Introduction: Knowledge and learning in the new era

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Cell phones, Personal Digitised Assistants (PDAs), i-Pods, computers, DVD players, e-mail, virtual reality, videoconferencing, telecommuting, instant messaging, faxes, chat rooms, online communities, e-learning, wireless routers, and the list goes on. Today's environment is a blur of electronic equipment where our appendages seem to be connected in cyberspace in one way or another. The proliferation of data and information at increasing rates is causing cognitive overloads for the average individual. In this digital age, are we more productive or are the additional inboxes causing added stress on us? Are we learning more under these conditions or is the half-life of information too quick for us to keep up? With the expanding number of sensors available to the mere mortal, is the knowledge 'fluid' or 'sticking' with us?

We have always been interested in the collection of information and knowledge, but now through web-based and intranet technologies, we have the connectivity to form the bridges across the isolated islands of knowledge. Knowledge management is certainly needed to help organisations better capture, share, and transfer knowledge internally and externally. But in the years ahead, much more is needed to deal with the added

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complexities of the work environment. It is almost like we have the fire hose effect with more information being sent to us than we know how to deal with. It is getting so crazy that the professional US football quarterbacks can have 230 plays written on their wristband to help them remember the plays! And it appears that, perhaps due to excess information, our attention span has shortened in recent years. For example, how many times do you or your children change channels where there is a commercial on television? It seems that people are getting caught up in the turmoil and velocity of today's fast moving times to accept any slowdown in receiving and transmitting information. This probably affects the learning behaviour of today's children and university students.

What ever happened to the good 'ole days? It is not that I am a Luddite, but where are the handwritten letters we used to receive and cherish? Why do people expect that you are on e-mail 24/7, and get annoyed if you do not answer them within the hour they sent you the e-mail? With e-mail, it does seem that you never can get caught up – it is like the electronic umbilical cord. What ever happened to children going outside to play instead of being glued to the computer video games inside? In the past, we seemed to have been productive and have led enjoyable lives before having these digital devices – do we spend enough time now to 'smell the roses'?

I am afraid we are on the road to further stress and complication through increased volumes of data, information, and knowledge, and there is no turning back. Do not get me wrong – I am all in favour of scientific, medical, and technological advancements, but they each come with potential drawbacks. For example, the more information that scientists can uncover about genetically inherited diseases, the more chances there are for creating preventative measures (which is wonderful). However, this type of familial genetic information in the hands of insurance companies or other businesses, could lead to rejection of health coverage and discrimination. Similarly, as technology and storage devices increase in speed and capacity, respectively, how will we be able to quickly search, analyse, infer, and retrieve results from these large masses of data banks?

The exponential growth of knowledge is contributing to societal gains, but are we being drowned by this fire hose? Are we spending enough time bonding with our family, instead of bonding with our PC or DVD player? How does the increased information and knowledge flows improve worker productivity, home life, and the greater good of society? Certainly, each generation is more informed and knowledgeable, which should lead to the creation of knowledge, innovation, and the betterment of society. We always want the next generation to do better than the preceding one, so knowledge is inherently good. However, knowledge in the wrong hands can cause terror and concerns for all.

I predicted about ten years ago that by 2005, we would have personal robots in the home. I also predicted that artificial intelligence would have been fairly commonplace by 2005 in the homes, schools, and work environments. Some of these predictions have come true (such as the use of case-based reasoning in the Microsoft Word wizards or the use of speech to text translation packages being used by some law and medical firms), but we still have a journey ahead to further develop and infuse these types of technologies into everyday life.

So, with technologies and knowledge advancing at alarming rates, what can be said about the future learning experience of our children, university students, and adult learners? Certainly, it seems that the professor will become less of a knowledge czar and more of a facilitator, advisor, or coach in the classroom. New technologies, the internet, and the creation of new knowledge bases will help provide the student with access to expert opinions at the touch of a fingertip. Active learning in the classroom will take precedence over passive learning so that the students can have a richer learning experience. E-learning will continue to gain momentum, especially in the graduate programmes. Learning will take the form of more inquiry-based approaches versus more traditional learning methods. And, as virtual reality and interactive intelligent learning environments advance, perhaps the student learner will be immersed in these environments to be able to better explore some of the studies more directly.

The current adage that 'we are drowning in information but starving for knowledge' will hopefully be a thing of the past. However, I fear that producing knowledge and wisdom from the large, growing masses of data and information will certainly be a challenge in the years ahead. Fortunately, I believe that each generation is more knowledgeable than its predecessor – I know that at least my children are smarter than I am. As the generations become smarter and wiser (through experiences), knowledge and learning will go hand-in-hand as we continue to flourish as welcomed visitors on our planet.