Minding the Form That Transforms: Using Kegan's Model of Adult Development to Understand Personal and Professional Identity Formation in Medicine

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Abstract

The formation of a physician's professional identity is a dynamic process shaped by and intertwined with the development of that person's larger adult identity. Constructive-developmentalist Robert Kegan's model of adult development describes four mental lenses used for meaning-making and the trajectory through which they transform over time. These lenses determine the way people take in and integrate complex influences into forming their adult identities.

When people use a particular lens to construct meaning, Kegan describes them as being "subject" to that lens: The lens "has them," and they are unaware of the ways it shapes their world. Transformations occur when individuals are able to take a lens to which they were subject and regard it objectively. Kegan's lenses that are relevant to medical educators are called *instrumental*—focused on rules and rewards; *socialized*—attending to social norms and expectations; *self-authoring*—seeking to build internal values; and *self-transforming*—seeing gaps in one's closely held value systems and being open to those of others.

When individuals have difficulty facing current challenges, they begin to grow a more complex lens. Subsequent lenses bring the ability to deal with more complexity but also bring their own challenges. Familiarity with Kegan's model can help educators provide more effective support to groups of learners as well as individuals, support learners' transformational growth through the challenging situations inherent in medical education, and supply a common language for many important areas of medical education, including competencies and entrustable professional activities, remediation, leadership development, and curriculum planning.

The formation of a physician's professional identity is a dynamic process shaped by and intertwined with the development of that person's larger adult identity. Both are influenced by many internal and external factors and can be viewed through a variety of complex theoretical perspectives.[1] For medical educators, however, a single framework is desirable to help us understand both processes simultaneously and to inform efforts to support our learners' growth.

We find that Robert Kegan's theory of adult development provides such a framework, allowing us to focus on development of personal identity, professional identity, or both together. Drawing on Kegan's writings and our experiences as clinician educators, we describe how this model illuminates the mental structures that support identity development and how they can transform over time. Through two examples, we illustrate how Kegan's model explains the very different ways groups of learners might see their professional responsibilities. Finally, we describe how, as medical educators and communities of practice, we can use these ideas to better understand and support our learners, our peers, and ultimately ourselves.

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Background

Kegan's model of adult development

Robert Kegan is a constructive-developmental psychologist. Constructivists believe that meaning in any given situation is not predetermined but is actively constructed in the minds of individuals. The act of giving a pat on the shoulder, for example, could mean a show of empathy but could as easily be understood as an act of condescension. Constructive-developmentalists believe that people progress through qualitatively different stages, or forms, of mind, each with a specific mental lens capable of constructing meaning in a manner more complex than the one before.

Kegan's inspiration was Piaget, a constructive-developmentalist who described the relatively predictable developmental trajectory from infancy through young adulthood.[2] Kegan, interested in adult minds, carefully elucidated a model explaining how adults develop increasingly complex meaning-making lenses following a fixed trajectory, although not at a predictable pace.[2,3] Indeed, empirical research using Kegan's model supports his prediction that at any particular age, a group of adults will include people at different developmental levels,[3–6] and also supports his prediction that individuals further along this trajectory are better able to respond to complex work and life challenges.[7,8]

General constructivist theories have been introduced into the medical literature before,[9,10] as has the suggestion that Kegan's model may be useful in describing medical learners' professional identity formation.[5,6,11–14] Cruess et al[12–14] have written extensively about professional identity formation, and while they reference Kegan's model, they, like

others,[11,15–21] focus more on the role that social forces play than on what learners' own internal processes contribute. Kalet et al[6,22] draw on Bebeau and colleagues'[23,24] adaptation of Kegan's model to probe medical students' professional identities and provide formative feedback. Although Kegan's work is important to these authors, none highlight Kegan's transformational "subject–object move," the dynamic process underlying growth and change in a person's meaning-making structures that we find critical to understanding how personal and professional identities are constructed and reconstructed over time.

