What ISN'T Technology Good At?
Part 1: Empathy, for one thing!

By Marc Prensky

Published in Educational Technology Sept-Oct 2012

[939 words]

We live increasingly in a human-machine world. Anyone who doesn't understand this, and who is not struggling to adapt to the new environment—whether they like that environment or not—is already being left behind. Adapting to the new fast-changing, technologically-enhanced context is one of the major challenges of our times. And that certainly goes for education.

As computers become able to do more and more of what has traditionally been considered the province of teachers and students—from presentation to computation—and as technology becomes increasingly entwined with all aspects of our lives, we need to come to grips with some important new challenges:

- **How do we use the technology wisely?**
- **How do we find best symbiosis of brain and machine?**
- **What should we outsource to machines, and what should be reserved for humans and human minds?**

"Digital Wisdom" is the term I use for the successful answers to those important questions. Cultivating digital wisdom in education—and not just digital knowledge or digital fluency—is crucial for all of us. In my new book *BRAIN GAIN: Technology and the Quest for Digital Wisdom,* I suggest ways to do this, and to avoid uses of technology that are merely digitally clever, or, worse, digitally dumb.

An important question to ask is: What do computers, or any technology, do less well—fundamentally—than people? What things are still best handled only by humans, and human minds? What are the capabilities that make human teachers indispensable?

Knowing which of the teacher's key roles and functions cannot be replaced by technology in the foreseeable future allows us to look for and encourage those particular human skills in those we hire, while providing those teachers with training and guidance

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in using technology in other areas. As we gradually adjust both *how* and *what* we teach to reflect our new human-machine symbiosis the result will be a better education for all.

What are the key "human" skills of a teacher not replaceable by technology? There are a number of these, to be sure, but I would propose *empathy* as the most important element a good teacher offers that technology cannot replace. Machines do not have the human ability to care about students, to understand each student as an individual, to empathize with each student's unique struggles and passions. The "human" part of teaching is, at its core, *liking* students—and wanting, almost desperately, to help them. Machines help teachers help students, of course, but they do not provide the fundamental emotional—and human—connection that student need to succeed.

We would like all our teachers to have empathy for their students to as a high a degree as possible. But empathy—unlike technology skill—is very hard, and perhaps even impossible to acquire if it's not innately there. Moreover, while the amount of empathy varies significantly among teachers, empathy is not an easy thing to quantify. There is rarely, if ever, a "score" of a teacher's empathy on teacher exams, applications or evaluations. Empathy is an "intangible," hard to measure and figure in.

But hard does not mean impossible, and intangible does not mean unknowable. Most people—students, parents and administrators—can detect, see and feel differences in empathy and know when it's there and when it's lacking. That empathy is more difficult to quantify than test scores is no reason not to work at measuring it.

In fact, there are important reasons to do so. As we undertake more complex, technology-based analyses of our education system (such as the Gates Foundation-supported program in New York City that is trying to figure out each teacher's relative "value-added" to students), it is crucial that we do not forget or omit variables like empathy—if we do, the results will have little meaning. Even the great quantifier Bill Gates recently wrote in *The New York Times* that "student test scores alone aren't a sensitive enough measure to gauge effective teaching….A reliable evaluation system must incorporate other measures of effectiveness, like students feedback about their teachers and classroom observations by highly-trained peer-evaluators and principals."

Certainly a key part of educational technologists' job is to help all teachers learn to use technology to leverage their instruction, individualization, and practice, and to help teachers realize when particular students would learn better from technology resources than from the teacher's own abilities in some areas. But no machine will, for the foreseeable future, put its hand on a student's shoulder, understand his or her family situation, or cut him or her some slack on tough days. No machine will fully share and encourage our students' passions, participate in their joys and pains, or recognize when a kid is being bullied. Empathy is a human job.

Yet this is still a place where educational technologists can help. An additional useful role for technologists is to help design and create technological tools to measure and

increase teachers' non-technology-based skills—including empathy— in ways that are accurate and fair. Collecting student feedback, as Gates suggests, could be one piece of measuring empathy. Setting up teacher evaluation systems by students, parents, colleagues, and administrators—similar to "360 degree" systems used in business—is another approach. Even better would be to invent systems that allow individuals and administrators to assess a person's (and one's own) empathy for students *before* ever becoming a teacher, or choosing teaching as a potential field.

In today's education—and in the world—the advance of technology enables us to create a new human-machine symbiosis that improves how we do almost everything. We need to all join the quest for digital wisdom in our practice—and in our lives as well.

Marc Prensky, author of the 2001 article Digital Natives, Digital Immigrants, *is an internationally acclaimed thought leader, speaker, writer, consultant, and game designer in the field of education and learning. He is the author of five books:* From Digital Natives to Digital Wisdom *(Corwin, 2012)* Teaching Digital Natives: Partnering for Real Learning *(Corwin, 2010),* Don't Bother Me, Mom, I'm Learning *(Paragon House, 2006) and* Digital Game-Based Learning *(McGraw Hill, 2001). His latest book,* Brain Gain: Technology and the Quest for Digital Wisdom, *was published by Palgrave in August 2012. 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 L.A. and Florida Virtual Schools, and co-founder of Spree Learning Games, a new "curricular games" company. 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. *He can be contacted at* marcprensky@gmail.com .