of the course, we observed that students' performance regarding the development of the required competences was considerably similar to that of those who received their training following the PBL method in previous years, with the exception that the resources used in implementing the TBL method were approximately 40% less than those used in the implementation of PBL in the traditional way.

Results allow us to suggest TBL as an advantageous alternative to PBL for the initial development of generic competences, whenever resources become an important variable in choosing an appropriate educational methodology without compromising the quality of learning.

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The road to residency and beyond for international medical graduates in the United States

Dear Sir

International medical graduates (IMGs) are a growing force in the medical landscape of the US. They now comprise almost 25% of all practicing physicians in the US. The majority of IMGs hail from India, Pakistan, Philippines, Mexico and South America while their highest concentration is found in Florida, New Jersey, New York and California (Loganathan et al. 2009)

IMGs must secure an appropriate visa for an appropriate duration of time while simultaneously obtaining residency and fellowship positions. One cannot deny the possibility that program directors (PDs) may have an under-stated preference for US medical graduates (USMGs) vis-à-vis IMGs. Consequently, IMGs enroll in residency programs of relatively lower caliber with greater emphasis on fulfillment of clinical responsibilities rather than didactics. Consequently, IMGs acquire inferior professional pedigrees and often move to underserved areas for practice. The latter may still represent a better prospect for them in terms of financial and professional growth compared to their home countries. (Kostis & Ahmad 2004)

At the inception of their careers, many IMGs obtain J-1 visas. This visa mandates that following the completion of training, IMGs must leave the US for at least two years. An exception is made if the IMG obtains a visa waiver, which mandates the physician to practice for a specified period in a 'health professional shortage area' (HSPA). As a result, IMGs are more likely than USMGs to practice in rural areas. Over the past few decades, the channels through which non-citizen IMGs obtain visas have undergone a volte-face. The events of September 11, 2001 have significantly impacted the canvas of

the general immigration policies in the US. However, the repercussions of such stringent restrictions may not bode well for the workforce of the primary care sector, especially involving the rural areas (Hart et al. 2007)

Fervent debate about the precise role of IMGs in the US continues. Currently, there is not only a shortage but a regional and specialty-wise mal-distribution of physicians in the US, which calls for the recruitment of IMGs to fill these gaps. Recognizing the exact niche of the IMGs requires an appreciation of their arduous journey on the road to residency training and an understanding of current residency match trends, escalating complexity of visa issues, impact of the departure of IMGs on their countries of origin, inclinations of international relations and the overall benefits channeled to the US healthcare system through the participation of IMGs. Further research on the subject is certainly needed in order to gauge a better understanding of the dynamics of IMGs in the US.

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Beware the commodification of medical education?

Dear Sir

A critical component of the complex process of delivering medical education is the appropriate framing and management of expectations. Medical student satisfaction with their training is inevitably improved if expectations are met. Expectations should be high, and indeed met with an equally high standard of teaching; however, we wonder whether impending university fee increases, and resultant slide towards the commodification of higher education will force the adoption of consumer traits amongst medical students? It is now commonplace for high-ticket educational commodities, such as professional legal and accountancy training, or education in business administration to attract consumerist behaviour; a recent index case saw a law student attempt to sue (unsuccessfully) her law school, claiming they had failed to adequately prepare her for professional examinations which she subsequently failed.

The business-model approach to higher education subjects learning to marketing practices, analysis of financial returns on investment, and encourages redress when the pedagogic promise does not match up to capital appreciation. By adopting higher-fees, medical schools introduce a culture of opposing interests between teacher and student, which is likely to have an impact upon student expectation and satisfaction, even in the absence of an appreciable change in teaching quality. Indeed, this may be great enough to overshadow ongoing improvements in the training of future doctors. This already spills out beyond medical school, where 'trainee fees' are charged to medical postgraduates for access to the curricula and log-books which their training necessitates.

Not only might this phase-change impact upon teaching faculty, but inhibit the good will of untrained senior students and junior doctors to deliver the hours of education required to plug gaps in didactic undergraduate medical education. Traditionally, familial hierarchies within medical schools have facilitated an informal peer-tutor mechanism; fee-hikes will likely increase expectations, and it is not unfeasible to anticipate trained faculty having to interfere in this academically excellent system to ensure value for money.

