What Do Emergency Medicine Learners Want from Their Teachers? A Multicenter Focus Group Analysis

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Abstract

Background: To the best of the authors' knowledge, there are no reports describing what learners believe are good emergency medicine (EM) teaching practices. EM faculty developers are compromised by this lack of knowledge about what EM learners appreciate in their teachers.

Objectives: To determine what Canadian EM learners consider to be good prerequisites and strategies for effective teaching in the emergency department (ED).

Methods: Clinical clerks and residents from the Canadian College of Family Physicians, Emergency Medicine certification [CCFP(EM)] fellowship program, the Royal College of Physicians and Surgeons of Canada, Emergency Medicine certification [FRCP(EM)] fellowship program, and off-service programs from all five Ontario medical schools participated in monitored focus-group sessions. Conversations were recorded, transcribed by a third party, and coded by two independent assessors using standard grounded theory methods. The text was categorized based on the final code into basic themes and specific qualifiers, which were then sorted by frequency of mention in the focus groups.

Results: Twenty-eight learners participated. They identified 14 major principles for good EM teaching, and a further 30 specific qualifiers. The top five principles were: "has a positive teacher attitude," "takes time to teach," "uses teachable moments well," "tailors teaching to the learner," and "gives appropriate feedback." Agreement on classification of ideas was 86%.

Conclusions: Learners are sensitive to the constraints of the ED teaching environment, and have consistent views about good ED teaching practices. Among 14 general principles identified, "takes time to teach," "gives feedback," "tailors teaching to the learner," "uses teachable moments," and "has a good teacher attitude" were the most commonly reported. Key words: emergency medicine; medical education; clinical teaching; learner perceptions; postgraduate medicine; undergraduate medicine; emergency department. ACADEMIC EMERGENCY MEDICINE 2005; 12:856–861.

While emergency departments (EDs) provide a unique opportunity for clinical teaching, little original research on what learners consider to be good ED teaching practices exists.1,2 Studies in other areas consistently show that learners value a positive teacher attitude, enthusiasm, patient-centeredness, and good teaching skills.2–9 These traits and practices have informed the development of effective teaching models for ambulatory teaching settings.6,10–12 However, the ED setting presents challenges to traditional good teaching practices markedly dissimilar from those found on the wards, in the operating rooms, or even in other ambulatory environments. For example, the frequency of interruptions during clinical activities is higher during ED shifts than elsewhere, ED teaching must occur around the clock, and it must address the needs of learners from a variety of programs, at different levels of training, and with a vast array of previous experience.13–16 The diversity of patient demographic characteristics and the spectrum of diseases seen make the ED a rich learning environment, but challenge teachers to maintain high-quality and consistent teaching. Schedules for trainees and staff physicians are often independent, taking away the opportunity for a staff physician to become comfortable over time with an individual learner’s interests, capabilities, and needs. Finally, all ED teaching interactions must be balanced against the imperative to maintain tolerable patient waiting times, the interests of nonmedicine health care workers, and scheduling inconveniences.

Accomplished ED teachers can identify what they do to effect good learning during clinical shifts.17 Good teaching practices from the perspective of the ED learner have not been explored. With no reports describing what trainees feel are good prerequisites and practices for effective emergency medicine (EM)
teaching, faculty developers are compromised in their efforts to improve or develop specific ED teaching skills and characteristics. The objective of our study was to determine what EM learners consider to be prerequisites and practices for effective EM teaching.

METHODS

Study Design. A qualitative methodology best suited the exploratory ethnographic nature of our question.\(^{18}\) We chose to conduct focus groups across medical schools, and concurrently include a variety of opinions from each important ED learner group to improve the generalizability of our results. Participants were assured that all comments would remain anonymous to anyone other than the moderator, and that specific comments would not be attributed to individuals in any publication of the data. Students were told that participation in the interview would be considered implied consent, and all demonstrated understanding of and agreement with this. This study received institutional ethics review board approval.

