

## **Educational Assumptions: Deadening and Enlivening**

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Contemporary medical education is so thoroughly steeped in some assumptions about learning that most teachers and learners quite naturally assume there is no other way of conceptualizing the work of teachers and learners. But such assumptions are not always warranted, and in some cases they may do more to constrain than liberate educational excellence.

Among such assumptions are the following: that what the learner seeks from the teacher is knowledge and skill; that knowledge and skill are universal and paramount, whereas the distinctive characteristics of the teacher (and learner) are unimportant and arbitrary; that the knowledge teachers have to offer can be acquired just as well through recorded media as through live, in-person interaction; that it is possible to work on particular domains of knowledge and skill, one at a time; that education has succeeded when learners can demonstrate particular types of knowledge and skill; and most fundamentally, that education is a matter of transmission.

In fact, however, each of these assumptions is just that—an assumption. Such assumptions are neither fully proven nor inevitable. If teachers and learners proceeded with a different set of assumptions, they would arrive at a radically different understanding of the nature and ends of education. They would also produce radically different educational outcomes—outcomes that in important senses represent improvements over the educational outcomes we are currently pursuing.

Of course, we cannot change our deepest educational assumptions like a suit of clothes, but at the very least, we can gain a deeper appreciation for the nature of the assumptions we are operating with. For some

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This is the author's manuscript of the article published in final edited form as:

Gunderman, R. B. (2018). Educational Assumptions: Deadening and Enlivening. *Academic Radiology*, 25(7), 962–963. <https://doi.org/10.1016/j.acra.2018.02.015>

at least, it may also be possible to move toward deeper, richer, and ultimately more fulfilling mental models of the work of teachers and learners.

Consider the first assumption; what learners seek and what teachers have to offer are knowledge and skill. Every aspect of contemporary education is deeply imbued with this notion. Teachers, learners, educational institutions, and whole professions operate with curricula that are supposed to be taught and learned, regardless of who happens to be doing the teaching and learning. We presume that learners can select courses, teachers, and schools more or less arbitrarily, and that they will learn more or less the same thing regardless what choice they make.

On this account, learners and teachers are understood to be mere storage devices that happen to house knowledge, much as a computer's memory might be used to store a certain dataset. What matters is not the drive on which the data are written but the data themselves, and whether learners can demonstrate that they have retained them.

A key problem with conceptualizing education and knowledge as skill acquisition is that it omits the person of both the learner and the teacher. On such a model, teachers have no deep reason to get to know learners as people, and the same applies in reverse to learners. If a teacher asks a few biographical questions about a learner, it is likely to be nothing more than social pleasantries or a kind of idle curiosity, as knowing the other party adds nothing to the achievement of the task at hand.

The underlying assumption is that each learner and teacher is eminently interchangeable, like a cog in an educational machine that operates on utterly impersonal principles. The increasing use of standardized examinations and computers to administer them has only amplified this tendency to see teachers and learners as little more than information repositories.

The second assumption, that knowledge and skill are universal, has equally far-reaching and problematic implications. When the educational emphasis is on universal curricula and learning objectives that apply

across the board to all teachers and learners in a particular discipline, paying attention to the particular teacher and learner involved in any particular educational interaction loses all meaning and relevance.

This makes perfect sense if our primary means of assessing learning is standardized examinations that treat all learners and teachers the same by ignoring attributes in terms of which they might appear distinct from one another. On these terms, education represents a kind of mass production. If this is how we approach teaching and learning, however, we should not be surprised when both teachers and learners regard education as devoid of meaning and uninspiring.

This mass production model of education makes the teacher little more than a content deliverer, like a pizza delivery person. All the thinking that needs to be done on the educator side occurs even before the encounter with the student takes place, and the educator needs only to run through the paces. What learners need is in the textbook or other pre-packaged learning materials. In the interests of efficiency, lectures and the like can be recorded once and simply replayed for each group of students. Learners know they are getting the exact same instruction as every other group of learners.

The problem, of course, is that such an approach reduces distinct human individuals to the roles they play as students or teachers and diagnostic or interventional radiologists. What they know and can do completely sweeps away any appreciation for who they are.

These assumptions also fragment knowledge in a peculiar way. They imply that all teachers and learners need to do is to move from content area to content area and from skill set to skill set. One day we talk about lung nodules, the next about urinary obstruction; one day we learn about the Seldinger technique, the next about how to query the hospital information system.

Such a piecemeal approach may enable teachers and learners to cover the entire curriculum, but in approaching education in such a fragmentary fashion, it threatens to fragment both teachers and learners. There is a big difference between merely collecting all the parts of a complex machine and actually

assembling them in such a way that those parts can function in a coherent and integrated fashion. To fully grasp the nature and significance of each part, we need to understand it in relation to the whole.

To assume that merely demonstrating the acquisition of knowledge and skill provides sufficient evidence of educational attainment is to seriously oversimplify and distort the true nature of education. A good radiologist is not simply someone who can pass in-training or board certification examinations or demonstrate proficiency in skill testing. A good radiologist is a person we can respect and trust, and perhaps even admire.

The ability of candidates to pass a standardized, computer-based examination does not prove that they have a good work ethic, tend to foster good relationships, or put the best interests of patients before their own. Knowledge and skill are essential attributes of a good radiologist, but they are far from sufficient, and a truly comprehensive and robust system of education needs to take into account a more complete vision of outcomes.

The assumption at the core of these problems is the notion that education is strictly a matter of transmission—of conveying knowledge and skill from the full vessel of the teacher to the empty vessel of the learner. If that were true, we could do away with teachers almost completely, simply writing the textbooks and recording the lectures and then relying on learners to study them until they are able to pass the tests. But education is not about mere transmission.

Education is also and perhaps more essentially a matter of emulation. We need to learn not only what to say and do but also how and why to do so. And it is the how and the why, every bit as much as the what, that distinguish between radiologists who are merely adequate and those who truly excel. To appreciate the importance of this perspective, each of us needs merely to reflect on the radiologists we admire most.

In fact, education is not just a matter of emulation. It is also about transformation. Education should not merely equip the learner with knowledge and skill but also transform the learner into a more thoughtful,

more collaborative, and more dedicated person, a professional adept at distinguishing between what is merely acceptable and what is truly worth striving for.

Here the personality, the way of working and living, and the character of teachers and learners come fully into play. More than knowledge and skill, education needs human examples—in fact, exemplars. Learners need to encounter teachers who do not just get the work done but who work with real passion, whether in patient care, education, research, or professional service. Great teachers are not merely competent but also enthusiastic, and the same applies to great learners.

All teachers and learners are human beings, and human beings are more than merely cognitive and technical creatures. We are also relational creatures, whose flourishing depends on fostering thriving relationships. Education at its best—and we should strive for nothing less—is about establishing and building such relationships, in which the people involved care about each other at least as much as what is being taught and learned.

Only when teachers and learners respect, trust, and care for each other is truly transformational education possible. In thinking about excellence in education, we should focus less on curricula and examination scores and more on the kinds of transformation that education is fostering—the extent to which it is bringing out the best that teachers and learners are humanly capable of.