ARTICLE

Lessons Learned from A Peer Review of Bedside Teaching

Thomas J. Beckman, MD

ABSTRACT

While evaluating bedside teaching by attending physicians on the Mayo Clinic's general internal medicine hospital services, the author learned that peer review enhances an understanding of teaching for both observers and subjects of peer review. In this article the author offers five insights derived from his and two colleagues' observations of bedside teaching during a six-month period in 2002. These are (1) the value of peer review to observers, (2) the apparently unlimited number of teaching strategies, (3) the prevalence of missed opportunities to provide feedback to learners, (4) the art of asking questions effectively, and (5) the possible relationship between a teacher's maturity and successful bedside teaching. Regarding the art of asking questions, he encountered four common problems (e.g., the underutilization of questions), but also found that accomplished teachers pursue a course of co-discovery by asking questions alongside their learners. Finally, he learned that experienced attending physicians often demonstrate teaching sessions focused on psychosocial aspects of care, the use of simple questions, and a willingness to expose their own inadequacies.

Acad Med. 2004;79:343–346.

Peer review is seldom used to assess clinical teaching.[1] Potential reasons for this include the expense of removing clinicians from their patient-care responsibilities, physicians' discomfort with performing peer review, and a lack of appreciation for the value of peer review to the observer. Despite its infrequent use, peer review has proven effective at enhancing the insight of peer reviewers,[2] affecting curriculum development positively,[2] and overcoming the biases present in learner evaluations.[3]

Two colleagues and I spent nearly 100 person-hours directly observing bedside teaching* on the Mayo Clinic's general internal medicine hospital services during a six-month period in 2002. The three of us directly observed ten consecutively chosen attending physicians for the entirety of morning rounds, including all interactions at the bedside. Regarding the sample's heterogeneity, the ten subjects of peer review represented a broad cross-section with respect to years of teaching experience. Likewise, the three peer reviewers were junior, middle-career, and senior faculty members in the Mayo Clinic College of Medicine.

My initial purpose was to demonstrate the reliability of an instrument for the peer review of inpatient teaching,[4] yet I was surprised to learn that observing bedside teaching was more meaningful than developing an objective assessment tool. After my two colleagues and I shared our field observations, we agreed that salient issues arising during bedside teacher–learner interactions were separable into the five insights stated and discussed in this article. The reader should realize, however, that these observations are simply the product of one clinician–teacher's reflections. In particular, this article is not meant to be an extensive review on the subject of peer review, nor did I utilize qualitative assessment or systematic methods to formulate my conclu-

Dr. Beckman *is assistant professor of medicine, Division of General Internal Medicine, Mayo Clinic College of Medicine, Rochester, Minnesota.*

Correspondence and requests for reprints should be addressed to Dr. Beckman, Division of General Internal Medicine, Mayo Clinic College of Medicine, 200 First Street SW, Rochester, MN 55905; telephone: (507) 284-4461; fax: (507) 284-5889; e-mail: ⟨Beckman.Thomas@mayo.edu⟩.

*Since bedside teaching may be defined in various ways, it is important to clarify what constituted bedside teaching in the educational setting described here. Although the most common example of bedside teaching might be presentations of new patients by learners, numerous other forms of bedside teaching occur. Specifically, demonstrating physical findings, modeling interviewing skills, demonstrating ways to share bad news, and providing feedback to junior learners regarding their interpersonal skills are all fruitful means for teaching at the bedside. Notably, each of the ten attending physicians used one or more of these methods during the period of peer review.

sions. Rather, my goal is to share the insights I gained from peer reviewing clinical teaching in hopes that others will also explore this process.

FIVE INSIGHTS

Peer Review Benefits the Observer

It may be surprising to learn that observing bedside teaching is not easy. Before collecting data, the senior peer reviewer, who had been observing bedside teaching for over a year, warned me and our other colleague that separating oneself from the clinical context while observing teaching interactions is challenging. Soon the inexperienced peer reviewers realized that they gave less attention to the teaching environment than to the existing patient-care issues. Of course, this is understandable when considering that clinicians spend their careers focusing on medical diagnosis rather than diagnosing learners and teachers. All the same, with an awareness of this challenge and with practice, peer reviewers can learn to be mindful of teaching interactions.

