

Mindful Practice in Action (II): Cultivating Habits of Mind

RONALD M. EPSTEIN, M.D.

Habits of mind, such as attentiveness, curiosity, and presence, are fundamental to effective medical practice and physician well-being. In this second of two articles about mindfulness, I propose an 8-fold method for promoting mindful practice in medicine: (a) Priming—setting the expectation of self-observation, (b) Availability—creating physical and mental space for exchange, (c) Reflective questions to open up possibilities and invite curiosity, (d) Active engagement—direct observation and exchange, (e) Modeling while “thinking out loud” to make mental processes more transparent, (f) Practicing attentiveness, curiosity, and presence, (g) Praxis—consolidation of learning by experience, and (h) Assessment and confirmation. I include examples from medicine, music, and meditation.

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In the first article of this series, I demonstrated how mindfulness is fundamental to effective medical practice and helps the clinician face novel and ambiguous situations. The ability to make prudent choices in situations where data are insufficient or contradictory is a characteristic of expert clinicians. In contrast, much of professional education involves training at the technician level by emphasizing rules and formulas to manage clear-cut diagnostic entities. This leaves the student on his or her own to deal with those common situations that do not conform to the rules. Also, adopting a biopsychosocial model of care and an evidence-based framework for decision-making expands the educational challenge by incorporating new skills and knowledge.

In trying to define the characteristics of clinical expertise, Fraser and Greenhalgh (2001, p.799) distinguish between competence and capability. They define competence as “what individuals know or are able to do in terms of knowledge, skills, attitude,” whereas capability is “the extent to which individuals can adapt to change, generate new knowledge, and continue to improve their performance.” In this second of two articles about mindful practice in medicine, I suggest an 8-fold teaching method to improve the capabilities of health professionals by fostering four key habits of mind: attentive observation,

Ronald M. Epstein, M.D., Departments of Family Medicine and Psychiatry, University of Rochester School of Medicine and Dentistry

Correspondence concerning this article should be addressed to Ronald M. Epstein, M.D., University of Rochester School of Medicine and Dentistry, Departments of Family Medicine and Psychiatry, Family Medicine Center, 885 South Avenue, Rochester, NY 14620 E-mail: Ronald_Epstein@URMC.rochester.edu

critical curiosity, informed flexibility, and presence.

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Priming. Priming involves setting the expectation that students will report on their own mental processes. For example, before seeing a patient, I instruct students to report not only on the clinical findings, but also on their own thoughts and feelings during the visit. I frequently ask students and residents to observe what they do to prepare themselves for each patient visit. Do they stop for a moment? Do they complete the previous patient's chart? Do they develop a mental list of tasks? Do they take a deep breath? And, I might ask, "How might your prior clinical experience affect your decision-making in this case?" Other priming activities take place outside of the clinical setting. Reading poetry can invite and intensify focus on the present moment (Connelly, 1999), as can courses in mindfulness meditation for clinicians (Kabat-Zinn, 1994).

Being available. This may involve creating quiet, uninterrupted spaces on a regular basis for rehearsal (such as a seminar, reflection group, or retreat) as well as moments of contact during chaotic real-life contexts. Balint groups (Balint, 1964; Balint & Norell, 1973; Botelho,

McDaniel, & Jones, 1990), or other types of reflection groups (Novack, Epstein, & Paulsen, 1999) in clinical training, help trainees to gain insight into the effects of their actions on patients, and, in more psychotherapeutically oriented groups, motivation for their actions as well. In our training programs we use several formats. For students in a 4-week family medicine clerkship, we have a 3-session "reflection group" in which students discuss clinical situations that raised difficulties for them, e.g., difficult clinical decisions, ethical problems, and strong emotional reactions. Assessments of medical interviews include videotape for self-critique of technique and for examination of the physician's emotions and biases (Femino & Dube, 1995; Westburg & Jason, 1993). Keeping a journal, meditation, and exercise are individual means to help focus the learner on the present. However, being available is more than creating small group contexts. More important may be the availability in the moment—during rather than after the clinical encounter. This kind of availability involves making others (and yourself) feel that each moment is limitless in attention, such that time appears to slow or stand still.

