Role Modeling in Physicians’ Professional Formation:
Reconsidering an Essential but Untapped
Educational Strategy

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ABSTRACT

Forming technically proficient, professional, and humanistic physicians for the 21st century is no easy task. Mountains of biomedical knowledge must be acquired, diagnostic competence achieved, effective communication skills developed, and a solid and applicable understanding of the practice and role of physicians in society today must be reached. Central to the experience of learners in this complex and challenging terrain is the “modeling of” and “learning how to be” a caregiver and health professional.

Role modeling remains one crucial area where standards are elusive and where repeated negative learning experiences may adversely impact the development of professionalism in medical students and residents. The literature is mainly descriptive, defining the attributes of good role models from both learners and practitioners’ perspectives. Because physicians are not “playing a role” as an actor might, but “embodying” different types of roles, the cognitive and behavioral processes associated with successfully internalizing roles (e.g., the good doctor/medical educator) are important.

In this article, the authors identify foundational questions regarding role models and professional character formation; describe major social and historical reasons for inattention to character formation in new physicians; draw insights about this important area from ethics and education theory (philosophical inquiry, apprenticeship, situated learning, observational learning, reflective practice); and suggest the practical consequences of this work for faculty recruitment, affirmation, and development.

essential values and attitudes for professional practice were regularly espoused, they remained in the background. Consequently, although medical education features sophisticated strategies for achieving knowledge and skill objectives, until recently little attention has been given to value, attitude, and professional character development, which has, instead, depended on vague notions of role modeling as a means of teaching and learning. Assumptions about the effectiveness of role models in professional character development are pervasive yet insufficiently examined among otherwise thoughtful and challenging approaches to medical education. The lack of attention to role modeling is a key reason that meaningful reform of professional character formation can be characterized as “a history of reform without change, of repeated modifications of the medical school curriculum that alter very slightly, or not at all, the experience of the critical participants, the students and teachers.”

Medical educators increasingly understand professional education to be a process of moral enculturation, of taking the values, attitudes, character, and identity of the chosen profession (and, implicitly, of the “good” professional) as one’s own. Role models are central to enculturation because professional behavior is learned in the experience of practice. We distinguish here between mentors and role models, however. Mentors are senior members of a group who intentionally encourage and support younger colleagues in their careers. Mentoring often includes role modeling. Role models, on the other hand, teach by example and in careers. Mentoring often includes role modeling. Role modeling and professional character development are pervasive yet insufficiently examined among otherwise thoughtful and challenging approaches to medical education. The lack of attention to role modeling is a key reason that meaningful reform of professional character formation can be characterized as “a history of reform without change, of repeated modifications of the medical school curriculum that alter very slightly, or not at all, the experience of the critical participants, the students and teachers.”

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The literature on role modeling

The medical education literature regularly identifies the importance of role models in value, attitude, and professional character formation. A 1989 special issue of Academic Medicine, recognizing the “Coming of Age” of ethics education, concluded “. . . faculty should authentically demonstrate humane, value-conscious medical practice in the treatment of patients, colleagues and students. Students probably learn better in environments where their professional roles can be both observed and practiced” (emphasis added). In 1994, Hafferty and Franks’ important work on the “hidden curriculum” challenged medical educators to better address and assess the importance of role models in the learning that takes place at all levels of medicine and to acknowledge training institutions as both cultural entities and moral communities intimately involved in constructing definitions of “good” and “bad” medicine. This challenge largely goes unanswered today.

The literature on professionalism does emphasize the importance of physicians’ developing ongoing self-reflective skills and professional character. It recognizes that students must acquire the skills, values, and attitudes that comprise a professional identity. In reality, “the values and behaviors that individual physicians demonstrate in their daily interactions with patients and their families, and with physicians and other professional colleagues, become the foundation on which medical professionalism rests.”4 Forming professional character begins upon entrance to medical school. Residents and fellows, still in formation themselves, learn from their role models and serve as significant role models for medical students.