Once observers learn to perceive the learning environment, a universe of teaching behaviors appears. Moreover, this experience is humbling, since teachers serve as mirrors to peer observers. In particular, the teacher's flaws, awkwardness, and missed opportunities to teach are evident, precisely because they remind the reviewer how he or she has failed in the same ways. Various examples of these shortcomings will not be given here, since they are outlined later. However, we learned that numerous bedside observations are required before peer observers gain insight into their own weaknesses and potential areas for growth as teachers.

Other advantages to peer reviewers derive from their shared conversations. In the present case, we were studying the extent to which an instrument reliably measures teaching behaviors within the widely acclaimed Stanford seven-category framework.[4,5] The senior reviewer is experienced in the Stanford seminar method, and by referring to behaviors observed in real time, he was able to demonstrate subtle differences between the Stanford categories. For example, a junior reviewer believed that an attending physician who told his resident how rounds should progress geographically through the hospital, or how he would like her to organize a patient's problem list, was demonstrating goal setting. However, the senior reviewer was able to show that these behaviors actually reflected control-of-session and feedback, respectively. He was also able to give examples of how the same instructor, on other occasions, actually did display educationally relevant goal setting. Hence, by giving honest feedback to one another and by openly sharing insights, members of the peer review team were able to improve one another's understanding of education theory and of effective teaching behaviors.

Based on the reviewers' experiences, I think it is fair to conclude that physician–educators who willfully participate in a peer-review program involving the direct observation of bedside teaching may find that this activity ranks amongst the most influential educational experiences in their careers. In my case, the opportunity to be a peer reviewer had a sustainable impact on my awareness of giving feedback, on my efforts to enter into dialogue with my learners, and on my development of bedside teaching scripts. Therefore, I was not surprised that other authors have also recognized the value of peer review to the reviewer. Irby[1] found that members of a peer review committee at the University of Washington School of Medicine gained new insights into teaching and experienced increased motivation to improve their own instruction. Similarly, Horowitz and colleagues[2] described a successful peer review of courses wherein reviewers gained deeper understandings of medical school curricula, the learner's experience, and the educational process.

The Number of Effective Teaching Strategies Is Infinite

Each of the observed clinicians demonstrated a unique teaching style that seemed adapted to his or her personality and that was effective. This finding was unexpected, perhaps because it was assumed that each teacher would either conform to or deviate from the reviewers' understandings of previously described and well-known educational frameworks.[5,6] However, although these educational frameworks are very useful, it may be true that the broad spectrum of personalities allow for various teaching styles within these constructs, and that the measurement of effective teaching may be more challenging than it at first appears. Moreover, it was interesting that teachers who performed imperfectly often seemed to compensate for this by developing a particular strength, which resulted in an overall effective teaching strategy. For example, certain attending physicians frequently wrote progress notes during rounds, and they were consequently distracted from their residents' presentations. Yet these same attending physicians revealed attributes of gentleness and a willingness to allow resident autonomy. Hence, when considering the balance of any given attending physician's abilities, it was often difficult to conclude that he or she was an ineffective teacher. All the same, the peer-review process revealed to us a few especially skilled attending physicians in the study sample, simply because they demonstrated a wide compliment of effective teaching behaviors. In this way, these teachers support Maslow's hypothesis that, at least for extremely talented people, desirable traits correlate positively.[7] These teachers also demonstrate

that despite the variety of effective teaching strategies in any given sample, a group of peer reviewers can agree on who they identify as excellent teachers.