Study Setting and Population. The EM program chief residents at all five academic centers in Ontario were asked to solicit five volunteers for a focus group held at their institution. Each focus group was to include a medical student, a junior and senior FRCP (Fellowship, Royal College of Physicians and Surgeons of Canada) resident, a CCFP(EM) (Canadian College of Family Physicians, Emergency Medicine certification) resident, and an off-service resident. CCFP(EM) residents are third-year family practice residents completing a specialized year of EM training, and off-service residents are those whose primary specialty is not EM but who were doing an EM rotation at the time of the study. We were able to balance representation and achieve optimum focus-group size by limiting our groups to five or six members.\(^{19}\)

Study Protocol. The same trained moderator conducted the focus groups at each site using standardized instigating questions. Discussions were tape-recorded and transcribed by a third party. Participants were assigned a code to be stated prior to each comment indicating their status (e.g., “junior”) to allow matching of comments with participant level yet ensure confidentiality and encourage candid commentary. Scripts were reviewed by two independent assessors (GB and LT) and a coding framework was derived using grounded theory methods.\(^{20-22}\) The narrative text was broken up into individual ideas at the reviewers’ discretion. Each idea was considered novel to the project if it was fundamentally different from anything previously mentioned. A repeat occurrence of an idea was noted if an idea was supported by another participant or mentioned by the original participant in a different context. Repeated mentions of the same idea by the same participant during a single context or anecdote were counted only once. Every novel idea was assigned a new teaching code and, in the case of subtle variation, a new qualifier code. When a new code was added to the list, the entire transcript was reviewed to reclassify ideas as needed. The two reviewers’ codes were then compared, interpretation difficulties were resolved, and the codes were combined by consensus agreement into a final code. The two reviewers independently coded five sample pages of transcript to determine assessor agreement. The reviewers agreed on 41 coded items and disagreed on nine. Five of these nine disagreements involved agreement on general theme but disagreement on specific qualifiers. One involved disagreement on a general theme, and the remaining three were text fragments identified as separate thoughts and coded by one reviewer but not the other.

The five transcripts from the focus groups were then recoded by a single investigator (LT) using the final code. Twenty percent of the data were also coded independently by a third investigator (SL), to allow estimation of interrater reliability, measured by agreement. Text fragments that were believed to adhere to more than one code label were included in as many code categories as applicable.

Data Analysis. The number of occurrences in the entire transcript for each general theme and specific qualifier was then determined. This number was used as an estimate of the popularity of the idea among participants. The code strategies and qualifiers were arranged in descending order of popularity and tabulated.

RESULTS

Characteristics of Focus Groups. Twenty-eight learners participated in the five focus groups between October 2002 and August 2003. The constituencies of the groups differed slightly because of local recruitment practices of senior residents, volunteer availability, and scheduling. Although not every focus group had a representative from each learner group, and several had double representatives, our overall representation was acceptable because we sought to provide broad representation of groups rather than to distinguish between them. Participants included 15 FRCP residents, five CCFP(EM) residents, four medical students, and four off-service residents. Focus groups lasted from 55 to 120 minutes (average 99 minutes).

Main Results. Participants provided 680 individual text fragments, or ideas, during the focus groups. Fourteen general principles for effective teaching emerged from the coded text. These categories are
arranged in descending order of frequency (Table 1). The agreement on the 20% of independently coded material using the final merged code was high at 86%. The top 12 principles were mentioned at least 15 times each, and in all five focus groups. The last two principles, “formal training in education” and “uses visual teaching aids/props/equipment,” were mentioned in some but not all focus groups. General themes were broken down into an average of 2.75 more specific qualifiers (range 0–11).

