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BREAKOUT SESSION

Developing and Assessing Initiatives Designed to Improve Clinical Teaching Performance

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Abstract

To improve the teaching performance of emergency physicians, it is necessary to understand the attributes of expert teachers and the optimal methods to deliver faculty development. A working group of medical educators was formed to review the literature, summarize what is known on the topic, and provide recommendations for future research. This occurred as a track of the 2012 *Academic Emergency Medicine (AEM)* consensus conference "Education Research in Emergency Medicine: Opportunities, Challenges, and Strategies for Success." The group concluded that the current state of research on these topics is limited. Improvement in understanding will come through research focusing on Kirkpatrick's higher levels of evaluation (behavior and results).

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Academic medical centers have historically implemented faculty development initiatives with the intended goal to improve research productivity. In the past decade or more, additional

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The journal apologizes, but the list of participants for this breakout session is unavailable.

This paper reports on a workshop session of the 2012 *Academic Emergency Medicine* consensus conference, "Education Research in Emergency Medicine: Opportunities, Challenges, and Strategies for Success," May 9, 2012, Chicago, IL.

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efforts have been undertaken to further improve the teaching performance of academic physicians. Medical educators such as Michael Whitcomb have championed the need for faculty development that focuses on teaching. In 2003 he stated: "A medical school's most important asset is its faculty. To maintain the quality of medical students' education, schools must invest in programmatic activities that are intended to optimize the performances of individual faculty members who are involved in the educational program, regardless of whether they are educators or teachers."¹

This article presents consensus recommendations addressing expert teacher attributes and faculty development programs geared toward improving teaching skills. The authors discuss future research directions to identify optimal teaching attributes and best practices to improve clinical teaching performance.

METHODS

Emergency medicine (EM) educators interested in participating in the *Academic Emergency Medicine (AEM)* consensus conference were identified by an electronic survey sent to the Council of Emergency Medicine Residency Directors (CORD) and the Clerkship Directors in Emergency Medicine (CDEM) e-mail listservs. The pre-conference working group was selected from this list by the conference co-chairs through purposeful sampling. The working group included clerkship directors, residency program directors, simulation center directors, and an associate and assistant dean for undergraduate medical education. Additional expertise was solicited

from non-EM medical educators: a PhD with a career focus on expertise development and a physician with a career focus on faculty development.

The group worked online and by conference call prior to meeting in person for the consensus conference. During the preconference time period, the group refined the focus of the track, performed literature reviews, and completed a draft consensus paper. The draft was distributed to the registered attendees of the consensus conference prior to the proceedings to help promote discussion. Fifty-one emergency physicians attended the evidence-based teaching performance improvement breakout session. Four small-group breakout sessions were led by the breakout group, and notes were recorded. All attendees participated in each of the breakout sessions. The consensus paper was revised after the conference by the working group based on conference discussions and feedback.

CURRENT LITERATURE ON ATTRIBUTES OF EXPERT TEACHERS

The literature provides only a basic understanding of the attributes of expert teachers. Available evidence consists mostly of expert opinion, consensus statements, and small qualitative studies. A comprehensive generalized list of attributes was recently published (Table 1).² Attributes may vary across both teaching venue (lecture hall, bedside) and clinical setting.^{3,4} The emergency department is a unique clinical setting that may require a unique set of teaching skills and attributes. Some preliminary investigations have attempted to identify these characteristics. Two small qualitative studies have characterized these attributes from the perspective of both the teacher and the learner.^{5,6}

CURRENT LITERATURE ON FACULTY DEVELOPMENT INITIATIVES

Faculty development refers to a planned program to prepare institutions and faculty members for their academic roles.⁷ Teaching both at the undergraduate and at the graduate level is one of these primary roles. Most faculty development initiatives are formalized or structured. Commonly utilized approaches include group activities (workshops, small group discussions, role playing, etc.) and individual learning, which can either occur in the classroom or via online/distance learning. Faculty development also occurs at an informal level through learning by observation and doing.⁸

There are many avenues to obtain faculty development. Academic institutions often have faculty development programs for their staff. Some institutions offer programs for visiting faculty that result in a certificate of completion and continuing medical education credit.⁹ Online and intensive on-site master's programs with an emphasis on teaching are offered by a few universities as well.¹⁰ Specialty societies often offer faculty development. Faculty development in our specialty is offered at national conferences, such as the CORD Academic Assembly, and the Society for Academic Emergency Medicine annual meeting. The American College of Emergency Physicians offers a teaching fellowship designed specifically for EM educators.

Evaluating faculty development programs is a key component to demonstrating their value and benefit. Kirkpatrick's four-level hierarchy of educational outcomes is a useful framework for classifying and analyzing faculty development programs based on various outcome measures (Figure 1).¹¹

The most comprehensive source of information about the effectiveness of faculty development initiatives to enhance teaching is the 2006 review by the Best Evidence in Medical Education Collaborative (BEME).¹² The majority of the studies reviewed assessed faculty development at the level of reaction, learning, and behavior. Only 13% attempted to assess faculty development at the level of results. This extensive review was able to draw some conclusions regarding the value of faculty development programs related to teaching. These included:

- Overall satisfaction with faculty development programs was high.
- Participants reported a positive change in attitudes toward faculty development and toward teaching.
- Participants reported increased knowledge of educational concepts and specific teaching strategies and gains in skill such as assessing learners' needs, promoting reflection, and providing feedback.
- Self-perceived changes in teaching behavior were consistently reported.
- Participants reported a greater involvement in new educational activities and establishment of new networks of colleagues.

