



DREEM – Time to evaluate?

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PBL performance correlates with content acquisition assessment: A study in a hybrid PBL program at Alfaisal University

Dear Sir

One of the major challenges in Problem-based Learning (PBL) curriculum is to establish an effective PBL process and its reliable assessment. Von Bergmann showed that students who were recognized as having good process skills in PBL tutorials also performed significantly better on content acquisition tests (von Bergmann et al. 2007). However, Whitfield and Xie (2002) demonstrated that facilitators' evaluation of PBL process was not correlated with students' performance in the written examinations. This observation was attributed to the potential lack of objectivity in grading, e.g. subtle tendency for facilitators to over-rate the students. College of Medicine, Alfaisal University adopted a unique Problem-based hybrid curriculum which was designed to meet the special requirements related to maturity level of entering high school medical students. In this context, more experienced PBL facilitators were used in the early phase of the medical curriculum. We predicted that this approach would lead to a strong correlation between PBL process assessment and content acquisition tests.

We analysed the results of 54, 2nd year MBBS students of Alfaisal University who appeared in the semester-3 written examinations of 2010–2011 and ran a correlation between their scores in PBL process and their overall score in the written examinations. Our results showed that there was a strong correlation between scores of written examination of semester-3 and PBL process scores with $r=0.72$ ($p < 0.0001$). Further, there was also a statistically significant correlation between PBL scores and Multiple Choice Questions, Short Answer Questions and Objective Structured Practical Examination components of the Semester-3 written exam with r values equal to 0.59, 0.49 and 0.53, respectively.

We attribute this strong correlation to the following. First, we minimized the effect of factors which could make PBL facilitators grading unreliable by discussing the PBL process grading criterion at length with our faculty so that there was clarity and uniformity on grading system. Second, the new faculties were trained in PBL process by conduction of several

workshops by Partners Harvard Medical International (Alfaisal's collaborator) during this period. Finally, PBL facilitators managed group activity for a shorter period of time usually not more than 4 weeks; this allows them to assess the students objectively rather than on familiarity.

In conclusion, PBL process evaluation can be a useful method to assess overall performance of students provided there is proper training of facilitators and a clear comprehension of grading criterion.

Ahmed Yaqinuddin, Peter Kviety, Paul Ganguly, Faisal Ikram, Sheikh Yaeesh & Wael Kattan, College of Medicine, Alfaisal University, Off Takhassusi Road, AlMaather, Riyadh, KSA. E-mail: ayaqinuddin@alfaisal.edu

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DREEM – Time to evaluate?

Dear Sir

The Dundee Ready Educational Environment Measure (DREEM) is widely used to evaluate educational environment across healthcare settings (Roff et al. 1997). The time at which the questionnaire is administered during the academic year varies greatly in published studies and the original authors do not advise in this regard. We suggest that the timing of administration of the DREEM may affect results.

All year 3 students ($n=108$) in our undergraduate medical program completed the DREEM at the end of each of the three clinical attachments ($n=324$). At any one time, over a four-month period, an identical number of students are deployed in secondary, tertiary and general practice sites for 4 weeks. Clinical attachments are described as Attachments 1, 2 and 3, referring to their temporal order. Within each of these attachments, DREEM scores represent the educational environment at an identical mix of sites. Differences on DREEM score between Attachments 1, 2 and 3 would not be expected.

Mean total DREEM scores varied significantly between first, second and third attachments ($p < 0.01$). The score rose from the first to the second attachment but fell back in the third attachment to a level below the original score. Significant differences in Perceptions of Learning, Atmosphere and Teachers were found reflecting the same pattern as the total score ($p < 0.05$). This effect appeared to be related to duration of clinical exposure as mean scores did not vary when analysed by calendar month.

Fluctuation in student motivation may underlie these findings through its effect on beliefs about learning and perception of learning environment. Motivation has been found to decline over the course of one academic year of profession-oriented education (Braten & Olaussen 2005).

We found that DREEM scores for identical attachments can vary to a statistically significant level over time in the course of a single academic year. This has not been reported elsewhere. We suggest that colleagues consider this, as it may be of importance when interpreting and comparing DREEM studies.

Deirdre Bennett, Martina Kelly & Siun O'Flynn, Medical Education Unit, School of Medicine, University College Cork, Ireland. Email: d.bennett@ucc.ie

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Handover education in UK medical schools: Current practices and implications for educators

Dear Sir

Much evidence exists to demonstrate that poor handover can directly impact patient safety, leading to calls for formal education on this issue. Evidence to guide interventional design is limited, although examination of this evidence suggests a model for handover education consisting of awareness of handover systems, team working and harbouring of professional responsibility (Gordon 2011). It is unclear to what extent handover is currently being addressed in undergraduate medical education.

Recently, we carried out a qualitative study to determine current teaching and assessment methods, as well as attitudes towards handover within UK medical schools. Sixteen (50%) schools took part in the study. All schools reported ward-based exposure to handover, although no other education took place in 44% of schools. Thematic analysis of free text responses yielded a number of key themes. There was universal agreement that Handover is an important education issue. There was also agreement that limitations in handover research are delaying teaching innovations and there was recognition of a lack of validated assessment tools. There was disagreement on when such education should occur. Some respondents felt it should indeed be embedded in the undergraduate curricula, recognising the multi-faceted complexity of handover as a skill and its importance as a patient

safety issue. Conversely, the majority of respondents felt that handover should be taught when 'relevant to trainees' within postgraduate training.

Whilst the majority of schools felt that handover is a skill to be learnt 'on the job' in postgraduate training, this author feels that this is a flawed viewpoint. Handover cannot be viewed as a distinct free standing skill. Effective handover is built on a portfolio of generic professional skills and this skill set is acquired from the very start of undergraduate training. Considering the previously discussed theoretically grounded model, a systems approach to improving handover may indeed be appropriate to address in the postgraduate setting. However, the issues of professional responsibility and team-working are key areas that can and should be addressed in undergraduate training. The use of observation as a sole method of tuition is at odds with these theoretically sound elements of handover education.

A consensus must be reached on the extent of handover education in undergraduate medical training. Future research is also needed to describe and assess the efficacy of teaching and assessment innovations. This will offer guidance to medical educators hoping to incorporate training on this key patient safety issue.

Morris Gordon, Faculty of Health and Social Care, University of Salford, Salford, UK. Department of Paediatric Gastroenterology, Royal Manchester Children's Hospital, Manchester, UK. Mary Seacole Building, MS 3.48, Frederick Road Campus, University of Salford, Greater Manchester, M6 6PU, UK. E-mail: morris@betterprescribing.com

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General Practice Teachers

Dear Sir

Increasing medical student numbers and a teacher workforce shortage, makes it important to understand general practitioners' current thoughts about teaching medical students in their practices.

Ninety-five teaching general practitioners (urban and rural) from the Notre Dame School of Medicine, Western Australia received a questionnaire concerning medical student attachments. Replies were anonymous. The Human Ethics Committee of the University of Notre Dame gave approval. Responses to open questions were categorised after consensus.

The response rate was 61% which limits extrapolation. Thirty-six (62%) of the respondents reported that a positive