



Highlights From ACADEMIC MEDICINE

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The Value of Reflective Exercises in Medical Training

Reflective practice is a necessary competency in medical training. Reflection—intellectual and affective activities in which people engage to gain a new appreciation from their experiences—facilitates deeper learning and gives meaning to experience. Reflection has been promoted as an integral strategy for improving diagnostic accuracy and minimizing error. Reflective learning has been recognized by the Accreditation Council for Graduate Medical Education as a foundation for various competencies and for the development of reflective capacity in practitioners.

Medical educators have been challenged to develop curricula that incorporate and evaluate reflective learning. Hedy S. Wald, PhD, and associates describe a curricular innovation within the “Doctoring” course at the Warren Alpert Medical School of Brown University, which was aimed at fostering reflective capacity through encouraging students’ structured, longitudinal, reflective writing and providing the students with individualized feedback from an interdisciplinary faculty team.

“Doctoring” is a required two-year longitudinal course designed to teach clinical skills and professionalism to first- and second-year medical students. It integrates reflective writing assignments, called “field notes,” with instruction in medical interviewing, physical diagnosis, cultural competence, and medical ethics. Students complete field notes in response to structured questions that serve as guides for reflection in a range of topics. Students, who are assigned to small groups, submit their field notes via

e-mail directly to the small-group faculty, who provide in-depth, individualized feedback to the students, thereby creating an interactive process. Students are guided not only toward the development of critical thinking skills, but also toward generalizing their specific patient interaction experiences to relevant themes in medicine as a whole.

The authors undertook a pilot evaluation of students’ experiences with the field note and guided feedback curriculum. From the answers, the researchers extracted five themes; four highlighted educational benefits of the curriculum, and the fifth suggested improvements to it. The educational benefits were:

- ❖ Promoting deeper and more purposeful reflection.
- ❖ Providing valuable feedback.
- ❖ Enhancing the small-group process.
- ❖ Enriching personal and professional development.

Wald HS, Davis SW, Reis SP, Monroe AD, Borkan JM. *Reflecting on reflections: enhancement of medical education curriculum with structured field notes and guided feedback.* Acad Med 2009;84(7):830–837.

Which Are Better: Simulated Patients or Real Patients?

Patient interactions in medical education may involve real patients or simulated patients (SPs, also known as standardized patients). Although real patients have the benefit of authenticity, SPs have the advantages of availability, flexibility, and standardization, as well as a safe learning environment and feedback from the SPs. To further explore the differential value of real patients and SPs from the students’ perspective, Lonneke Bokken, MD, PhD, and colleagues performed a qualitative study of students at Maastricht University in the Netherlands who experienced encounters with both real patients and SPs. The goals of the study were the evaluation

of students’ points of view regarding the strengths and weaknesses of encounters with real patients and SPs, and an assessment of how the strengths of real-patient and SP encounters can be optimized and weaknesses remedied.

Focus-group interviews were conducted with fourth- and fifth-year medical students. The 38 respondents generally considered real-patient encounters to be more authentic and instructive than SP encounters. However, they also felt that SP interactions were valuable in preparing students for real-patient interactions, particularly in relation to communications skills and self-confidence; in the teaching of “intimate” physical examination skills; and in giving feedback, especially on communications skills.

Students felt that the emphasis on SP interactions was mostly on communications skills, and felt that this was both a strength and a weakness of SP interactions: Because they learn communications skills with SP encounters, they might be less consciously engaged in these skills in real-patient encounters. Consequently, real-patient encounters may come more easily. On the other hand, students felt that they learn less about medical aspects in SP encounters, affecting their preparation and motivation for self-study. The researchers suggest that perhaps the use of SPs should be extended to the teaching of medical aspects, including clinical reasoning skills and differential diagnostic thinking.

Bokken L, Rethans J-J, van Heurn L, Duvivier R, Scherpbier A, van der Vleuten C. *Students’ views on the use of real patients and simulated patients in undergraduate medical education.* Acad Med 2009;84(7):958–963.

The Sandwich Fellowship Supports Training in the Developing World

Through international medical education experiences, medical staff can learn much from institutional and patient encounters in the developing world, while sharing their time and competencies with their overseas counterparts in a mutually beneficial manner. This will be of particular benefit to academic hospitals in the developing world, which are struggling under huge human and financial resource constraints

and capacity shortages. To address these challenges and opportunities over the long term, say Faazil Kassam and associates, it is critical for institutions in developing countries to have access to appropriate human resources and global perspectives on higher education and research, as well as a sense of complete dedication to the highest educational standards. Within this context, institutions in developed nations can engage in partnerships with institutions in the developing world to enable sustainable capacity development of health care institutions and professionals based on the mutual sharing of knowledge and skills.