Interest in role modeling is emerging, but the literature is, as yet, mainly descriptive. Students and residents describe their positive role models, and individuals, thus identified, reflect on themselves as role models. From these descriptions and reflections, characteristics of good role models have been identified. A conceptual model of role modeling that emphasizes the importance of strong clinical skills, consistency of good verbal and nonverbal behavior, and “role model consciousness” has been suggested. Yet weaknesses in physicians’ role modeling and professional character formation are evident. In a Quebec survey of 259 clerks and 238 second-year residents in family medicine and various specialties, half of the clerks and one third of the residents felt their teachers were not good role models for the physician–patient relationship. Another study of second-year students and senior clerks in innovative Canadian medical schools (problem-based learning, patient centered, community orientated) revealed that 25% of second-year students and 40% of senior clerks did not agree that their teachers behaved as humanistic caregivers with patients or were good role models in teaching the physician–patient relationship. Furthermore, in a Dalhousie University Faculty of Medicine invitational focus-group with residents and physicians, residents revealed that it was not uncommon for clinician–teachers to express negative and cynical comments about the medical profession, which left learners feeling pessimistic about their chosen profession. This particularly affected clerks who had not selected their medical specialty, which may be a barrier to recruitment to those specialties. Residents also disclosed that clinician–teachers sometimes make disparaging remarks about particular medical specialties, which may act as a barrier to recruitment in those specialties. Many dimensions of the impact of negative role modeling and related communicated values on medical learners are overlooked.

The values of the medical school environment constitute its moral ecology. However, policies and practices regarding faculty who are good role models, corrective approaches for negative role models, and the importance of a safe environment for critical reflection on good and bad role models have
been insufficiently explored. Despite its rhetorical importance, role modeling remains a conceptual “black box” for both teachers and learners. Students enter and exit the box without an open and transparent discussion of what constitutes positive or negative role modeling, skills to evaluate their experiences, or formal safe processes and spaces to debrief on their experiences. Educators lack an adequate understanding of the process through which learners respond to models and of how practitioners of varying quality and commitment exert their influence.

THE UNTAPPED POTENTIAL OF ROLE MODELING AS AN EDUCATIONAL STRATEGY

Historical and social forces have contributed to the inattention paid to professional character formation including the lack of clarity regarding the goals of medicine, the evolution of medical ethics, the dominance of science in medical education, and the commercialization of medicine.

The values, attitudes, and character of a good physician are directly related to the ends or goals of medicine. Without clearly understanding these ends or goals, we cannot know what values and attitudes facilitate practice. Philosophers and others interested in these fundamental issues question whether any intrinsic goals for medicine exist. For some, the legitimate goals of medicine are rooted in the nature of the patient–physician encounter and the fact of illness. For others, physicians are gatekeepers for society-approved access to science and technology. This issue of the legitimate goals of medicine is crucial, particularly because the power of science and technology is growing. Without an open and transparent discussion of what constitutes positive or negative role modeling, skills to evaluate professional character as a proper goal. Formal ethics education was proposed to contribute to students’ future clinical competence as physicians by supplying them with the knowledge and cognitive skills necessary for ethical decision making.

Rooted in the psychology of the time, it was assumed that the entering students’ character was fully developed, and that the important task of the medical school was choosing the right character in the admission process. There were also concerns that privileging certain values was inappropriate in a pluralistic society. Although we know that a medical student’s basic character is formed at the time of admission, ample evidence exists that professional character is formed in medical school, shaped by influential factors including informal processes like rounds, peer interactions, and role models.

The role of science in medical education has also contributed to inattention to professional character formation. The Flexner reforms replaced an unregulated apprenticeship with science-based university education followed by internship. The “right” traits for medicine became cognitive traits, and suitability for medical school focused on the capacity to do science. Moral authority became rooted in scientific competence. Science brought new concepts of duty in the calculation of risks and benefits. Rapid advances in science reinforced the power of the scientific “good” as the obviously important good. For many, the highest moral good was simply to master scientific medicine for the benefit of the patient.
Recent forces within and without the profession have increased the commercialization and commodification of medicine. For many, this conversion of medical care to a vast industry\textsuperscript{21} raises questions about the profession’s basic purposes and values. The consequences for the medical school curriculum of these changes in the practice environment have not yet been considered critically. What consequences for values, attitudes, and professional character emerge from these forces?

**WHAT ROLES? WHAT MODELS?**

Despite the long-standing and widespread use of role models, the concept is not well understood. Analysis and clarification of the major concepts “models,” “roles,” and “role models” is required. Generally, a model tries to make clear some features of a complex reality. Furthermore, the concept of roles is complex, for professionals are not “playing a role” as an actor might but embodying it. We can distinguish between a person and the many roles that person might play (e.g., mother, parishioner, and cardiologist), and in medical education, we are concerned with the role of physician. Professional character formation requires some alterations of personal values and attitudes as we learn the role of physician. It is the essence of professionalism that physicians profess to have assumed a role with responsibilities that are publicly understood. For a professional, becoming a role holder and performing the role well is itself an important end. Values, attitudes, and professional character are the “stuff” of virtue. They are the traits that incline individuals to act in accord with the demands of the role.

