External Education at HMS: 

*Teaching Beyond the Walls*

Kristin Bittinger and David Roberts

Created in July 2014 and led by David H. Roberts, MD, Dean for External Education and Associate Professor of Medicine, the Office for External Education (External Education) is charged with creating high quality education and training for a wide spectrum of learners across the globe on health, medicine and science using both traditional and innovative tools and pedagogy. **External Education** includes HMS’ long-standing **Department of Continuing Education** (DCE) and **Harvard Health Publications** (HHP) and several more recent HMS initiatives, including the **Office of Global Education** (OGE) and the **Office of Online Learning** ("HMX"). Beginning with the Office for Online Learning and continuing over the course of this year, HMS Academy Insights will highlight various areas of developing content and pedagogy within External Education.

**Office for Online Learning (HMX Initiative)**

Led by Academy member, Dr. Michael Parker (HMS Faculty Director for Online Learning), and supported by a growing team of talented and innovative individuals, including Alexis Estrella (former Academy staff member and coordinator of Insights), the Office for Online Learning and the HMX initiative were created to advance the notion that digital technologies can enhance the collaborative and personal nature of effective healthcare training. Through a sophisticated team of online program experts and educators, HMX will be building unique content to teach in new and exciting ways.

Programming under development promises to be engaging, compassionate and groundbreaking in not only approach, but also in the audience diversity it targets. These "digital first, digital only" modularized offerings plan to open the doors of Harvard Medical School to new constituencies, expanding HMS's capacity to deliver medical education and research training to more than the limited number of individuals attending our highly selective residential degree programs.

HMX aims to transform how people think about online learning, creating a new avenue of highly regarded, focused and finite skills-based trainings for audiences wherever they're located. HMX modules will initially target pre-health career students and, working with several HMS Academy members and leaders in medical education, is already actively developing content for pre-health modules in immunology, molecular biology and physiology. Components of these new modules will go into early phase testing with our incoming HMS class as early as next month. HMX intends to build upon these offerings with additional series directed at other constituencies, including professionals, trainees, patients and caregiver communities.
Look for additional Insights about External Education soon

Future editions of *HMS Academy Insights* will cover other areas of innovation within External Education including new types of continuing medical education, new programs in executive education, lay learning and blended-learning global education programs. External education seeks active participation from faculty across all of its existing and developing programming. Ideas, contributions, insights and enthusiasm for our shared goal of educating across the spectrum in more engaging and effective ways are welcome. Please contact David Roberts with any questions, suggestions or comments.

Drs. Beth Lown and Charles Hatem are pleased to announce this year's class of the Fellowship in Health Professional Education at Mount Auburn Hospital (AY 2015-2016).
The Mount Auburn Fellowship program is based upon the work pioneered in The Rabkin Fellowship in Medical Education at the Beth Israel Deaconess Medical Center by Dr. Charles Hatem. This program was established in 1998 to provide faculty with an opportunity to develop the expertise and skills needed to launch or advance academic careers in health professional education. The Mount Auburn Fellowship, designed to prepare future leaders in education, will have graduated 77 Fellows as of June, 2015.

**The goals of the Fellowship are to:**

- Help faculty develop and further enhance their skills as educators;
- Help faculty develop analytic and research skills in education;
- Support the fellows as education leaders and change agents;
Medical student web-based formative assessment tool for renal pathology

By Vanesa Bijol and Melanie Hoenig

Online formative self-assessments are an effective strategy to promote active student learning and improve student motivation and interest to learn. Quizzes with appropriate feedback can help students assess their knowledge at their own pace and in a safe and non-judgmental fashion, and identify areas of weakness, allowing for timely interventions. The development and implementation of different formative assessment systems have flourished with the rapid growth of internet technology. As many medical schools across the country consider "flipping" their classrooms to find better ways to engage students in active learning, online formative assessments offer a particularly attractive option. These strategies are popular among students and are particularly useful in presentation of visually rich content.