Meaning-making lenses and the "subject–object move": The form that transforms

Detailed descriptions of Kegan's model can be found elsewhere.[3,25–28] In brief, when people use a particular lens to construct meaning, Kegan describes them as being "subject" to that lens: The lens "has them," and they are *unaware* of the ways it shapes their world. As people sense that their epistemological, or meaning-making, lens is impeding their successful navigation of new challenges, they start developing a new lens derived from, but more complex than, the previous one. Through this new lens, individuals begin to see how their old lens shaped their understanding, including the blind spots and distortions it introduced. They are no longer subject to that lens; rather, it has become an object they can hold in their mind and examine. Simultaneously, they become subject to a new lens. (See Chart 1 and Figure 1 for illustrations of these concepts.) Kegan calls this transformative developmental step an epistemological "subject–object move."[2,3,25–28]

For example, toddlers use a lens that equates what they see to what is true. So, a tall thin glass absolutely holds more water than a short wide glass because it appears to, even if the child himself pours the water back and forth without spilling any. In Kegan's terms, the child is "subject to" this meaning-making lens. The child cannot see how it shapes his thinking or its inherent distortions. Further, the child cannot fathom another way of knowing. Older children still see that the taller glass appears to contain more water, but use a transformed lens to consider that idea objectively. They conclude that despite how it looks, if no water was added or subtracted in pouring, the amounts must be the same.

Kegan identifies four increasingly complex epistemological lenses used by adults to construct meaning. Those most relevant to medical educators are the *instrumental*, *socialized*, and *self-authoring* lenses, as these are most frequently found during young and middle adulthood. The *self-transforming* lens, although rare and generally not seen until later adulthood, is also important to understand because it provides increased capacity for facing complex challenges. Here, and through two examples, we describe these lenses and their relevance to medical educators.

People using an *instrumental* lens see a world of rules to be navigated carefully while maximizing personal rewards and minimizing punishments. Rules and consequences are determined by authorities, and individuals need not agree with or understand their rationale to make their way through or around them. As people begin to sense larger concerns, their instrumental lens becomes an object, and they start growing a *socialized* lens that sees upholding

Chart 1

Overview of Kegan's Adult Meaning-Making Lenses and the Trajectory Through Which They Transform Over Time[a]

	Individuals with each lens …			
Lens[b]	**… are "subject to" (how they make sense of the world, operates outside of their awareness) …**	**… can "make object" (can reflect upon) …**	**… are motivated by …**	**… make sense of their professional identities by …**
Instrumental lens	… their own desires/needs.	… others' opinions, external rules.	… maximizing personal rewards/ minimizing punishment.	… keeping their eye on the prize and successfully satisfying all requirements.
Transformation: growth through subject–object move				
Socialized lens	… expectations of important groups.	… their own desires/ needs.	… maintaining relationships/ upholding group norms.	… adopting perceived professional norms and values of important others.
Transformation: growth through subject–object move				
Self-authoring lens	… personally defined value system.	… expectations of important groups.	… forming and upholding personally defined values.	… crafting and owning a set of personal values that build on experiences with norms and values of important others.
Transformation: growth through subject–object move				
Self-transforming lens	… valuing perspectives from multiple and possibly conflicting systems.	… personally defined value system.	… seeking to recognize/ overcome blind spots in carefully crafted value systems.	… learning from multiple perspectives to address increasingly complex problems.

[a]The four adult meaning-making lenses in Kegan's model of adult development and the trajectory through which they transform over time.[3,25,26] Meaning-making lenses shape an individual's approach to the world, and the individual is subject to their effects, unable to see the limitations the lenses bring. Transformation to a new lens occurs as the individual is confronted with situations where the previous lens has proved to be inadequate. The new lens subsumes the previous one, which becomes an object available to be held in the mind and examined; this transformation, which brings new capacities, is the "subject–object move" noted in the chart. Kegan's model predicts that individuals further along this trajectory are more successful in responding to complex work and life challenges.

[b]The four adult lenses in this column are listed in the order of the trajectory of their transformations over time, with the instrumental lens, at the top of the column, being the first.

