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## It's All About Time!

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*In pondering the many challenges of basic skills education, Shulman finds inspiration in the advice of one of his mentors, Benjamin Bloom.*

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Imagine a patient wheeled into an emergency room after a massive coronary. The attending physician examines him and declares that the heart attack, while serious, is appropriate for treatment. "Our policy is to allocate four days for the treatment of such conditions," she states. "What if that isn't enough time for the required treatment to have an effect?" "We'll just have to give your infarct a C- and move you out."

Is that as crazy as it sounds? Of course it is. But it's also the way we design and manage much of our educational system—It's all about time!

As a graduate student at the University of Chicago in the early 1960s, I worked closely with Benjamin Bloom, who is best known for the Taxonomy of Educational Objectives. We were re-analyzing longitudinal data sets that tracked the physical, intellectual and educational development of youngsters from early childhood to young adulthood. We were eager to understand what kinds of interventions, at what points in a child's life, would be most effective in improving growth and development, both physically and cognitively. Bloom's work was one of the major influences on the development of the federal Head Start program (and on me, a grateful and impressionable graduate student). He remained interested in the timing and quality of educational interventions until the end of his career.

After earning my doctorate and becoming a faculty member myself, I scheduled visits with Bloom at least once a year just to touch base. I recall a visit sometime around 1968; I was eager to tell him about my own work at the time, a study of how physicians make difficult diagnoses. And what I remember very clearly is that I got about three minutes into my story when Bloom jumped to his feet (was it something I said?), and exclaimed, "Lee! There's something else we must talk about." He had been reading the work of the psychologist of language John Carroll and his model of school learning. He agreed with Carroll's conclusion that the greatest barrier to student learning is the insane way in which we use time. Bloom proclaimed, "It's all about time!"

The reason students fail, Bloom proceeded to explain, is not that they're not smart. It's that they need more time to succeed, and time is precisely what educators fail to give them. What had become increasingly clear to him is that nearly anybody can learn nearly anything given enough time. He noted that what we've done instead, is create a system of schooling that guarantees that only a tiny fraction of

our students ever achieve the highest levels of success. Our fundamental error, according to Bloom (and John Carroll before him), is that we treat time as a constant and permit achievement to vary. Bloom argued that we must begin to treat achievement as a constant while we design time to be variable.

This idea struck Bloom like a lightning bolt. He proposed a veritable Copernican revolution in our conception of the relationship between time and learning. Time must be permitted to vary in the interests of maximizing learning. Education cannot be treated like a football game with only 60 minutes of playing time.

The Carnegie Foundation is currently involved in a project with California community colleges committed to improving the success of students who are underprepared to succeed in college-level courses. We're working with faculty to identify the most powerful interventions. The failure rate in these "developmental" courses is stunningly high. Far too many students enter the revolving door of developmental education and never succeed in moving on to credit-bearing courses. The project is both inspiring and daunting, and it's got me thinking about Bloom's point as a different way to think about student success. Rather than treating time as fixed and success as variable—the usual formula in our educational system—I believe we need to initiate a reform that begins by reversing the two. Otherwise, we are destined to guarantee that student success rates look just like a normal curve or worse, like a skewed distribution in which only a small number actually achieve sufficiently to succeed.

Bloom's point, and mine, is that the normal curve ought to be emblazoned on the hearts of every teacher as a symbol of failure rather than as a representation of natural law. Learning should never result in a normal curve. It should result in a kind of "J curve" in which most students end up clustered at the successful end of the continuum. And the only way that can happen is if we permit time to vary.

Bloom's answer to this realization was to spend the next 15 years developing an approach called "mastery learning." Learning for mastery was Bloom's attempt to take these ideas and work with educators all across the country to design programs of instruction where success was fixed, where time was variable, where the quality of instruction was modified, adapted and redesigned to insure that students experienced enough success to persist in their efforts.

I'm not suggesting we revive the somewhat dormant methods of mastery learning. (Its rise and fall is another story altogether.) The notion that a single predetermined level of mastery for all students in all courses is problematic. We can't increase time without limits for all students and all subjects. And time alone cannot succeed without also improving the quality of instruction and student persistence. But I am suggesting that the most powerful approaches to learning, especially to the learning of students who have not been well served by the educational system and who therefore find themselves in "developmental" courses, means being willing to think differently about the relationship between time and achievement. And once you break the shackles of time, you will find yourself imagining ways to improve teaching, learning, student motivation and course design that can make a real difference. I'll talk a bit about those differences in next month's Perspectives.

Perspectives

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