

From Uniformity to Personalization: How to Get the Most Out of Assessment

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The potential for assessment to inform the improvement of curriculum, teaching, student performance, and institutional effectiveness has never been greater. Indeed, in a world of online and hybrid courses, adaptive learning systems, open educational resources, and so-called “action analytics,” we have — it would seem — an unprecedented opportunity to measure our students’ grasp of fundamental concepts, assess their ability to problem solve through interactive tasks, and provide them with relevant remediation on a just-in-time basis with the aid of some truly innovative technologies.

So why aren’t our students performing better?

In some respects, the challenges are technological, but in other respects the challenges speak to something more fundamental.

A long time ago — back in the early 1990’s, when I was still teaching, before the World Wide Web, before the smartphone, when cameras still had film in them and a token got you onto the subway — I was leading a discussion on the Douglas Coupland novel *Generation X* with a class of 25 undergraduates. A young woman in the front of the room raised her hand, seeking clarification about one of the novel’s principal characters, and asked, “Is Dag a dog?”

After pausing for a moment, I turned the question back on the class and asked if there was any evidence in the text that the character Dag might not be a dog.

“Well,” offered one young man in the back, “he can drive a car.”

Traditional face-to-face instruction has always permitted a wealth of real-time clues — sometimes subtle, sometimes not so subtle — into the performance of our students, from those deer in the headlights moments to those occasions where students are able to show us just how smart they really are.

But because educational technology can track everything from logins to mouse clicks, can measure time on task, calculate test scores in real-time, and prevent students from proceeding through course materials until they’ve demonstrated competence with the task at hand, it should be able to provide us with more helpful clues than ever before about our students’ level of engagement with and mastery of course materials and subject matter. So why doesn’t it? How can technology help us to get the most out of our assessment efforts?

Viewpoint

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This summer I've posed that question to a number of people I thought might have an answer – experts from educational publishing, from technology companies, from online institutions, as well as CIOs at research universities. I wanted to know if the disruptive innovations we've been reading so much about were really impacting the way students learn and the way instructors teach. Moreover, I wanted to know if they were changing the way we assess learning and undertake the work of education for the better.

Their answers were equivocal. Many saw great promise in these technological tools, but nearly all agreed that we still had a ways to go before these tools would lead to significant improvements in teaching and learning. Why?

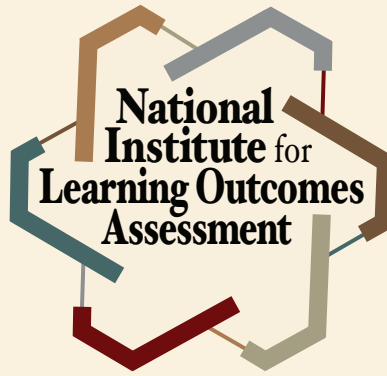
For one thing, the diverse technologies we rely on still don't play well together. Executives from technology companies pointed to the absence of an integrated data backbone as a critical obstacle that frustrates our ability to make good use of the data we do have. Furthermore, there may well be too many variations in the way we attempt to teach relatively standardized curriculum. Publishers pointed to the absence of a consistently structured, cohesive learning experience as an obstacle to effective measurement, reporting, and remediation. The seemingly paradoxical fact is that in order to realize the potential for personalization and adaptive learning, we need integrated systems and a more consistent approach to teaching.

Yet the most fundamental challenge, according to Lev Gonick, CIO at Case Western Reserve University, is that we don't really have a good science of learning. "We haven't caught up with brain science," Lev told me. "If we look ten years into the future, I would hope to see some version of what we might call a 'learning genome project.' We know something about the human genome. A learning genome would support personalized learning in the way that the human genome supports personalized healthcare. A learning genome could lead to a scientific, personalized schema that would allow universities to leverage technology to provide customized delivery of core content based on the learning profile of the individual student."

We've always had assessment. It is not some newfangled thing. Assessment is core to what we do as educators. And, likewise, there have always been ways of remediating, even without innovative technologies.

But there is still an opportunity to do assessment better. It's just that doing it better will take work, as well as investment. The challenges, of course, are not insignificant. Can faculty accept greater standardization of core content if it supports higher quality data that ultimately permits more personalized learning? Can universities, publishers, and technology companies converge on a set of common standards and long-term investments to enable better data management and reporting? I hope so — because until then, our assessments won't be working up to their potential.

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