Asking reflective questions. This may help a teacher identify and seize opportunities for learning. Reflective questions are designed not to edify, but rather to invite doubt and ambiguity so that students can discover their own answers.¹ For example, clinical data gathering is commonly conditioned by the expected diagnosis. In meeting with a patient with fatigue, a resident might "forget" to ask a patient about sleep disturbances or feelings of worthlessness, expecting "somatization" or a "viral syndrome." A question to students such as, "What are you assuming about

¹ Much of this material was borrowed from workshops on "Questionology" presented by Richard Kennedy, M.D.

this patient that might not be true?" can provoke curiosity in an open-ended way, and may improve diagnostic thinking. These questions should promote critical curiosity, in contrast to "what am I thinking" questions. It is not the answer that is important. In fact, many reflective questions have no answers. Rather, the question should disrupt habitual and rigid patterns of thought and behavior to allow a familiar situation to be seen in a new way. In that sense, reflective questions share some qualities of Zen koans (e.g. "What is the sound of one hand clapping?").

Reflective questions are useful in teaching clinical ethics. The preceptor can comment on "tacit ethics of the moment" as reflected in small gestures that often go unnoticed in daily practice. Preceptors can ask students to note those small moral acts, such as how nods of the head convey interest or not, or how the clinician acknowledges an error to a patient.

Finally, reflective questions can improve the trainee's ability to listen and observe. Listening for the unexpected involves the ability to find surprise in the ordinary actions of daily work, and to listen to oneself and others without naming what is heard until it has been understood. Teachers should ask, "What did you observe?," "In what ways were you surprised?," "How did you respond to the feeling of surprise?," "What interfered with your observations?," and "If there were relevant data that you ignored, what might they be?" The goal is to help students internalize a habit of self-questioning.

Active engagement. In his essay, "What If They Taught Musicians The Way That Medical Students Are Trained?" Engel (Engel, 1982) created an imaginary scenario in which music students would never be observed actually playing their instruments. Rather, they would just report to the teacher what they had done. We can laugh at the absurdity of this, but most of the time medical training is not done much

differently. In musical training, similar to medicine, teachers talk about the need to know theory and develop good technique, and also be emotionally expressive. The making of a musician, though, is the ability to make technique sufficiently automatic so that he or she does not have to think about every individual muscle movement, while maintaining enough subsidiary awareness to be able to recognize when technique needs more focused attention. Similarly, musicians bring awareness to the harmonic structure at key transitional moments, but then let it inform the interpretation in a more tacit way at other times. A good musician knows how to be emotionally expressive and to listen from the perspective of the audience at the same time.

In contrast, medical education is structured as if the most difficult skills balancing focal and subsidiary awareness of complex tasks are learned without critique or mentoring. By focusing only on theories, principles, and details, i.e., the "facts," physicians are trained to limit their potential learning and self-correction. Further, musical education is based on frequent, sustained contact between teacher and learner, something that is painfully lacking in medical education now (Ludmerer, 1999). Active engagement means being physically and mentally present to observe students in action, and to be observed in action. The financial and structural barriers to active engagement in medical education currently are formidable, but the consequences of neglect may be even more worrisome.

Modeling. "Thinking out loud" and encouraging the student to do the same, can make the tacit explicit. This can occur while teaching about communication, clinical reasoning, or even technical skills. For example, Cauraugh, Martin and Martin (1999) describe an elaborate method of "thinking out loud" coupled with split-screen video feedback on hand movements to train surgical residents to

manipulate instruments more efficiently while performing an inguinal hernia repair. Thinking out loud makes it apparent that good medical practice requires the constant effort of recognizing and correcting for errors, rather than merely the linear pursuit of protocol.

Practice. Medicine, music, and meditation are all considered practices. Practice consists of disciplined repetition in controlled settings. Among performing artists, a common saying is, "In discipline is freedom." Practice requires an object, real or imagined, external or internal. The object of meditation is one's own thought processes, of music it is sound and the audience, and of medicine it is the patient and the learner. Availability, active engagement, listening deeply (especially to those things that we'd rather not hear), generosity, and "beginner's mind" can be practiced. "Unexpected" is another aspect of practice. It refers to training the mind to recognize one's expectations, then imagining another outcome. In the next paragraphs, I will describe some ways of practicing attentiveness, curiosity, and presence.