Only two faculty development studies specific to EM teaching were identified in the literature.^{13,14} The studies are limited, reporting outcomes based solely on positive reaction, learning, and behavior

RECOMMENDATIONS FOR FURTHER STUDY

After the literature review and conference proceedings, the consensus panel recognized several important areas for future educational research.

Focusing on the Highest Two Levels of Kirkpatrick's Hierarchy

The panel recommends research targeting both teaching attributes and faculty development initiatives that focus on the higher Kirkpatrick levels (behavior and results) to advance the literature. Objective structured teaching examinations and direct observation are two assessment measures that can be used in this regard.^{15,16}

Better Define the Core Teaching Skill Set of an Academic Emergency Physician

The current literature consists of expert opinion, consensus recommendation, and small qualitative studies. The panel felt that these provide good direction but more sophisticated work is needed. One suggestion was to expand the qualitative studies of EM learners to better characterize optimal teaching attributes as they specifically align with learner level (medical student, intern, senior resident). The panel also recommends measuring outcomes of learner performance as it relates to teaching attributes. A final suggestion involves the identification of the core teaching skill set through direct observation

Table 1
The Attitudes and Attributes, Knowledge, and Skills of Competent Teachers²

Attributes	Knowledge	Skills
Acknowledges that the goal of effective teaching is directed at effective learning and understanding.	Demonstrates an awareness of and tacitly or explicitly employs basic pedagogic principles.	Communicates knowledge effectively and makes it relevant to the learner.
Advocates for education.	Displays awareness of and uses teaching techniques in line with current neuroscience and cognitive psychological findings.	Demonstrates leadership in educational settings.
Believes in a teacher's code of ethics for teaching medicine.	Is knowledgeable and up to date in one's discipline.	Demonstrates the basic skills for effective lecturing and facilitating small- and large-group discussions.
Demonstrates passion as a teacher.	Promotes scholarship.	Questions, listens, and responds effectively.
Demonstrates kindness in all interactions.		Establishes a learning community that values education and the process of continual learning.
Demonstrates awareness of own limitations and is not afraid to say "I don't know."		Establishes an educational contract with learners, identifying learners' needs and clarifying the teacher's expectations.
Is accessible to learners.		Gives praise as well as critical feedback in a manner acceptable to the learner.
Manifests and stimulates curiosity.		Is a reflective, mindful teacher.
Seeks and obtains knowledge of learners.		Is able to capture and maintain attention.
Values and establishes a safe learning environment.		Is adaptable and flexible.
Values and functions as an effective role model.		Promotes critical thinking.
		Promotes self-directed learning.
		Provides timely summative evaluations.
		Uses information technology effectively.



Figure 1. Kirkpatrick's four levels of learning evaluation.

of identified expert teachers, rather than through interviews or consensus opinion.

Identify Optimal Methods to Deliver Faculty Development for EM Educators

The panel felt that the literature provides reasonable direction as to the key components of faculty development. These include the use of peer modeling of exemplary behavior, experiential learning (opportunity to apply skills), and the provision of feedback.¹⁷ However, the optimal venue of delivery is less clear. Measuring the effect of formal fellowship programs, national conferences, and local faculty development programs on teacher or learner performance could help identify the most effective venue. Cost and time could also be measured and compared in this regard.

SUMMARY

The preconference research performed by the working group as well as the discussion conducted at the 2012 AEM consensus conference elucidated several key areas

for future research on the subject of clinical teaching performance. The current state of research provides a basic understanding of the attributes of expert teachers and of the optimal methods for faculty development. Improvement in understanding will come through future research with a focus on Kirkpatrick's higher levels of evaluation (behavior and results).

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Academic Emergency Medicine (AEM) is now publishing a series of videos of lectures on topics in emergency medicine. These are intended to represent the state-of-the-art in emergency medicine education. Residents, practicing physicians, and medical students may use them for didactic education. The videos will contain both the presented audiovisual material for the lectures (such as Power Point slides) and live video of the presenter. The PeRLs lectures themselves will be "open access" right away. The first one, "The Millennial Generation and 'The Lecture' ", by Danielle Hart and Scott Joing, appeared in the November 2011 issue and can be accessed from the journal's home page. The second one, "ECG Diagnosis of Acute STEMI-Equivalent in the Presence of Left Bundle Branch Block", by Stephen Smith, can be accessed from the journal's home page, as well. The third one, " Assessing the Utility of Digital Rectal Exams in the ED" by Chad Kessler, MD, MHPE and Jesse Brown, VA Medical Center, is now featured prominently on the journal's home page and can be accessed at: [http://onlinelibrary.wiley.com/journal/10.1111/\(ISSN\)1553-2712](http://onlinelibrary.wiley.com/journal/10.1111/(ISSN)1553-2712) (cut and paste into your browser).

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Other new ones are being added !!!