However, the role of physician is not a unitary one. Individual physicians assume different roles. What significance does needing to know dramatically differing roles have for learners? Is it possible for one individual to fulfill all roles of the physician? The differences that comprise the role of the physician add to the complex picture of practice. This complexity requires that role models show the way through the various role demands. Some role models demonstrate good practice but fail to articulate their reasons for acting as they do. Others demonstrate and articulate what they are doing and why, but the content and style of their discourse can be significant. Although they might provide justifications that cannot be questioned, they might invite discussion. Learning occurs differently with each approach.

We know that what is modeled for medical learners is sometimes heroic and sometimes horrific. Even experienced faculty may feel confusion about conflicting role obligations as they respond to the pressures of practice in the contemporary health care environment. These factors have led to silence around the central issue of professional practice. However, silent modeling is inadequate as a strategy. First, an account of behavior is needed to limit the number of possible interpretations. Second, the model’s values and justification must be made clear to the learner; if not explicit, the model fails to provide learners with a clear position to test, accept, or reject, and tacit modeling fails to subject the behaviors, values, and attitudes to review.\textsuperscript{22}

Being articulate is necessary for excellent role modeling but not sufficient. Evidence that learners seek enthusiastic and charismatic role models exists.\textsuperscript{23} However, enthusiasm and dedication in an articulate role model may, in fact, stifle students’ critical reflection. Enculturation may render even the most committed physician unlikely or unable to ask fundamental questions regarding their model of medicine, the roles they believe are crucial, and the values and attitudes that facilitate excellence in practice.

**ROLE MODELING AS A MULTIDIMENSIONAL CONCEPT**

Several fields of study can assist in addressing, understanding, and facilitating the teaching and learning potential of role models. These include ethics and education theory where constructs of apprenticeship, situated learning, observational learning, and reflective practice can each improve our understanding of role modeling and contribute practical strategies for role models and learners alike.

**Ethics**

Although ethics education was originally identified as one element of a “broad curricular effort to develop physicians’ values, social perspectives, and interpersonal skills for the practice of medicine,”\textsuperscript{24} these goals have never been fully realized. Medical ethics education has failed to adequately recognize the centrality of role models in the moral and ethical formation of new physicians. Medical ethics as a subject in applied ethics with a clear set of curricular goals\textsuperscript{3,19} and medical ethics as the moral commitments and character development of health care professionals are distinct topics.\textsuperscript{18} An early formulation of the goals of formal ethics education for professionals can help us immeasurably. They include sensitizing, consciousness-raising, and uncovering hidden problems and value issues. Reclaiming these goals may help us to cut through layers of enculturation, habit, and verbal debris to rediscover, with clarity, the moral purpose of medicine.\textsuperscript{24}

In the almost exclusive focus on medical ethics as problem solving or “dilemmas ethics,” the ethics of character has been lost. The Hippocratic tradition is rooted in virtue ethics where the moral agent, rather than principles for problem solving, is central.\textsuperscript{18,28} Although virtue ethics had fallen into
decline in medicine, its importance is reemerging especially through an emphasis on professionalism. Pellegrino and Thomasma have focused on the importance of professional virtues of physicians for patients, including the central virtue of clinical competence. They argue that virtuous physicians both model good behavior and comprehend the reasons for their choices; virtuous physicians can explain why they are acting in a given manner, and are motivated by concern for the whole patient. This concept maps well to our knowledge of ideal role modeling. Philosophic ethics and virtue theory can contribute much to our understanding of role models. The goals and skills fundamental to all philosophical inquiry include identifying and examining assumptions; broadening perspectives and enlarging self-knowledge; developing critical thinking skills; fostering tolerance, openness, and skepticism about dogma; and cultivating empathy. This systematic reflection about what we do, believe, and value can contribute powerfully to understanding how we frame and resolve medical ethical dilemmas and how, in reality, professional character is formed.

**Apprenticeship**

Apprenticeship has been a touchstone of professional education for centuries. Understanding its process is fundamental to our understanding of role modelling. Essentially, apprentices learn through participation in an environment, where “ways of being” are modeled. The experience allows the learner to see how knowledge and skills are applied to the real problems of the profession by their teachers, who are experts, and to observe how these behaviors and knowledge are used in and affected by the context in which they are applied.

