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By Marc Prensky

Khan Academy

Has everyone seen the Khan Academy math videos? If not, you certainly should make a beeline to them at www.khanacademy.org . And, while you're at it, watch Khan's TED talk at http://www.ted.com/talks/salman_khan_let_s_use_video_to_reinvent_education.html .

There's a lot of very good news there. We should all applaud what Salman Khan has done for the kids, and be sure all teachers can use it. But, contrary to what we hear from Bill Gates and others, it's not "the future of education," but rather just a step along the way.

First the good news. For what it is—You Tube lectures, with examples and tracking, the product is very good. And, best of all, it's free. Salmon Khan is an excellent explainer; the kind of teacher every principal would love to have in front of every math class, but, of course, does not. His offering is quite comprehensive, with over 2,300 lessons currently online. They are branching out from math to other subjects.

What Khan Academy represents is the first comprehensive realization of a dream that many have had since the inception of computers, and online video: that every student could have access to a great explainer, and, moreover, could watch that teacher's explanations over and over, as often as the student needs. Khan has worked examples, a dashboard for a teacher or tutor (showing, among other things how many times each video has been played, what examples were completed, how the student did, and other useful features, like when they have gotten 10 problems in a row right).

At the heart, it's the infinite replayability of all or parts of the videos that really seems to matter. Students can ask to hear the explanation hundreds of times, without revealing their ignorance to the world or slowing their real teacher down.

And, if Khan is to be believed, a great many kids—perhaps even millions—are using it in that way, learning from it and improving their grades because of it (see the article in Business Week (http://www.businessweek.com/magazine/content/11_22/b4230072816925_page_4.htm)

Bill Gates says he and his kids use it. Heck, if, for some bizarre reason I had to relearn calculus, I—an ex-high school math teacher—would rush to use it myself.

But therein lies the other side of the coin.

For all the Khan videos are is *explanation*. It is explanation taken to a pretty high point of clarity and ease of access. It is also very stripped-down, with hand-written (BW calls them "blackboard-style) graphics, and without any "eye-candy" that e-learning companies often toss in. I learn well from clear explanations. I would bet that most of you do. All of our teachers probably do as well. And of course, many students do.

But not everybody does. I could be wrong (and hope I am), but my suspicion is that the bulk of the kids failing algebra today (why in the world are they obliged to take it?) are not the best at learning from explanations—even clear ones that they can watch again and again. Khan thinks the real issue for students is missing a particular concept and having the teacher go on anyway, following the one-size-fits-all, can't-stop-for-you curriculum. ("You haven't quite mastered the bicycle, but today we're on unicycles," he quips.) As many people do, Khan sees explanation as the best way to learn, as it was for him ("I teach the way I wish I had been taught," he has said.)

Khan says that his team is adding "game mechanics" to the site—not actual games, but badges and points which work as motivators. Far more significant, I think, is Khan's observation that teachers can use his videos to "flip" their pedagogy, assigning the online lectures as homework, and having the students work examples in class, with the teacher, and peers, right there as coaches. Khan's ultimate vision is to enable a worldwide network of peer tutors, available on demand. This is an excellent idea, I believe, similar to the kind of online support system that has been available for years for game players.

So what's missing?

Good as Khan Academy is, what Khan is essentially doing is "old things in new ways." He has not invented a new way to teach math; he has improved the delivery system of the old way. Of course, given where many of our kids are, this is not an insignificant step. But we also need—and the new technologies allow—*new* things in new ways. We need new, better ways for our 21st century kids to learn math, science, English, social studies and everything else. I believe that there are, in

addition to what we do now, other, better ways for many of our droputs and failing kids to learn: not just by hearing explanations and doing examples, but rather by doing real work in context, in fun and appropriate settings.

Unfortunately, these new ways of teaching and learning, such as, for example, games where people learn experientially and the teacher resumes and consolidates what is learned rather than delivering explanations, are much harder to think up and build than the "standard lectures with writing on the board" that Kahn offers. Creating thousands of these is not an undertaking that can be accomplished by oneself, as Khan did with all of his 2300 videos. (He now has a small staff to help with the dashboards and other add-ons.)

Khan has the mind of a great traditional teacher. But it requires a different, more unusual mind, and special skills, to be able to translate the standard curriculum into something new and engaging that truly teaches, and then helps the learners translate what they learn back into "schoolese" so they can perform well on the tests. Nobody yet has even tried to teach this way systematically. (Disclosure: I am about to.)

We should all applaud Salman Khan for many things: his working initially to help his cousins rather than to get rich, the clarity and breath of his explanations, his desire for his work to remain free and his refusal to sell out to publishers who would charge for it, his global vision for education, and, ultimately, for his desire to put kids first. Let's take his valuable gift and use it as far as we can.

But let's think of Khan Academy not as an end, but rather as a beginning. All of us with faith in technology knew that someday the right elements would come together, and online learning would find a wide audience, and be really useful. Hopefully, Khan Academy will become, because of its price (i.e. free) and ease of access, the major entry into schools that technology still needs. Let's all work to be sure our schools make the best of it, that nobody blocks a teacher who want to use it, and that it truly helps our students.

And then let's go even further.