Our data give rise to several interesting interpretations. The top five general principles of effective ED teaching in our study may relate to how they address an underlying fundamental challenge to ED teaching, that of efficiency. With constant competing demands, efficiency is essential to carrying out effective teaching in the ED. In the authors’ experience with EM faculty development needs assessments, clinical EM faculty members frequently ask for efficient strategies for teaching. These top five principles were: “takes time to teach,” “gives appropriate feedback,” “tailors teaching to learner,” “uses the teachable moment,” and “has a good teacher attitude.” Combining these principles into a summary sentence, an effective ED teacher is one who “demonstrates a good attitude while finding time to tailor relevant, contextual teaching to the learner and provide feedback during the shift.” These principles are highly complementary. Moreover, there is synergy among them that makes their use applicable and advantageous in the busy ED teaching environment. The identification of these by learners in our study may represent an appreciation of the fact that effective teachers often use these synergistic strategies together. Teachers who tailor teaching are more likely to choose an appropriately relevant teaching point, and thus improve efficiency and save time. They will spend less time teaching material to which the learner is not receptive. In addition, teachers who know their learners can theoretically provide more directed, succinct, and informative feedback. A good teacher attitude increases learner receptiveness and enhances the teacher–learner relationship. Therefore, although all five of these strategies are independent, they may well be practiced together by many faculty who are regarded as effective teachers. An observational study might best explore this further.

Our results also suggest that relative differences in teaching approach, rather than absolute differences, are important to learners. Our focus-group participants did not identify specific levels of supervision or directedness, instead referring to the good teacher’s
ability to match these to learner needs. This is important because previous work suggests that learners at different levels prefer different levels of involvement from their teachers and qualitatively different types of interaction.4,28 We have broken down the response rate by learner group (Figure 1). While we did not set out to discern differences between groups, it is reassuring to know that the distributions of answers across groups are similar. Notable exceptions include the undifferentiated learners’ (medical students and off-service residents) endorsement of “treats learner as a colleague” and “takes time.” Learners new to the ED (students) and those less familiar with it (off-service residents) may feel more vulnerable and uncertain in the environment. This may lead to more sensitivity to level of perceived respect. In addition, they may feel less empowered to approach faculty, and therefore appreciate it when faculty make time for them. In contrast, FRCP residents, who typically have significant ED experience and have repeated exposure to the same teachers over multiple rotations, mentioned “sets expectations” infrequently. This may represent their familiarity with the nuances of the rotation and diminished uncertainty about how their experience should be. Overall, however, the major themes are represented throughout all groups.

Our results reflect established principles of adult learning theory and support their applicability in the unique ED teaching environment. The 14 principles identified in our study are at a level of specificity that should make them easy to implement. However, 14 principles are too many for teachers to keep in mind at once. There is some benefit in grouping them under general principles of education. When we attempted to do this, our confidence in the principles found in our study was reinforced by the ease with which they could be subsumed under basic principles of adult learning theory: learner-centeredness (takes the time, tailors teaching, treats resident as colleague, challenges student, sets expectations, provides independence); contextuality and relevance (uses teachable moments); effective teaching skills (teaches procedural skills effectively, possesses formal training in teaching, uses formal teaching techniques/sessions, uses visual aids/props/equipment, gives feedback); and good role modeling (has a good teacher attitude, possesses useful ED skills).2,29,30 The final principle is particularly important because research has demonstrated that good role models not only effect good learning, but also entice learners to consider the specialty as a career choice.5,8,9,31

**DISCUSSION**

This study demonstrates several important learner perceptions about teaching in the ED. Emergency medicine residents, students, and off-service residents in Ontario schools identified 14 general principles and 30 specific characteristics as a basis for effective ED teaching. The principles were mentioned frequently across multiple sites and levels of learners, suggesting that participants perceived similar characteristics of teaching to be important in the ED. Half of the 30 specific characteristics stated in the interviews were mentioned more than 20 times in the text and 75% were mentioned more than 15 times.
Of the top five principles, feedback, tailored teaching, and good attitude have been identified by research in other areas. Learners preferred those teachers who were able to adapt these principles for use in the ED. The remaining two principles, “takes time” and “uses the teachable moment,” may reflect sensitivities to the specific ED environment. Learners in general were sympathetic to the challenges faced by their ED teachers, and viewed favorably those who sought to overcome the challenges. Although not specifically a teaching technique, and therefore not part of our initial data analysis, we reviewed our transcripts and identified 22 comments indicative of learners’ sympathy toward the teaching challenges faced by their teachers. For example, one off-service resident said, “Staff do not often have the time to sit down and go through maybe the salient parts of the case, but it’s the good clinical teacher, I guess, who can sort of find the couple of important pearls.”