The authors describe the “Sandwich fellowship,” an educational program piloted in collaboration with the Ottawa Hospital at the University of Ottawa two years ago, and they maintain that this model can facilitate attainment of the aforementioned goals. If this model is implemented across academic institutions, they say, it could have profound effects on the quality of care received by millions in areas of the developing world where institutions are struggling to meet the needs of their patients.

The Sandwich model attempts to link the fellow’s step-by-step development with the development of institutional capacity to create an enabling environment for professional growth, ultimately improving patient care. The fellow, from a developing country, completes a series of rotations in both a developed-world institution and one in his or her home country that shows a commitment to the development of subspecialty areas. The candidate’s training experience occurs in cumulative layers at diverse sites, including at the fellow’s home institution, where subspecialty capacity is enhanced. The Sandwich model intentionally links institutional capacity development of a committed local partner with access to quality training opportunities for the fellow in diverse contexts. Fellows are encouraged to return to their home institutions to practice and disseminate the knowledge they have acquired during their fellowship.

The pilot Sandwich fellowship was an ophthalmology collaboration between the University of Ottawa and Aga Khan University Hospital in Nairobi, Kenya. Subsequent iterations in the same subspecialty

area would allow new fellows to receive guidance from previous graduates.

Kassam F, Damji KF, Kiage D, Carruthers C, Martin Kollman KH. **The Sandwich fellowship: a subspecialty training model for the developing world.** *Acad Med* 2009;84(8):1152–1160.

Using Generational Forecasting to Plan for the Future

Academic health centers (AHCs) are among the most multigenerational of workplaces; therefore, effective multigenerational teams are essential to accomplishing the missions of AHCs and their medical schools. Lydia Pleotis Howell, MD, and fellow researchers at the University of California, Davis, School of Medicine (UCD-SOM) note that although the generations are different from one another, each one has general features that have been shared by generations in previous eras.

The authors cite the predictive model of generational behavior created by Strauss and Howe, who showed that historical events follow a four-part cyclical pattern throughout the centuries: a major national crisis, followed by a period of recovery, followed by a major cultural awakening, and then another period of recovery. Generations are defined and shaped by the major events that occur during their members’ formative years.

The investigators note that the model is pertinent to the AHC environment because many issues are emerging that are consistent with these generational forecasts. An antiretirement culture is developing among Baby Boomers, perhaps because of the example set by the Silent Generation before them. At the same time, Generation X, which is known for its independence, is feeling disenfranchised and reluctant to trust the bureaucracies. Millennials, however, are growing up expecting to participate in team-based environments.

The researchers say that UCD-SOM is using these generational forecasts as a basis for future planning. The school is planning ahead to ensure that optimal opportunities to advance are available for the younger generations, while creating an appropriate legacy for the senior generations. Faculty development programs are being expanded and a team-based work environment, with

an appropriate work-life balance, cultivated. The goal is to ensure an effective faculty workforce that can meet the research, educational, and clinical care missions of the future.

Pleotis Howell L, Joad JP, Callahan E, Servis G, Bonham AC. **Generational forecasting in academic medicine: a unique method of planning for success in the next two decades.** *Acad Med* 2009;84(8):985–993.

Universal Model of Diagnostic Reasoning

Diagnostic reasoning is the most critical skill that a physician possesses. However, despite improved technology and evidence-based medicine, the rate of misdiagnosis has not changed significantly. The contribution of diagnostic error to morbidity and mortality is serious, but there have been few strategies for reducing it.

Pat Croskerry, MD, PhD, notes that there are two approaches to decision making. The *intuitive approach* relies on the experience of the decision maker and uses reasoning that depends on inductive logic. In contrast, the *analytical approach* takes place under ideal conditions where there is a greater availability of resources, resulting in less uncertainty; decisions made under these circumstances approach normative reasoning and rationality more closely.

The author says that the dual-process theory posits two systems of decision making, System 1, which is heuristic and intuitive, and System 2, which is systematic and analytical. Dr. Croskerry proposes a schematic model that uses this theory to develop a universal approach toward clinical decision making. Properties of this model explain many observed characteristics of physicians’ performance. However, the author notes that much of medical decision making cannot be categorized into one or the other of the two systems, even though they provide a basic framework incorporating the different approaches. The author emphasizes the complexity of decision making in clinical situations and calls for more research to help clinicians gain insight and understanding about their own decision making.

Croskerry P. **A universal model of diagnostic reasoning.** *Acad Med* 2009;84(8):1022–1028.