During the Renal Pathophysiology Course at Harvard Medical School in 2014, a variety of web-based materials were offered to students, in addition to conventional, pre-existing curricular materials. Novel online content included formative assessments, an interactive atlas of renal pathology, and several short concept videos that address complex concepts and mechanisms of kidney injury. At the end of the course, an anonymous survey was conducted to determine how the students utilized and liked the web-based program, and the students were asked to rate the course materials. The patterns of quiz usage and effect on academic performance were also studied.
In this project, online formative assessments were created and delivered using Articulate OnlineTM; this system has a number of advantages and very robust analytical features that enabled the analysis of usage patterns and user performance. Although the quizzes were intended to be used as a learning tool throughout the course, the students used them most extensively for test preparation on the day before the final exam. The initial hypothesis that the quizzes would make a positive impact on students' academic performance was difficult to assess; students who used quizzes showed similar performance on "quizzed" and "non-quizzed" materials on the final exam, but their performance was significantly better when compared to students who did not use the quizzes. Perhaps, motivated students are more likely to take advantage of various learning opportunities and are more likely to perform better on summative assessments. Nevertheless, nearly 90% students in this study felt that the quizzes improved their learning experience in this course. The study also showed that students overall preferred to use web-based materials over textbooks and even handouts made out with annotated lecture slides. The study was conducted as a research project during the Academy Medical Education Fellowship by Dr Bijol and her mentor Dr Hoenig. The study was published in Medical Education Online 2015, 20: 26765 on March 31, 2015 (http://med-ed-online.net/index.php/meo/article/view/26765). In Pathways, the new HMS preclerkship curriculum beginning AY15-16, this flipped classroom strategy of tailored concept videos and online quizzes will be used routinely to help students prepare for class.
Michael P O'Leary is a graduate of Harvard College, George Washington Univ School of Medicine and Harvard School of Public Health. He completed his residency in urology at Massachusetts General Hosp, and was a Robert Wood Johnson Foundation Clinical Scholar at Univ of California, San Francisco, and Stanford. He is currently Professor of Surgery at HMS and Senior Urologic Surgeon at Brigham and Women's Hosp, and Associate in urology at Massachusetts General Hosp.

David Minjoon Kim, D.D.S., D.M.Sc

Dr. David Kim received his dental degree (D.D.S.) from the University of Maryland Dental School, and completed his periodontology training and Doctor of Medical Science (D.M.Sc.) in oral biology from the Harvard School of Dental Medicine. Currently, as an Associate Professor at the Harvard School of Dental Medicine, he is also the Director of the Postgraduate Program in Periodontology and the Continuing Education at the Harvard School of Dental Medicine.

Dr. Kim is a past recipient of the Joseph L. Henry Award recognizing excellence in research and clinical training from Harvard. In addition, he received Balint Orban Research Award, Award for Outstanding Teaching and Mentoring in Periodontics, and Teaching Fellowship from the American Academy of Periodontology.

Dr. Kim's clinical and research interests have been on the use of innovative concepts, technologies and biomaterials to enhance intraoral soft and hard tissue formation, especially by incorporating the tissue engineering concept to repair and regenerate soft and hard tissue volume for patients requiring dental implants to replace missing teeth. His reputation as a clinical expert in this field is reflected in his research grants, published manuscripts (61) and book chapters (20) and invited lectures at the local, national and international levels. In addition, he also uses his editorial skills as an ad hoc reviewer, consultant, and peer review panel for many well-respected journals. He is a diplomat of the American Board of Periodontology and maintains a clinical practice at the Massachusetts General Hospital Dental Group.

Feedback and Evaluation Interest Group

The HMS Academy Feedback and Evaluation Interest Group has been involved in a number of activities. At our last meeting we reviewed ongoing projects. We have updated the annotated bibliography and other materials relevant to feedback and evaluation on the Academy website. These materials include instruments used both at HMS and nationally for provision of feedback and evaluation. In addition, a PowerPoint presentation by Jennifer Kesselheim and Stephanie
Jones was discussed with the plan for distribution to other members of the Interest Group for input and review. The uses of the PowerPoint, once finalized, were discussed and ranged from distributing it locally to training directors or individual departments to developing a centralized module that might be utilized by the Program in Medical Education for faculty development. The group felt that the module should include principles of feedback, research on effective teaching and use of feedback, simulation exercises, and case-based examples.

The group noted that many medical students and residents have complained about the lack of effective feedback. The Interest Group considered developing an educational program which would be required for teaching faculty and for students entering the PCE. There was also consideration of using such a module for the basic science educators and incoming HMS students in their first year of education.

The Interest Group presented its mini-symposium on Barriers to Effective Evaluation and Feedback on February 25, 2015. This was led by Keith Barker, MD, PhD, Gene Beresin, MD, MA and Mary Ellen Goldhammer, MD, MPH. In the symposium evaluation and feedback were differentiated. Dr. Baker spoke about using feedback to enhance a culture or mindset of "Learning Orientation" as opposed to "Performance or Validation Orientation." He emphasized that the effective giving and receiving of feedback will require a change in the culture of medical education. Drs. Beresin and Goldhammer conducted interactive exercises on understanding one’s barriers to giving effective feedback, and Dr. Baker completed the symposium with a model of overcoming barriers through the use of Mental Contrasting and Implementation Intensions.

The PowerPoint slides from the symposium, the cited references and the recording of the session are posted on the Academy Website. This presentation may be followed by case-based faculty development modules in the Interhospital Collaborative series in the next 6 months.

Finally we would like to acknowledge the wonderful contribution of Jon Alpert, MD, PhD, who has stepped down as co-leader of the Interest Group with Gene, and welcome Keith Baker as the new co-leader.

---

**New Medical Education Pubmed Citations from Academy Members**

*Please note that we use an automated search system to identify new pubmed-cited medical education literature. If we have missed a medical education paper you have published, please let us know. Also, please let us know if you have published medical education materials on MedEdPortal or other sites.*