How does learning occur in the course of apprenticeship? According to cognitive psychology, the learning occurs as changes to our schemas—those cognitive maps that we build to help us make sense of the world. We use schemas to summarize what we know and believe, our attitudes, experiences of events, and ideas. When entering a new situation, we use our existing schemas to try to understand the new experience. As our exposure to and involvement in the new situation continues, we build new schemas for more sophisticated understandings, which over time become elaborate, complex, and integrated, and guide our thinking and actions.

In apprenticeship, it is essential to understand both the content that is learned and the social and relational aspects of learning. Not only is there a change in our understanding, but also there is a process in which we test, revise, and integrate our understandings in application. What we take way from our learning is a comprehension that is dependent on the context in which it was learned. That context, and the social relations that texture it, contains many influences, among them the powerful effect of role models.

Applying these ideas to the context of physicians’ education, student-physicians enter the clinical setting where, through experience, they build increasingly complex frameworks of knowledge and skills regarding the practice of medicine. They learn context and content, product and process.

**Situated Learning**

Situated learning is an enhancement of the apprenticeship model. It also describes the learning that occurs in the context of practice, including knowledge, skills, and social norms. This concept is particularly instructive because apprenticeship and immersion in the clinical environment is so pervasive in medical education. The basic premise of situated learning is that professionals learn from participating in, and gradually being absorbed into, communities of practice (in this case, the medical profession).

A key concept of situated learning is legitimate peripheral participation. Learners enter the community of practice at the periphery, where they are novice legitimate participants. As they move towards fuller participation, they participate as a way of learning and both absorb and are absorbed into the culture of practice. Accordingly, learning becomes an integral and inseparable aspect of social practice.

Legitimate peripheral participation provides exemplars, such as masters (or role models), finished products, and more advanced apprentices, and these are the basis and motivation for the learners’ activity. Recognition of what needs to be learned and the desire to become full practitioners motivate learning and participation. Medical learners at all levels learn “to talk” and “from talk” (i.e., from talking with and listening to other more senior faculty, medical students and residents learn the accepted knowledge, values, and attitudes of the profession). From talking themselves, they learn how to talk of what they do, and, indirectly, how to think about it. In medical education, role models in the clinical environment profoundly influence the learning of both “to talk” and “from talk.” In short, learners participate in the practices of the community and develop identity in relation to it.

Implicit in situated learning is the assumption that the knowledge, skills, and values are “situated” in the practice environment, and the framework to understand them is inseparable from that environment. Situated learning extends our understanding of apprenticeship learning in its premise that, while learners build and revise their schemas, the community of practice is also changing simultaneously. In this perspective, each learner adds to the community, and
learning extends beyond the development of cognitive structures to reflect the larger changes in society and the work of the community. In this concept also, the influence of models is pervasive because the model represents a way of “being” in the community. As novice learners become more engaged, they increasingly both adopt and create the values, attitudes, and beliefs of the community as they are spoken and enacted by their more experienced colleagues.

The literature of situated learning helps us to frame the function and influence of role modelling in medical education. Because learning and identity form together and are inseparable, role models contribute powerfully to both aspects of formation. Although students can often express the characteristics of positive and negative role models, it may be difficult to appreciate how embedded the influence is in their learning.

Observational Learning

Bandura describes learning in an environment of constant, dynamic, reciprocal interaction among people, their behavior, and the environment. Bandura’s description of learning is social in nature. People learn from others in their environment through social and cognitive practices. These concepts provide a way of thinking about the context in which learning from role models occurs. Bandura describes five basic capabilities that all humans inherently possess, among them an ability to learn vicariously or through observation. Observational learning is well accepted as a powerful means of transmitting values, attitudes, and patterns of behavior. Vicarious or observational learning occurs when we watch others’ actions and the consequences of those actions. Through that process, students learn behaviors and ways of being that look successful to them in light of their own goals and experience and the rewards they see present in the environment. Social learning theory also incorporates our ability to understand the rewards and incentives in the environment and to incorporate behaviors and standards that will lead us to achieve valued goals. In the dynamic environment of professional practice (e.g., a hospital or clinical environment), students have many opportunities to observe and learn from others, including residents and attending staff, and to decide to assume or reject some of these behaviors.

