The Role of Technology

in teaching and the classroom

By Marc Prensky

It has taken a while, but I think I have finally come up with a single, comprehensive and actionable statement of the role of technology in the classroom. This is crucial, because many educators are becoming confused and frustrated by the myriad approaches and ways of talking about technology's role.

Although much in twenty-first century K-12 education still needs to be figured out, such as creating a generally-agreed-upon twenty-first century curriculum, one goal is, I think, now clear – the pedagogy with which our kids should be taught. Although it can be stated in many ways, the basic direction is away from the "old" pedagogy of teachers "telling" (or talking, or lecturing, or being the "Sage on the Stage") to the "new" pedagogy of kids teaching themselves with teacher's guidance (a combination of "student-centered learning," "problem-based learning," "case-based learning," and the teacher's being the "Guide on the Side.")

Of course this pedagogy is not *really* new, except, at the moment, to many of our teachers. Every teacher and administrator is, currently, somewhere on a continuum between the old and the new paradigms. Our herculean task is to move all of them, around the world, to the new pedagogy as quickly as possible.

With this view of our goal (while some may disagree, it is becoming generally and widely accepted) we can now proceed to define the role of technology:

> **The role of technology in our classrooms
> is to support the new teaching paradigm.**

That is, technology's role – and its only role – should be to support students teaching themselves (with, of course, their teachers' guidance.)

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Technology does not, and cannot, support the old pedagogy of telling/ lecturing, except in the most minimal of ways, such as with pictures or videos. In fact, when teachers are using the old "telling" paradigm, adding technology, more often than not, gets in the way.

New Tools for Students

One reason that the pedagogy of students teaching themselves never caught on as the mainstream approach – although it has been advocated by many, certainly since Dewey and probably since Socrates – is that the available tools for learners to use just were not good enough. Until relatively recently all the kids had to teach themselves with were textbooks, the encyclopedia (if they had one), the library (when they had access, and if theirs was any good) and a few questions to a generally overworked teacher. This worked for some bright students, but not for most.

Today's technology, though, offers students all kinds of new, highly effective tools they can use to learn on their own – from the Internet with almost all the information, to search and research tools to sort out what is true and relevant, to analysis tools to help make sense of it, to creation tools to present one's findings in a variety of media, to social tools to network and collaborate with people around the world. And while the teacher can and should be a guide, most of these tools are best used by students, not teachers.

From this perspective, a number of previously puzzling things become clear:

- Some school districts added technology (e.g. by giving laptops to all students), but did not find that the technology was helping the kids' learning, and so took it out ("Seeing No Progress, Some Schools Drop Laptops" *The New York Times*, May 4, 2007.) This now makes sense – the district didn't first get all the teachers to change the way they taught.

- Many teachers resist being taught to use technology. This also makes sense – teachers *should* resist, because it is not they who should be using the technology to teach students, but rather their students who should be using it, as tools to teach themselves. The teacher's role should not be a technological one, but an intellectual one – to provide the students with context, quality assurance, and individualized help. (Of course, those teachers who love technology are free to learn and use it.)

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- Students routinely "abuse" (from the teachers' point of view) technology in class, using it, as one professor says, as "the new spitball." This, too, makes sense – kids have in their hands powerful learning tools that they are being given no opportunity to use to learn.

Students around the world are resisting the old "telling" paradigm with all their might. When their teachers lecture they just put their heads down, text their friends, and, in general, stop listening. But these same students are *eager* to use class time to teach themselves, just as they do after school when they go out and use their technology to learn, on their own, about whatever interests them. Students tell us, successful schools (mostly charters) tell us, and even our most successful teachers tell us: the new pedagogy works.

So before we can successfully introduce technology into our schools, we have to take a prior step. We must get our teachers – hard as it may be in some cases – to stop lecturing, and start allowing the kids to learn by themselves. Instead of coming in with lesson plans that begin "Here are the three causes of [whatever], please take notes," they need to say "There are three main causes of [whatever it is]. You have 15 minutes to use your technology to find them, and then we'll discuss what you've found."

If we can agree that the role of technology in our classrooms is to support the "new" pedagogy of kids teaching themselves with the teacher's guidance, then we can all move much more quickly down the road of reaching that goal. But if every person continues to talk about the role of technology in a different way, it will take us a whole lot longer.

This is part of a larger effort I hope to undertake with other educational thinkers to standardize our pedagogical language around technology, so that we can all be working toward the same goals, and all be requiring the same things from our teachers and students. Not that my words are necessarily the right or best ones, but, if we are to make the changes we want in a reasonable time frame, it is absolutely key that we all speak the same language.

Marc Prensky is an internationally acclaimed thought leader, speaker, writer, consultant, and game designer in the critical areas of education and learning. He is the author of Digital Game-Based Learning (McGraw Hill, 2001) and Don't Bother Me, Mom, I'm Learning (Paragon House, 2006). Marc is the founder and CEO of Games2train, a game-based learning company, whose clients include IBM, Bank of America, Pfizer , the U.S. Department of Defense and the LA and Florida Virtual Schools. He is also the creator of the sites www.SocialImpactGames.com, and www.GamesParentsTeachers.com . Marc holds an MBA from Harvard and a Masters in Teaching from Yale. More of his writings can be found at www.marcprensky.com/writing/default.asp . Marc can be contacted at marc@games2train.com .