the PBL in Basic Concepts block facilitated PBL sessions in the next block (i.e. the Gastrointestinal System block for Year 1 students or the Central Nervous System block for Year 2 students). Following this, a post-intervention questionnaire was administered to students and faculty members.

Evaluation of results and impact Differences in pre- and post-intervention domain scores for PBL orientation amongst students were found to be statistically significant ($p < 0.001$). Differences in pre- and post-intervention median scores on facilitation skills were found to be statistically significant in all five domains amongst Year 2 students. However, scores in only one domain (Being student-centred) differed significantly ($p = 0.025$) in Year 1 students. Comparison of median scores by Mann–Whitney test amongst student groups showed a significant difference in domains 2, 4 and 5, whereas scores compared between students and faculty members showed a statistically significant difference in domain 2 (Managing group dynamics; $p < 0.001$) and domain 5 (Providing feedback and evaluation; $p = 0.05$). The results revealed that the PBL training programme was effective in enhancing faculty members facilitation skills. Repeated orientations and implementations of the same programme will validate the results.

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Mentoring of students from under-represented groups using emotionally competent processes and content

G. Ruth Thomas-Squance, Rachel Goldstone, Alma Martinez & Loma K Flowers

Context and setting Achieving parity in the recruitment, retention and promotion of faculty staff, house staff and students from racial and ethnic groups that are under-represented in medicine (UIM) remains a challenge for medical schools. To facilitate the well-being and academic success of UIM medical students, the University of California San Francisco developed a mentoring programme.

Why the idea was necessary Although the necessity for cultural competence in patient care has become widely accepted over the last 40 years, the application of cultural competence to medical education itself is generally unrecognised. Therefore, the culture of medical education still unconsciously assumes dominant cultural norms which often miscue UIM students and require 'translation' by other students or mentors. Consequently, without a critical mass, UIM students often report feelings of isolation, and lack of support and sufficient role models. Sufficient emotional competence training could help compensate, but remains sparse in medical education.[1]

What was done Following UIM student guidance, we created a programme to promote UIM mentoring for UIM students. This popular programme gathered UIM students, post-baccalaureate students, house staff, volunteers and full-time faculty members over dinner, in a critical mass, for 2 hours monthly for 5-6 months per year.

Our recent innovation was to acknowledge cultural competence as a subspecialty of emotional competence. Therefore, we framed each meeting in the relevant concepts and principles of a comprehensive emotional competence curriculum designed to teach self-awareness, self-development, self-responsibility and the relationship skills that are key to success, which include the ability to coordinate and balance one's emotions, and to maintain a clear focus and good judgement. Each dinner meeting's topic addressed issues commonly encountered by UIM students. After dinner, panel presentations were followed by mentor-led, small-group (of six to eight people) discussions that were summarised in the large group at the end.

The facilitated large-group closing discussion highlighted the emotional competence issues raised. Participants completed structured evaluations to guide future programming.

Topics cycled yearly and explicated presumptions, implications and covert communications inherent in many aspects of medical school education and beyond. Topics included: family loyalty and professional demands; the importance of mentoring; community building; doctors' career choices; romantic relationships, and finances after medical school.

The students expressed interest in discussing several of these topics in more depth. To facilitate this, we offered two elective classes entitled 'Women of Colour' and 'Men of Colour' following each mentoring series. These classes allowed discussion to continue in smaller groups of eight to 12 students, using a similar format and gender-matched panellists, and contributed to the building of cohesion and a supportive community that has extended beyond graduation through social networking.

Evaluation of results and impact On average, 34 students and 17 mentors (many, not all, repeating) attended each of 17 dinners from 2007 to 2010. In

evaluations (conducted using Likert scale items and structured questions) participants cited as highly valued: meeting other students (43%) and mentors (54%); support (52%); panels (74%), and discussion topics relevant to UIM students (63%). The programme was cited as 'valuable' by 89% of respondents and relevant to 'professional' (84%) and 'personal' (88%) development. Emotional competence was cited as representing new information by some respondents.

Participants appreciated and cited the friendly community, the validation of students' unarticulated concerns by panellists, and the access to mentors. We discovered that spontaneous mentoring (natural, unforced student and faculty peer mentoring during each dinner meeting) was the culturally competent process needed.

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Effective use of information and communications technology in distributed medical assessment

Margaret Hay & Benedict Canny

Context and setting The Monash University medical degree (MBBS) is delivered in four programmes within Victoria (Australia) and Malaysia. All programmes implement an equivalent, integrated curriculum and assessments are consistent across locations. Assessment is criterion-referenced and involves the annual development of novel assessment items. Several hundred staff and over 2000 medical students participate in assessment each year across the multiple sites. Within each year level, assessment is conducted simultaneously across several locations.
Why the idea was necessary The geographical dispersion of the Monash medical programme presents substantial challenges in achieving the engagement of academic staff in, and standardisation of, assessments. Increasing student numbers and the concomitant increase in examination sites and data volume, along with short time-frames between assessment imple-
mentation and subsequent progression decision meetings, place significant stress on all involved. The need for a high level of security around assessment matters presents a further challenge to achieving the required broad engagement.
What was done Google Apps for Education (http://www.google.com/apps/intl/en/edu/) was adopted as a pilot for assessment in 2010. Google Apps for Education contains a range of functions that enable genuine collaboration around assessment item development, training and standardisation, regardless of geographical location, with guaranteed security. Previously developed assessment items were easily accessible via controlled and restricted access and real-time collaboration enabled further development through various Google facilities for holding discussions and handling documents, forms and videos. For example, the comments sections of web pages and online chat functions ensured inclusive discussions around assessment item development and clarification of meaning. Online forms enabled standard setting of written assessments using the Ebel approach. Video enabled online examiner and simulated patient training and standardisation for objective structured clinical examinations (OSCEs) and allowed the viewing and scoring of digitally recorded 'model' OSCE stations well before the day of implementation, regardless of examiner location. Live scoring trials using electronic scoring enabled station coordinators to review examiner scoring and identify outliers prior to assessment occurring. Online scoring also ensured minimal (< 0.01%) data loss, immediate access to assessment data as it was occurring, and aggregation into one central file with online backup. Data processing was also highly efficient and accurate. Online OSCE scoring was undertaken using either mobile devices, such as tablet computers, or desktop or laptop computers.
Evaluation of results and impact Google Apps and electronic scoring of OSCEs using tablet computers were used to great effect. Assessment quality significantly improved as a result of the increased engagement and collaboration in assessment item development across medical schools. This quality and engagement is crucial for the sustainability of our assessment processes. Standardisation across both written and OSCE assessments was also significantly enhanced. Data loss was virtually eliminated and the technical issues that led to data loss have since been resolved. Feedback from examiners obtained via post-OSCE electronic surveys was entirely positive regarding both Google Apps and electronic scoring. Both innovations have been formally adopted in Monash University medical assessment.