

TECHNOLOGY AND THE PROMISE OF PROGRESS IN EDUCATION

Francis Bennett

Since the publication of numerous texts regarding technology in education and 21st century learning, schools, districts and departments of education have been talking about the new learning for the 21st century. Included in this are emphases on critical thinking skills, problem solving, and the use of technology. This short discussion will focus on the latter of the three. The 2009 publication *21st Century Skills: Learning for Life in our Times* could be described as helping to create a tipping point at least in the advance of the discussion of said technological skills. The text was embraced by a number of educational jurisdictions as a seminal work prescriptive of where technology will be taking us.

I believe the question should not be where is technology taking us but where are we taking technology? I am skeptical; at the same time, I am not a Luddite. I must admit that there are a number of benefits to the utilization of technology, but the most evident one for educators is not, in my opinion, a momentous one. It is simply a potential increase in student engagement. To paraphrase a statement from Marshall McLuhan's *Understanding Media* (1964), children are now born with square eyeballs because of the profound affects of television and computers.

Recently, I was party to an interesting discussion. A teaching colleague, who had occasion to observe another teacher utilizing SMART Board technology to offer a lesson to the students, was commenting that they had never seen such a level of student engagement. This may be the case but technology, in my opinion, is not a panacea. If utilized in an interesting manner it may serve to increase student engagement. There remain a number of potential issues with the use of technology as a primary teaching resource. There could be a parallel drawn between the use of technology and the French Revolution. To explain historically, we have stormed the Bastille, we eliminated many of the oppressors, what now, chaos? A better analogy might be that of a dog chasing a car. As the old joke goes, "he caught it, now what is he going to do with it?"

Similar concerns can be raised with the use technology in classrooms. The first concern may be focused on the potential absence of competency, on behalf of some teachers, with newer technologies. Although technology offers a number of great teaching tools/opportunities, if the teacher is not trained in the effective use of technology and is not aware of how that technology can be used to maximize the outcomes delineated in their curriculum documents/guides, then it may amount simply to a toy that entertain a growing unsettled student population.

The second point has to do with the students. I believe that there are some fundamental concepts and ideas that students should acquire, which do not necessarily

require the use of technology to master. Some things simply are more readily assimilated through rote learning. One simple example would include memorization of times tables. There, the cat's out of the bag. I believe that there is a place for rote learning in education. Although some technologies will afford the students an interesting path to these skills, technology does not ensure good instruction; good teachers ensure good instruction. Good teachers require ability, personality, dedication, professional development/training and a keen interest in helping students achieve to the best of their ability. Although technology may engage students, it does not provide the human touch.

A third concern also has much to do with students and it is twofold. It has been postulated that the rapid-fire nature of video gaming and the constant barrage of images may be contributing to the inability of some students to focus and the greater preponderance of ADD/ADHD diagnosis (Yoo, 2004; Chan, 2006). Students have become accustomed to such 'entertaining' images and constant and dramatic visual stimulation that most classroom environments pale in comparison when it comes to the level of visual excitement. A recent CBC news story (February 15, 2001) noted that children are putting in over 40 hours per week of screen time. Much of this time is visually overwhelming and includes violent video games such as Call of Duty. Some offer that video games, like Call of Duty, have been noted to raise cortisol levels to the point where children can be likened to being in the game. The participant's physiology can actually be in what is described as a fabricated state of flight or fight, which may serve to cause them physiological damage similar to that associated with a person who is under constant stress. We all know about that, especially the teachers. The best teacher is hard pressed to entertain, or educate, a student who is used to this level of stimulation.

The second issue, which pertains to children, has to do with their level of competency in the new technologies. Although teachers are always diligently working to stay ahead of the curve, they are often one step behind the children when it comes to technology. Admittedly, I was able to install a SMART Board in my classroom, but it was the students who were adept at using it. Their perpetual assistance, which served as tutorials, became fun for the teacher as well. Personally, I thoroughly enjoyed the students teaching assuming the teacher role and providing me with some needed assistance. The bottom line is not that I do not have any grave concerns about technology as a teaching tool. The issue is that it remains just that, a teaching "tool". Technology will never replace good instruction and, in some cases, rote learning and simple practice are fundamental to learning. Rather than trying to force new technologies into every area of learning, I believe students have much of what they need to achieve academically; that is intellect and drive. Perhaps some things may simply be better learned through the use of the three P's: Pencil, Paper and Practice.

References:

- Chan, P.A. (2006) A cross-sectional analysis of video games and attention deficit hyperactivity disorder symptoms in adolescents. *Annals of General Psychiatry*. 5(16), 170-180.
- McLuhan, M. (1964). *Understanding media: The extensions of man*. New York: McGraw-Hill.
- Trilling, B., Fadel, C., & Partnership for 21st Century Skills. (2009). *21st century skills: Learning for life in our times*. San Francisco: Jossey-Bass.
- Yoo, H.J. (October, 2004). Attention deficit hyperactivity symptoms and internet addiction. *Psychiatry and Clinical Neurosciences*. 58(5), 487-494.

Francis Bennett is a PhD student in the Faculty of Education at the University of New Brunswick (Educational Administration), and Principal of McAdam High School. He can be reached at Francis.Bennett@nbed.nb.ca.