Feedback Is Rarely Given

The importance of giving balanced, well-timed feedback has been described.[8] Although I am aware that feedback is generally given too infrequently, the severity and impact of this problem was not evident until I spent a considerable amount of time observing bedside teaching. Both corrective and positive feedback were rarely given, even to the extent that when a teacher was observed giving feedback it seemed unusual. This finding was compounded by the fact that even brief and subtle forms of feedback appeared to create substantial, positive changes in the teaching environment. As an example, we observed an intern who appeared pressured and anxious, and as a consequence there was a subtle tension between members of the medical team. Midway through rounds, after the attending physician had observed his intern interacting with her patient, he commented to the patient, "Your intern has been doing an excellent job, and I'm very pleased with the care she's providing." Thenceforth, the intern appeared more relaxed, and the entire team seemed more comfortable. It is not surprising, therefore, that attending physicians who simply manage to give feedback once or twice during a rounding session can stand out amongst their peers as being above-average teachers. Indeed, this observation led us to hypothesize that those clinical teachers with advanced abilities to provide honest and useful feedback may obtain good resident evaluations, despite whether or not they've developed skills in the other domains of teaching.

We also found that certain opportunities are especially suited for giving feedback to learners but are seldom exploited for that purpose. Examples of these opportunities include compassionate dialogues between learners and patients at the bedside, well-organized and intelligent case presentations, and instances where senior medical residents provide education to their junior colleagues. Even more mundane events, such as interns' completing their work on time or providing assistance to their postcall colleagues, are ideally suited for providing feedback. Furthermore, some feedback is better than none, and it doesn't always need to be extensive and articulate. For example, sometimes a simple statement such as, "I like the way you reassured that patient," or "That was a nice presentation" will suffice. Finally, feedback can be given indirectly, such as when the attending physician publicly compliments his house-staff in a conversation with the patient, or when an attending comments to the interns that the senior resident is doing a nice job of providing direction to the team.

There Is an Art to Asking Skillful Questions

After observing several bedside interactions, we learned to respect the power of a well-phrased question in terms of its ability to open dialogues, to assess a learner's knowledge level, or even to purposely expose a teacher's knowledge deficits. Conversely, questions can be utilized ineffectively, and they may even create more uneasiness within the learning environment. Specifically, four problems that commonly arise when asking questions were observed.

- First, just as most of us ask too few questions, there are some teachers who ask too many. This habit of asking frequent questions can induce learner fatigue, and it may even masquerade as a means of teachers' displaying knowledge and initiating monologues.
- Second, most attending physicians have experienced the frustration resulting from asking learners whether or not they recognize some trivial fact that the attending recently came upon, or the frustration resulting from soliciting knowledge clearly beyond the learner's level.
- Third, we observed that tension arises when attending physicians direct most of their questions to senior residents rather than to the interns (thereby threatening the resident's psychological size) or, worse yet, when the attending physician asks an intern to answer questions that the senior resident is unsure of.

Perhaps the most frequent problem related to inquiry was the tendency of attending physicians to ask restrictive questions with a particular answer or goal in mind. This is unfortunate when considering that one of the greatest advantages of asking a question is the potential process of discovery, where both the teacher and learner explore a branching network of questions that stem from the initial question. For example, one attending asked his learner, "So this patient has a deep venous thrombosis. Tell me, what are her risk factors for acquiring this condition?" The resident replied, "Well, she has had prolonged travel and she's a smoker." The attending, knowing the patient also had a history of pelvic surgery, asked, "Does the patient have any other risk factors?" The resident then changed the subject and replied, "I was curious as to whether we need to screen the patient for inherited coagulation defects." At this point the attending physician could have redirected the resident, reminding her that she hadn't answered his second question. But instead, he responded, "Ah, that's a great question! So are you aware of the clinical circumstances that would prompt us to screen her?" In this way the attending and his resident proceeded to investigate many aspects of managing venous thromboses, and this process was directed by questions from both the resident and attending. In that context,

the senior peer reviewer emphasized the value associated with asking questions beginning with the phrase, "I wonder." This technique seems to reflect the spirit of a beginner's mind, which is the hallmark of a lifelong learner.[9] Moreover, this technique puts the learner on par with the teacher, allowing them to pursue knowledge and understanding on an equal footing, and even to dissolve the distinction between teacher and learner. Lastly, the observation that a progression of questions raised equally by both the teacher and learner is effective resonates with teachings from the field of humanistic psychology. One example comes from Rogers and Freiberg,[10] who conclude that successful facilitators of learning proceed by tolerating the unknown aspect of discovery, taking risks, and acting on tentative hypotheses. Maslow[7] provides another example when he describes the "Taoistic" teacher, who is noncontrolling, is more receptive than intrusive, is more inclined to ask than tell, and who emphasizes noninterfering observation over controlling manipulation.