A recent survey of experts in EM teaching identified 12 effective ED teaching strategies. The top five themes mentioned by students in our study were also among the teaching strategies most commonly mentioned by the expert teachers. The faculty were also able to provide examples of how they implemented the strategies in their daily teaching, thereby addressing challenges of the ED setting. All of the remaining principles identified in our study were also identified by faculty, either as one of the 12 general, or as one of the specific, effective teaching strategies. Moreover, the focus-group participants in our study were neither primed with lists of good teaching behaviors nor given any information about faculty perceptions. We conclude that faculty and learners generally agree on what makes a good ED teacher.

Of particular note are the two general principles mentioned least frequently in our study. Trainees mentioned “possesses formal training in teaching/education” and “uses visual teaching aids” four and three times, respectively, in the focus groups. Despite a long list of 30 specific characteristics listed as being prerequisites for effective ED teaching, the EM learners implied that ED faculty can demonstrate these qualities and techniques without having formal training in teaching. When formal training was mentioned, however, the students confirmed its importance, as indicated by the following quotes: “I think every physician in emergency medicine would benefit from doing a course or learning a bit extra on how to teach”; “The teachers who are outstanding have had some formal training”; “Faculty who are interested in being better teachers should develop the skill of teaching”; and “I think a teacher training module is important.” Formal training was not something that many students thought to mention, suggesting that they are able to focus on what they prefer to encounter in their teachers rather than what background their teachers have. Learners in our study may or may not have had any knowledge about what, if any, specific education training their teachers have had. We did not explore a real or perceived link between formal training and implementation of the teaching principles identified in this study.

Finally, all three references to using visual aids for teaching involved mention of practice oral examinations at the end of a shift. Excellent clinical teachers, however, mentioned using such items as electrocardiograms, radiographs, photographs, and Web-based material for self-guided learning, for quick question-and-answer sessions, or to embellish a case discussion.17

LIMITATIONS

Our study should be interpreted in light of several limitations. First, we included only learners from Ontario medical schools. Although unlikely, some findings may be specific to the teaching sites involved. Additionally, we recruited only five participants per site. Although this provided a small overall sample size, we are reassured by the consistency of responses across sites that the general principles derived represent a broad opinion among EM learners at sites similar to ours. The challenges of teaching in the ED are well established and have been identified in multiple centers. We interpret the general agreement of the principles outlined in our study with those reported from other areas of ambulatory teaching to mean that while the specific implementation will vary in EDs, the same general issues resonate with our learners. We included specific qualifiers for each principle to allow interested teachers to see how each principle might be implemented in an ED setting. We acknowledge that some of the specific qualifiers may not apply to all settings, and encourage teachers to reflect on how the more general principles may work for their particular circumstances.

Second, learners were not identified in the transcripts, but were known to their focus-group colleagues and the moderator. The moderator did not, however, have influence over the participants in their clinical encounters with teachers. This may still have limited their comfort in discussing teaching candidly. Mixing seniors and juniors may have had an adverse effect on what participants said. The seniors may have been reluctant to seem vulnerable and the juniors may have felt intimidated or unwilling to bring up concerns in the presence of their seniors, who may at some time be their teachers. Based on the number of suggestions generated, we believe that the learners were forthcoming with their perceptions of good teachers.

Third, we did not double-code all data. The agreement on the 20% of double-coded data was high, and suggests overall consistency in data interpretation.
Finally, our study was designed to determine trainee perceptions about teaching, rather than proven effective teaching practices.

**CONCLUSIONS**

Learners are sensitive to the constraints of the ED teaching environment and have consistent views about good ED teaching practices. Among 14 general principles identified, “takes time to teach,” “gives feedback,” “tailors teaching to the learner,” “uses teachable moments,” and “has a good teacher attitude” were the most commonly reported.

**References**