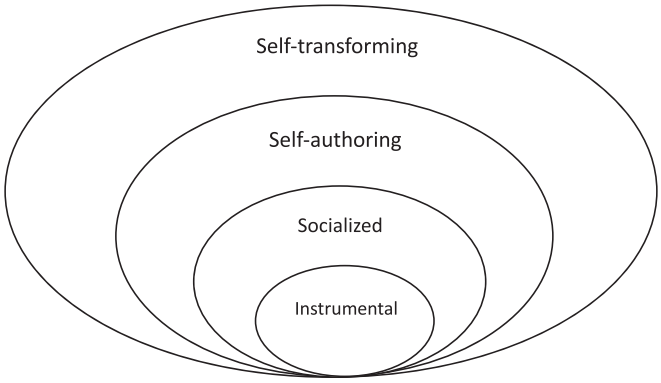

Figure 1 The four adult meaning-making lenses in Kegan's model of adult development and the trajectory through which they transform over time, from the instrumental lens to the self-transforming lens.[3,25,26] Meaning-making lenses shape an individual's approach to the world, and the individual is subject to their effects, unable to see the limitations and biases the lenses bring. Transformation to a new lens occurs as the individual is confronted with situations where the previous lens has proved to be inadequate. The new lens subsumes the previous one, which becomes an object available to be held in the mind and examined. Kegan's model predicts that individuals further along this trajectory are more successful in responding to complex work and life challenges.

norms within meaningful social groups and important relationships as critically important to who they are. Although these norms are set by others, individuals using a socialized lens adhere to them to strengthen relationships with and to be accepted by members of these groups, rather than to seek personal reward or avoid punishment per se.

However, meaning-making with a socialized lens can become confusing and exhausting as individuals notice how competing norms pull them in different directions. Sensing the futility of devoting themselves to the values and expectations of others, they begin to make an object of their socialized lens and develop a *self-authoring* lens. When fully formed, this new lens allows people to use their prior experiences to choose their own values, adjudicate conflicting expectations, and direct their own actions. Finally, individuals with a *self-transforming* lens (rarely fully achieved) take as an object their carefully constructed ways of viewing the world, see that these ways are inevitably incomplete, and seek other perspectives for a broader understanding.

Kegan posits that these transformational subject–object moves entail hard work and occur gradually in response to a need—if no need arises, there is no reason to grow. The stimulus to change comes from what Mezirow, the father of transformative learning theory, calls a "disorienting dilemma" in which persons cannot make satisfactory meaning of their circumstances because of limitations of their current lens.[25,29] To resolve the situation, they must grow a new lens, making an object of their prior way of knowing. The link between Kegan's lenses and concrete actions cannot be discerned from those actions alone but, rather, requires exploring how individuals make meaning from a situation and how that meaning informs their behaviors. To illustrate further, we turn to two examples drawn, respectively, from the domains of professionalism and clinical decision making.

Examples

Example 1

Consider the following six first-year medical students, who are contemplating skipping a clinic-based skills session to study for the following day's basic science exam. All are good students but are struggling with the course work to be tested, and all, if asked, would voice the goal of becoming the best doctor possible.

Two of these students, subject to Kegan's *instrumental* lens, are focused on rewards and punishments. One sees maximum benefit in getting good grades and no real consequence for missing a clinic. The other knows the reward of a good grade but has heard that clinics sometimes report student absences, which he worries could appear in his permanent record. The first goes to study, seeking a good grade; the second goes to clinic, avoiding the possible penalty for skipping.

Two other students use Kegan's *socialized* lens, having made an object of the instrumental lens. They worry about their grades but appreciate that just attending to their own needs is insufficient. They make sense of the situation by looking to how important role models, representing their future profession, would want them to respond. The first knows her preceptor values being present where scheduled, so she goes to clinic. She remains conflicted, though, because she sees that the course director expects students to give their full attention to the course content. The second follows the course director's lead and prioritizes studying but is stressed because she believes that her preceptor would disagree. For those subject to the *socialized* lens, conflicting messages from important others can be especially difficult to navigate.

Last, two students have access to Kegan's *self-authoring* lens. This allows them to make an object of their desire to fulfill these conflicting expectations and to construct a way to make decisions based on personally cultivated professional and personal values. These two students see different immediate priorities and know they cannot please everyone. The first focuses on a personal agenda to develop outstanding clinical skills early in medical school and attends clinic despite knowing that her exam grade might suffer. The second prioritizes her desire to attain a competitive residency position and skips clinic to study. Each is aware that a respected academic advisor could disagree with her choice, but because her decisions are aligned with her chosen values, she willingly accepts the consequences.