A lesson in practicing attentiveness and "unexpected" can be learned from John Cage, one of the most influential musical composers of the 20th century. He pioneered the use of small objects such as screws, cloth, and aluminum foil placed on the piano strings to make unusual sounds. A later piece consisted of 12 radios all turned on, but tuned to different stations. In 1952, he wrote a piece that has come to be called 4 minutes and 33 seconds. It is one of a series of pieces that he wrote named only for their length. The unique thing about the piece is that there are no notes written on the page, just the word "Tacet" (silent). The performer indicates with a gesture the beginning and end of each of the three movements, but does not produce any intentional sound. Most people, hearing the description of the piece, have expectations of what they will, or will not, hear. Some

people even wonder if it is music at all. Listeners discover, though, that there are always sounds. In this case, they are random sounds not specified by the composer, and never the silence that one might think was implied by the absence of notes on the page. The first time it was performed, it created quite a stir. People were outraged not by what they didn't hear, but rather by what they heard! It is an exercise in listening to one's process of listening and, by eliminating any coherent signal, recognizing the external and internal noise with which we live. People react to this piece strongly now, even when they know the score.

Curiosity can be practiced. Consider an exercise called "Three Days of Red" (Maue, 1979). As originally conceived, participants are asked to record in writing the names of all red things that they see for 3 days. With medical audiences, I do a 30-minute or even a 5-minute version of this. Typically, performers go through an interesting evolution—first excitement, then boredom, then curiosity. They often report that they begin to see the world as two categories: red things, which are of interest, and non-red things, which are ignored. Then, most people at some point wonder, "How red does something have to be to be considered 'red'?" Is this reddish-orange object more red than orange, or more orange than red? Is pink a type of red? And on and on. There are multiple parallel situations in medical diagnostics. The clinician, encountering a set of symptoms, may not question the categories to which the symptoms are assigned (influenza, depression, "something serious") unless attention is brought to them.

McPhee (1997) emphasizes the importance of practicing presence by developing a "habit of reflection." This should include some time each day in complete silence and stillness. There are different types and contexts of stillness. Stillness apart from daily life might include doing meditation at home or at a retreat. Stillness-in-action is a tool

that performing musicians use—an inner stillness in order to project energy to the audience. And, finally, there are the small moments of inaction between actions—those precious moments of repose during a busy day. The visceral learning from practicing stillness allows the practitioner to experience that stillness when he or she needs to call upon it e.g., to clear the mind before seeing the next patient, performing a delicate procedure, or listening more deeply to a disturbing story. There is nothing “new age” or mystical about this process. It is just practice.

Praxis. Friere (1998) argues that, to some extent, something is not “known” until it becomes incorporated into action in the world. Building on this idea, Dreyfus (2001) notes that higher levels of expertise are characterized by embodied knowledge. By this he means that there is significant emotional valence to knowledge; that when we don’t know something, we feel bad. From yet another perspective, Damasio’s somatic marker hypothesis (1994) notes that emotions are stored as physical memories; feelings evoke the sensations, thoughts and actions. Friere’s concept of praxis describes this neurocognitive link between knowing and doing.

In musical performance, praxis may be easier to describe than in a cognitive discipline. Non-musicians often assume that musicians play notes on an instrument, and thus hear the music. However, the reverse happens as well. A mature performer “hears” the music before any sound is produced, maintains a moment-to-moment awareness of the musical structure, and compares the sound produced with the sound intended. Perhaps the most difficult thing about learning to play an instrument, and medical practice, is maintaining awareness of the disparity between intention and action, and between the imagined effect and the effect produced.

Several years ago, an opportunity for fostering mindfulness arose in a challenging

exercise in which students conduct a series of role-plays with a standardized patient, beginning with testing for HIV, then delivering the positive test result, and, finally, negotiating a treatment plan with a complex antiretroviral regimen. A bright student was about to begin the interview with the standardized patient, with his fellow students and me observing. Before beginning though, he asked a seemingly simple question, whether I wanted a “regular” interview or a “biopsychosocial” interview. The student knew the difference between two approaches to communication, but did not know *what* to do with things he knew *how* to do. His espoused theory and his theory-in-action were transparent but contradictory. His “knowledge” was unconnected to the clinical context, and was not embodied in action. Rather, he was to responding to the imagined demands of those who would be evaluating his performance.

By asking the student to put his knowledge into action while at the same time observing himself in action, he found the interview more difficult than he had imagined. Debriefing afterwards, he was able to articulate what he did and why, something he had not been able to do before his attention was focused on his own actions. Although he had previously “learned” how to conduct a patient interview, in one sense, it only became “knowledge” once he was able to use it in practice. He not only learned a skill, but was personally transformed from the role of student to the role of novice practitioner (Benner, 1984; Dreyfus, 2001).