Reflective Practice

Another area that can inform our discussions and understanding of how learning occurs from role models is that of reflective practice. Imel observes that reflective practice . . . integrates or links thought and action with reflection. It involves thinking about and critically analysing one’s actions with the goal of improving one’s professional practice. Engaging in reflective practice requires individuals to assume the perspective of an external observer in order to identify the assumptions and feelings underlying their practice and then to speculate about how these assumptions and feelings affect practice. It is in essence, a systematic inquiry into the practice itself.

Reflection also provides faculty, students, and practicing professionals a means to learn effectively from experience and develop the affective aspect of their professional expertise by considering experience critically and understanding how knowledge, attitudes, and skills develop. The ability to reflect on our behavior and to pass evaluative judgments on ourselves is a fundamental human capability.

Many educators first encountered reflective practice through Schön, who focused on the problem solving and learning that occurs in professional practice. The stage is set for reflection when “knowing-in-action”—the sort of knowledge that professionals depend on to perform their work spontaneously—encounters an unexpected outcome or surprise. This surprise can lead to one of two kinds of reflections: “reflection-in-action” occurs during (without interrupting) the activity by thinking about how to reshape the activity while it is underway, and “reflection-on-action” occurs following the experience and involves revisiting the event to consider what occurred, what was learned, and how to incorporate new learning into “knowing-in-action.” Reflective practice is more than thoughtful practice; it is the process of intentionally turning thoughtful practice into a potential learning situation. Moreover, reflective practice goes beyond examining knowledge components to include the affective aspects of a situation.

Models can reflect on their experience, facilitating learners’ reflections of what they have observed. Reflection helps the model to make explicit the moral and other judgmental standards by which they guide and judge their behavior. If these aspects remain undiscussed, the learner is left to infer rules and standards for himself or herself as well as to construct meaning from what they see. Frankford speaks directly about the role of reflection in students’ learning and notes that knowing-in-action, reflection-in-action, and reflection-on-action occur when a “coach” demonstrates the performance of work to students while providing a narrative that reflects upon how the work is being performed, a process that resembles show-and-tell. Likewise, students must engage in the performance of work as their coach watches and coaches. Because medical practice increasingly occurs in the context of teams, students and practitioners alike must learn the skills of knowing-in-action, reflection-in-action, reflec-
tion-on-action as group processes often involving many types of health care professionals. Because professional work is organized collectively, the organizations must engage in institutionalized processes of reflection in which individual reflection feeds into group learning and group learning feeds back into individual reflection so that they mutually inform one another. It is in this practice that faculty, and learners too, can reflect critically on their practice and the beliefs and values that underlie it. This reflection is particularly relevant to role modeling because it offers a forum for raising awareness about our behaviors in the professional context. Institutions of reflective practice thereby enhance physicians’ lifelong learning and commitment to medical professionalism.38

We believe reflective practice adds great promise to professional character formation. A critical reflection on what has been modeled, both by the model and by the learner, can effect a real change. Breaking the silence for faculty and students can make a difference.

**DISCUSSION**

Role modeling is at the heart of professional character formation. Excellence in professional practice is learned in and through experience and critical reflection on its expression in the clinical encounter. Knowledge and skills are essential, but putting them together in a competent and caring response to patients’ needs is learned in personal interaction and role modeling. We must focus our attention more critically on this fundamental aspect of physicians’ professional character formation for the benefit of both faculty and learners.

Several challenges present themselves in translating the insights and perspectives of disciplines outside medical education into effective educational influences including time, competing demands, and the difficulty in developing and evaluating valid strategies. First and foremost, we urge focusing on the experience of the “critical participants,” medical students, residents, and faculty. We need to

- assist learners to develop strategies for identifying good and poor role modeling and conscious reflective maneuvers to deal with the potential influence of these models, and
- develop safe spaces where negative role modeling can be reflected upon and translated into an effective learning experience.

Second, however, we must focus our attention beyond individuals to the institution and its modeling of values. Many of the values learned from the hidden curriculum warn students and residents against becoming too reflective and introspective. They warn against critically examining the forces and processes that shape their professional character. We agree with Hafferty that real reform will remain elusive until we create structures that facilitate critical reflection more broadly. The institution, and the values and role models it privileges and prizes, is central to any serious reflection on role models in physicians’ professional character formation. Although we need strategies to improve role modeling, attention to what is modeled in medical education must be multifaceted, requiring an institutional philosophical position, specific educational approaches, and an inspired psychological outlook that embraces and promotes professional character as a core attribute of physicians’ self-conception and medical practice.

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**REFERENCES**