It is important, therefore, that commodification, or the transformation of education into a tradable asset with economic value, is considered as a variable when designing and interpreting studies which examine student and trainee satisfaction in the coming years. It needs to be considered whether this warrants further investigation in the context of medical education in its own right. Whilst meeting the expectations of our patients in a healthcare setting is paramount, in this time of austerity, flux in both university and healthcare funding requires, we pay closer attention to the expectations of medical students and our medical postgraduates.

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Student-led outreach: Exploring academic medicine at a pre-university level

Dear Sir

There is widespread concern that academic medicine is in decline; the number of clinicians involved in research is dwindling and there are worries that 'the loss of a generation of young clinical scientists could threaten recruitment of future research leaders' (Sheridan 2006). Although some new initiatives, such as the academic foundation programme, have been implemented, novel ideas are still needed to promote academic medicine as a career amongst students.

In December 2010, the student-led Cambridge University Clinical Research Society (CUCRS) organised a one-day outreach event for sixth form students (aged 16–18) who

expressed an interest in studying medicine. The aim of this event was to inspire them to pursue clinical research and provide them with some knowledge and experience of what being an academic entails, enabling them to make better educated decisions about their future career.

The sixth form students were encouraged to read literature related to clinical research prior to the event, ranging from mainstream media to academic journals. They subsequently designed a poster on an area they found to be of particular interest. On the day, they presented these posters to a senior academic clinician. Subjects included the structure of angiotensinogen, sub-retinal microchips and PARP inhibitors. They also attended lectures and student-led workshops, which focused on the elements of clinical medicine which had been significantly advanced by research; for example, the discovery of the Philadelphia chromosome and development of imatinib in Chronic Myeloid Leukaemia.

The students attending the event completed questionnaires before and after the event in order for us to gauge the success of the event and to find whether it had affected their interest or understanding of clinical research. Our results showed that interest in clinical research was consistently high (mean = 7.8/10), and that there was a significant improvement in understanding of clinical research and how it contributed towards medicine ($p < 0.00001$ and $p < 0.0005$, respectively). Overall, the feedback from the students about the event was very positive; on average, their scores for recommendation for other students was 8.5/10.

This student-led outreach event was a very positive experience for participants, as well as those leading it. We would strongly recommend students to engage in similar initiatives, as part of a research society or otherwise, at their medical schools, with the support of senior staff and faculty.

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Does a multi component palliative care education programme help medical students talk with patients at end-of-life?

Dear Sir

Palliative care approaches for those at end-of-life are of growing importance as progressively people live longer, with considerable morbidity requiring increasingly extensive medical input (Meier et al. 2010). One way to facilitate these approaches is to ensure that current medical students gain practice in openly talking with people at end-of-life to understand their experience, needs and wishes. Educationally it seems more common for students to work with actor-patients or vignettes than visit end-of-life patients-as-teachers (Lloyd-Williams & MacLeod 2004).

We introduced a new palliative care teaching approach to fourth-year (and first clinical) medical students in 2009. The new programme included a hospice inpatient-as-teacher visit followed by the completion of an individual-structured reflective template to draw out student experience and a class debrief to discuss the lessons learnt. An accompanying research project tested hypotheses about students' knowledge and confidence in communicating with those at end-of-life and the possible influence of previous end-of-life experience.

Eighty-one students completed survey tools at the beginning and end of a five week primary health care programme. The tools had open-ended questions and two Likert scale questions measuring 1. *confidence* and 2. *knowledge in communicating with those at end-of- life*.

At Week One, students had mid-range *confidence in communicating with those at end-of-life* and less than mid-range *knowledge in communicating with those at end-of-life* (those with a previous end-of-life experience had a higher knowledge score). However, the Week Five survey showed that all students had improvements in confidence and knowledge in communicating with those at end-of life with no difference between those with or without a previous end-of-life experience. Replies to open-ended questions show students are still developing their understandings of end-of-life and can be worried when asked to talk with end-of-life patients.

We believe the multi-component palliative care programme using patient-as-teachers led to medical student conversational skill acquisition and increased personal understanding about end-of-life experiences and equally favours all students.

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