Assessment and confirmation. Mindfulness in some circumstances might be assessed, albeit indirectly (Epstein & Hundert, 2002). Our preliminary data, using a new questionnaire, suggest that patients can assess “presence,” and undistracted attention. Openness to experience and tolerance of uncertainty can be assessed using personality

questionnaires. Preceptors can judge evidence of curiosity by the use of reflective questions and “thinking out loud.” Explicit expectations that students will be assessed on their ability to be curious can then open further dialogue about becoming mindful in action. One can start a teaching session by saying, “Not only will I be looking at how you solve the clinical problems that you face, and how you relate to patients, but I also will be assessing how you reflect on your own performance.” Peer ratings and self-ratings can be helpful. A preceptor can confirm with the student (or a practitioner can confirm for herself) that something important has been learned, enabling the learner to re-enact the process of discovery in new situations. Without being pedantic, students can be asked to identify explicitly things that they have learned about medicine, or themselves, after each session.

TRANSMISSION OF MINDFULNESS

Transmission of mindfulness might be considered in two situations: from experienced teacher to an apprentice, and among peers. Experienced clinicians know that their professionally relevant knowledge is more than facts or skills, attitudes or values; it is the summation of years of living within their day-to-day tasks. It is critically informed action, some of which must be tacit, lest they be overwhelmed with every perceptual detail and every nuance of thought. Thus, there is always a dynamic tension when an experienced teacher tries to enter the world of the learner so as to be able to recognize mindfulness and nurture it. An “outsider’s view” can have enormous value by provoking curiosity about elements of clinical care that are either viewed as ordinary or are not observed at all. At its best, the “outsider” can be a “designated beginner’s mind.” The “outsider” encourages the student to assume new and multiple perspectives.

An “insider” such as a peer or someone closer in age and experience to the learner can “be with” the student in a different way. For example, an “outsider” might be able to empathize with the impact of a student’s experience after an unsuccessful resuscitation of a young patient who suffered a cardiac arrest. However, the immediacy of the situation—making quick decisions, smelling blood and vomit, doing technical procedures, and feeling the sinking disappointment when it becomes clear that the patient will not survive—is more intense for a peer who was actually there.

But, *how* is mindfulness transmitted? The arts also offer examples of the transmission of knowledge that is fundamentally tacit and personal. Mutual understanding, sustained contact, and patience are fundamental, but there is more.

Some 25 years ago, I had the opportunity to see a performance by Balasaraswati, a well-known classical Indian dancer whose family included several generations of dancers. As was tradition, her daughter, Lakshmi, danced the opening number before Bala was to come out on stage. But Bala was watching her from the sidelines. At the moment just before the dance started, their eyes met. Although no words were said, the communication was clear—it was the transmission of tradition that went beyond words. Earlier this year, I saw Lakshmi give a concert, and first to perform was her son. He was a wonderful dancer, full of energy, rhythm, and life. But the moment before he was to start, he and his mother exchanged a similar glance to the one that I had seen 25 years before.

This example captured my attention because it was nonverbal (or perhaps beyond words), in the context of a long-term caring relationship, and was in a setting where teacher and student had the opportunity to observe each other in action and participate in each other’s work.

CONCLUSION

In addition to the eight steps outlined in this article, becoming mindful requires courage and motivation. Thus, the teacher's task, beyond asking reflective questions, is to provide a safe environment in which the learner can express fears and doubts. At the same time, the learner is encouraged to make hunches and seek new solutions to complex problems. Because habits of mind include the cognitive, emotional, and technical domains, group exercises that focus on emotionally difficult aspects of practice (such as Balint groups), while valuable, are only part of the process. Habits of mind can and should be cultivated in the operating room, the dermatology clinic, the radiology reading room, as well as in primary care and psychotherapy settings.

The activities described above must be coupled with time for reflection, whether it be designated time, or the brief opportunities between clinical tasks. "Sacred idleness,"² meditation, or just being alone are the "diastole" of clinical practice, in which suppleness and emptiness are more important than activity and focus.

² "Certainly work is not always required of man. There is such a thing as a sacred idleness—the cultivation of which is now fearfully neglected" attributed to George MacDonald as quoted in *Poor Man's College Quotations*, 1994.

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