Teachers Improve with Age

An attending physician's teaching ability may well be related to his or her level of experience. It seemed that senior physicians, for example, felt more comfortable than their junior colleagues in utilizing teaching strategies centered on the psychosocial dimensions of care. Perhaps this reflects the emotional maturity that results from years of interacting with patients and their families, and from careers spent resolving the internal conflicts that arise from the competing personal, social, and intellectual elements of being a doctor. Additionally, mature physicians seemed comfortable asking simple, case-based questions. Such questions may include, "I see this patient has a microcytic anemia. Does the fact that this patient's anemia is microcytic help you in any way?" Interestingly, younger attending physicians may avoid asking questions altogether versus asking simple questions, for fear of not seeming knowledgeable. More experienced clinicians, on the other hand, might feel secure enough to speak simply, and perhaps they've learned that questions are merely a technique for creating an environment of team learning. Lastly, it was impressive how experienced clinicians would sometimes ask questions that exposed their own uncertainty or knowledge deficits. For example, an attending physician remarked to the senior resident, "I've noticed that some of my pulmonary colleagues are giving shorter courses of steroids for COPD exacerbations than I usually do. Since you rotated on the chest service recently, could you tell me what your experience has been?" In this way, attending physicians are able to model humility. Drawing attention to one's limitations also communicates that imperfection is acceptable, thereby creating a more open, comfortable environment for learning.

SUMMARY

Although peer review is time-consuming and expensive, I found that it has immeasurable benefits for both teachers and observers. The depth of insight that peer review lends to observers was unanticipated, and included a better understanding of the problems associated with providing feedback and asking questions. As a result of observing bedside teaching, I identified four common problems with asking questions: (1) the underutilization of questions, (2) the overuse of questions and the inadvertent use of questions to manipulate conversations, (3) the risk of undermining a senior resident's authority by asking questions insensitively, and (4) the habit of asking questions with a rigid agenda in mind. Conversely, it was observed that accomplished teachers pursue a course of co-discovery by asking questions alongside their learners. I was also surprised to find that the number of effective teaching methods may be unlimited, which makes the application of established education paradigms challenging. Finally, experienced attending physicians often demonstrated teaching sessions focused on psychosocial aspects of care, the use of simple questions, and a willingness to expose their inadequacies, thereby indicating that teachers may improve with age.

The author thanks Dr. Charles H. Rohren, associate professor of medicine and Distinguished Educator of the Mayo Foundation, for his overall guidance and for his valuable comments on the final draft of this manuscript.

REFERENCES

1. Irby DM. Peer review of teaching in medicine. J Med Educ. 1983;58:457–61.
2. Horowitz S, Van Eyck S, Albanese M. Successful peer review of courses: a case study. Acad Med. 1998;73:266–71.
3. Speer AJ, Elnicki DM. Assessing the quality of teaching. Am J Med. 1999;106:381–4.
4. Beckman TJ, Lee MC, Rohren CH. Evaluating an instrument for the peer review of inpatient teaching. Med Teach. 2003;25:131–5.
5. Skeff KM. Enhancing teaching effectiveness and vitality in the ambulatory setting. J Gen Intern Med. 1988 (March-April);3(suppl):S26–S33.
6. Irby DM. What clinical teachers in medicine need to know. Acad Med. 1994;69:333–42.
7. Maslow AH. The Farther Reaches of Human Nature. New York: Viking Press, 1971;3–41, 155–80.
8. Ende J. Feedback in clinical medical education. JAMA. 1983;250:777–81.
9. Suzuki S. Zen Mind, Beginner's Mind. New York: Weatherhill, 1970:21–2.
10. Rogers CR, Freiberg HJ. Freedom to Learn. 3rd ed. Upper Saddle River, NJ: Merrill, 1994:151–67.