Changing Paradigms

from "being taught" to "learning on your own with guidance"

By Marc Prensky

The answer to why we are having so much trouble implementing technology in our schools may have less to do with the technology, and more to do with the changing educational paradigm that the technology has enabled. Because of twenty-first century technology, education no longer means the same thing as it did in the past.

Changing Paradigms

Currently, a great many teachers and administrators still see education as transferring "stuff" (i.e. a textbook) into students' heads. They spend their class time lecturing, and teaching our kids to use a variety of "tools" from the past – from the multiplication tables to the long division algorithm, to the encyclopedia, the library, conjugations, spelling rules, and essays. They see their measure of "success" as student's ability to answer multiple choice questions. (NCLB certainly abets this view.)

But to today's kids, *none* of that is education. To them, education is getting prepared for the future – their future. It begins with stuff they know from all their connections to the world and its people – from television, You Tube, the Internet, IM, chat, social networking – and then lets them follow their own interests, learning things only as they become useful, sharing their views with each other along the way. More than anything else, kids today want their education to be, and feel, meaningful, worthwhile, and relevant to the future. To them, facts, explanations, tools, and reasoning are worth learning only in so far as they support the students' own, personal goals.

Technology, in service of the old paradigm, makes little sense to them. "Some teachers make a PowerPoint and they think they're so awesome," says a student. "But it's just like writing on the blackboard," says another. "And then they read it to us," says a third. "why should we go to hear it read?"

Yes, today's kids hate being lectured to, but what *do* they want from their schools? The answer, they tell us, is community. Working in groups. Doing projects. Having the opportunity to share their ideas with their peers and hear what their peers have to say. Being challenged. Being asked interesting questions. Being listened to. Being respected.

Where Technology Fits

Digital technology fits only awkwardly into the old "tell-test" paradigm of education. In that paradigm, you keep your best ideas to yourself, rather than sharing. You don't go looking up information during a test, because it's "cheating." You don't take other people's work and use it in new ways because it's "plagiarism." You can't use your cell phone as a lifeline, (like you can do on TV to win a million bucks) because it's taking "unfair advantage."

But modern technology fits perfectly with the kids' twenty-first century educational paradigm, i.e. Find information you think is worthwhile anywhere you can. Share it as early and often as possible. Verify it from multiple sources. Use the tools in your pocket – that's what they're there for. Search for meaning through discussion

Twenty-first Century Teaching Should Be Easy

Teaching, which is getting harder and harder to do in the old paradigm, ought to be a breeze in the new one. Just think up interesting problems and challenges relative to the curriculum and let the kids use their tools, working in groups and sharing, to solve them. No more need to prepare lectures and lesson plans – just tell your kids where you want them to go and let them get there. (That's exactly what they ask for.) Keep the computer lab open till midnight. (Another oft-heard request.) Keep the kids motivated, on track, and watch them learn..

Within 30 years, which is well within the working lifetimes of today's kids and the careers of today's starting teachers, the power of technology will have increased by a factor of a *billion*. How long do you think it will it be before the growing power of technology dooms the old educational paradigm in our schools? How long will it be before there is a videocam in every classroom, opening up the closed world of the old paradigm to parents, administrators, and other cultures. The demise of the classroom itself, replaced by a combination of online group activities, telepresence and other things, is not far behind.

Smart educators are realizing, in the words of Nicholas Negroponte of MIT, that learning comes from passion, not discipline. They are welcoming the new educational paradigm, and morphing into the role of challenger, observer, guide and coach to their students. Yes they teach about "intellectual rigor." But first, they work with the kids to define educational goals that are more worthwhile to them than stuffing the textbook into their heads and teaching them to use old tools.

The twenty-first century is all about creating and inventing – tools, art, videos, writing, programs, simulations – and sharing those things with an increasingly connected world. Our new, digital technology is dictating not only our kids' future, but also the new paradigm for educating them. Our educators need to begin understanding this, and moving with its tide. If we're smart, we'll give our kids their heads (as we say about horses) to use all their technology and passion to learn, as we steer them in positive directions and truly enjoy the ride.

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