In this example, where skipping a clinical session to study could be seen as unprofessional, Kegan's model helps us appreciate (1) how learners with *different* lenses see their choices and (2) how learners with *similar* lenses can still choose different actions. When trying to understand behavior, knowledge of this model can guide consideration of meaning-making lenses and the potential limitations they introduce. Additionally, we can appreciate here that learners who generally do "the right thing" rarely come to our attention, although they likely also represent a spectrum of meaning-making capacities.

Example 2

Let's now look at three junior residents' clinical decision making at a pediatric walk-in clinic for sick children. The attending physician advises residents against providing missing vaccines to children who are behind on routine immunizations, believing this causes parents to skip important well-child appointments. Despite this, all three residents order vaccines for such children. The first does so because he worries about getting reprimanded for disregarding published recommendations to give vaccines at every opportunity (*instrumental* lens), the second because her beloved childhood pediatrician did (*socialized* lens), and the third because seeing results of both approaches has led him to believe that giving vaccines is more important than undermining well-child visits (*self-authoring* lens). All three residents could have made the opposite choice—the first seeking a good evaluation, the second conforming to this attending's practice, and the third having internalized that the missed routine well-child checkups are a serious problem.

When cosigning the residents' notes, the attending faces his own disorienting dilemma, seeing that the residents did not follow his lead. Reflecting on this over time, he might challenge his own way of making meaning in this situation and open himself to his own lens transformation. If he was moving beyond *self-authoring* toward *self-transforming*, he might step back from the question of whether to offer vaccines at walk-in sick visits and ask why vaccines are delayed in the first place, unmasking questions around access to care or conflicting cultural beliefs in the community he serves. He might begin to challenge not just the "established wisdom" but *his own* carefully constructed ways of making meaning, enabling him to see new options through working with and learning from others whose values and lenses he may neither understand nor agree with.

Transformative Learning, Adult Development, and Professional Identity Formation

Robert Kegan's model of adult development offers medical educators unique insight into the process of professional identity formation. By focusing squarely on learners' meaning-making structures and how they transform, it provides an actionable view of how we can support our learners' transformational growth. By presenting a common trajectory, he connects us to our learners and allows us to fulfill the important responsibility of preparing students with more than just the skills and knowledge of a competent physician.[11,30]

Although in this article we focus on the individual, we recognize the importance of relational and collective influences on identity formation. Like others, we believe that learners construct their professional identities from their social surrounds in a dynamic continual process,[1,12–21,31–33] trying on different identities in search of a good fit.[34] But like Kegan, we see *personal* development as the root constructive-developmental process, with each epistemological lens seeing the professional environment in a different way and therefore providing different raw material to the professional identity formation process.

While Kegan's model describes the whole of adult development, much of the medical education literature focuses on the move from using a *socialized* to a *self-authoring* lens.[35] For some learners, however, the earlier move from an *instrumental* to *socialized* lens has not been fully accomplished and remains relevant.[5,6,24] Medical school can be the first time students experience "becoming a doctor" as more than securing the necessary grades and recommendations to "get in." The struggles of students who appear unable to incorporate larger concerns often perplex medical educators. Just knowing that everyone still harbors an *instrumental* lens, and that some have not yet developed a more complex one, can help us move beyond frustration toward supporting learners' growth.

The *socialized* lens, however, is the most common in young adults.[3–8] It allows learners to engage in expected professionalization processes but brings its own challenges. Specifically, because these individuals are attuned to learning the profession's norms and mirroring important teachers and role models, they are truly challenged by the conflicting messages common in our educational and clinical learning environments—brought about by the so-called hidden curriculum. As educators, we must attend to explicit and implicit values present in these settings and help learners reflect on problematic conflicts. It is with guidance and role modeling by thoughtful colleagues and mentors that they can begin to see contradictory messages objectively and learn to manage them effectively.

Learners subject to this lens also struggle with conflicts between expectations others have of them as early medical professionals and expectations of them as members of other important identity groups such as family, community, and religion. Educators can look out for learners struggling with the limitations of their *socialized* lens and help them build capacity to take a *self-authoring* approach. Both personally and professionally, becoming *self-authoring* allows people to look objectively at the forces shaping them and move toward actively questioning them. This aligns with Hafferty and colleagues'[20] admonition that professionals must develop the capacity to navigate between the processes of submission and subversion to lead the evolution of their profession.

Kegan notes that each developmental move requires a series of disorienting dilemmas, and such challenges are plentiful in the medical education environment.[15,31,33,36–41] It is possible, however, for these dilemmas to overwhelm learners' confidence in stretching themselves to transform. Building on Kegan's bridge metaphor,[3,25] we have come to think of being in this transformational space as traversing a bridge as one builds it, the near end anchored in the traveler's current form of mind with its familiar lens and the far end in a foreign-feeling but objectively definable place. This process occurs in fits and starts, and persons frequently spend as much time on the bridge as on either side. Knowing this sheds a different light on our responsibility as educators to respond with empathy to learners who are tempted to retreat to more comfortable ways of knowing and to support their growth by acknowledging their journey and assuring them we believe they can get to the other side.

Questions invariably arise about whether an educator can or should determine the

exact Kegan lens a learner or group of learners is using, and if that information can improve their work. For us, knowing the contours of the journey is more useful than knowing where someone is at any particular moment. First, there is no simple way to collect those data. For their research, Kegan et al created the highly structured and time-intensive Subject–Object Interview to determine the participant's most complex lens.[42] The resulting "score" represents the most developed capacity expressed in response to probing questions from a trained interviewer. Others[6] are studying simpler ways of measuring stages of professional identity, but the process remains resource-intensive.

Further, identifying a person's most developed lens does not tell us which lens they will use in any given situation, and there is no evidence that reaching a particular capacity at a specific age predicts behavior or future development. Thus, we think the model's strength lies in providing a road map to guide interactions with groups as well as individual learners. For example, any group of adult learners likely includes members with different lenses. Kegan's model prompts us to consider communicating expectations in multiple ways, so the reason to fulfill them resonates with everyone. For instance, we can speak to *instrumental*, *socialized*, and *self-authoring* learners at once by being clear about our grading system while emphasizing community values around diligence and trustworthiness, and noting that those are values each physician comes to own in their own way as they work to provide the best care to their patients.

When interacting with individuals, Kegan's model inspires us to wonder about our current learners' lenses and to approach discussions of our expectations and those of our profession with the developmental trajectory in mind, varying our approach until we find one that resonates. One exception to our hesitation to investigate a learner's exact meaning-making capacity might be when we observe a pattern of unprofessional behavior and that person seems unable to grow in response to disorienting dilemmas. Here, having more details could potentially guide directed developmental support.[23]

Like all theories, this one comes with caveats. Overenthusiastic application might engender blind spots for other ways to explain behavior[43–45] or lead educators to "push" learners along bridges being built. Epistemological bridge building is hard work, and Kegan is clear that movement comes from within the individual; it can be supported but cannot be rushed. Additionally, the temptation to equate more advanced lenses with "good" values or "better" behavior is strong; it is important to remember that the model describes the lens used to make sense of a situation, not the values entailed or the actions that ensue.

Although beyond the scope of this article, we see this model informing many aspects of medical education, from admissions and grading policies to curriculum development, remediation, and academic advising. We believe that taking Kegan's ideas into account can also provide new perspectives on, and deepen the conversations around, milestones, competencies, and entrustable professional activities. Further, this model can guide leadership development, as oversight of our complex adaptive health systems in an environment of volatility, uncertainty, complexity, and ambiguity likely requires individuals who have begun to develop *self-transforming* minds.[27,28] Finally, sharing Kegan's model with learners might provide reassurance that they are not alone in their journeys, easing some of the struggles ubiquitous in medical education for them and those they go on to teach.

In summary, we have described the transformative subject–object moves central to Robert Kegan's model of meaning-making that we believe underlie and connect personal and professional identity formation. Kegan's work shows us that although we might see more complexity than our learners do in a particular situation, their lens was once ours. We can use a working knowledge of Kegan's model to inform our educational activities, meet learners where they are, and support them as they grow into professionals who can navigate the complexities of health care and lead the profession into the future.

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