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The Canadian Network for Innovation in Education


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What is educational technology, anyway?
A commentary on the new AECT definition of the field

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We are in a rush to incorporate new technology into teaching-learning situations on campus and in schools. Technology integration, technology immersion and technology-enabled learning are terms that appear more and more often in the vocabulary of teachers and administrators. Most often, the concepts default into issues of hardware, tools, and things. In the common parlance, technology is a tool. Technology, at least communication technology, to the average person, means computers, Internet, online video, cell phones, iPhones, and iPads.

Oddly, this is not the dictionary definition. The standard dictionary definition of technology is "the application of scientific knowledge for practical purposes" or "the study or use of the mechanical arts and applied sciences."

In educational technology, our interest is the educative dimension. Until recently, we announced that fact in the name of our professional organization: We were an Association for Media and Technology in Education in Canada (AMTEC). Today, we have moved away from that, and are no longer an association, but a network (a popular Canadian buzzword, it seems); and no longer focused on "media and technology" but on all innovation. Thus we are now the Canadian Network for Innovation in Education (CNIE).

CNIE is the offspring of the Canadian Association for Distance Education (CADE) and the Association for Media and Technology in Education in Canada (AMTEC), with a mission to serve as the "the voice for Canada's distance and open education communities" (Jacobsen, 2007). CNIE's stated values include leadership, innovation, and remaining open to change; to pursue innovation in our service delivery in an environment of ongoing change, and to extend opportunities for our stakeholders by embracing change, taking risks, and stepping out of traditional roles and practice (http://www.cnie-cnie.ca/?q=node/3). A question is whether the term innovation carries a change in focus from technology or not.

Nevertheless, what are we all about? What is our focus? In short, what is educational technology, anyway?

There are other competing terms, of course. Instructional technology is one. ICT, that strange alphabet soup grab-bag of letters, is another. It is not the place here to debate the merits of alternative terms. However, at least in passing it is perhaps appropriate to comment on the increasingly popular term: ICT. In general a group of letters should not replace a word or phrase: such a practice merely adds self-serving jargon into the language. It dilutes and disguises meaning. More than that, the phrase "information and communication technology" leaves out the learning-teaching dimension that ultimately is what educational technology is all about.

Curiously, many associations seldom take time to define the very terms by which they articulate the essence of their work. The one major and significant exception is the International Association for Educational Communications and Technology (AECT) based in Bloomington Indiana. For decades, AECT has been the oldest professional and academic body of educational technologists in the world. Beginning as a US-based Department of Visual Instruction in 1923, it became 50 years later, in 1973, an international organization of educational technologists. AECT has maintained a definitions and terminology committee through the decades that monitors these conceptual issues. On several of these committees, there has been significant Canadian participation.

The new AECT definition (Januszewski & Molenda, 2008) becomes the latest beacon to guide our thinking into the 21st century. It states as follows:

Educational technology is the study and ethical practice of facilitating learning and improving performance by creating, using, and managing appropriate technological processes and resources.

As can be readily seen, the definition contains four components. First the focus is a "study and ethical practice." Interestingly, this immediately moves the definition beyond a tool metaphor. While there will be a tool component later in the definition, it is de-emphasized and incorporated as only one component of a technological system.

Educational technology is not a tool: it is a study and practice. Not only that, it is, by definition, an ethical practice.

Second, the purpose of educational technology is "facilitating learning and improving performance". These twin purposes reflect why we focus on technology. Too often, we ask how, but not often enough why. The current definition puts learning and performance at the forefront of our field of study and practice.

The third part of the definition tells us how we do this: "by creating, using and managing". In the 21st century, these three key words become far more subtle than at first meets the eye. Historically, in an age of specialization, these tasks related to three different kinds of people. Typically the three did NOT overlap. A professional writer, director, artist, etc. was the creator; the teacher was the "manager" of instruction; the student or learner was the end user.

Today, however, the tasks are converging as technologies converge. Standard with some operating systems, simple video editing software enables a person with a camera, a laptop and a network connection to create and upload
videos for the world to see. Increasingly, video capture, editing and publishing is done with handheld mobile devices that are prevalent on campus and at school. One person can do it all, and while on the move. While this gives more power and control to the user, it also results in changed ideas about professionalism; and, some might say, a loss in quality. Thus, traditionally a producer creates, a student uses and a teacher manages. The contemporary convergence of these tasks is one of the major characteristics of the first decades of the 21st century, for better or for worse. Anyone can produce a video for YouTube; everyone is their own editor; and the role of teacher as manager is on the verge of being replaced by teacher as designer and facilitator of learning.

The fourth stage of the definition tells us what we work with: technological processes and resources. Here is where the common tools definition fits comfortably... as resources. It is almost as if the tools concept just barely makes it into the definition... at the very end. For those of us who regard "educational" as 90% of what we do, and "technology" as 10%, the primary focus on learning and performance and a secondary focus on technological processes and resources is a good fit.

A sharp focus on facilitating learning and improving performance via technological processes and resources, versus products or tools, is vital to understanding the educational part of the definition. Distinct from computer scientists or engineers, most educators are not in the business of designing or inventing the hardware, cables and connectors. Instead, educators select and evaluate technological processes and resources; they create environments and design learning experiences; they assess learners and deep learning and evaluate the quality of performances. In short, educational technologists are interested in creating and evaluating learning experiences that are more effective or efficient because of the technological processes and resources. Further, educators are interested in creating, adopting and managing new, novel and innovative learning experiences that only become possible because of technological processes and resources.

The AECT definition is important because it provides us with guidance and a direction.

At this point, we need to ask: is there a Canadian dimension to a definition of educational technology? Probably not, thought there is clearly a Canadian discourse, that is, a uniquely Canadian way of thinking about educational technology (Hlynka, 2002, 2003).

Our field needs definitions. We need operational definitions of educational technology that add clarity and focus to who we are and what we do. The new AECT definition deserves to be a starting place in all courses that focus on educational technology.

Yet, there are many questions that may arise from this definition. Some may wonder at the words ethical and appropriate within the definition. Are ethics and appropriate use something that is pre-determined? Or are they applied after the fact? Is a device still an exemplar of "educational technology" if it is later deemed inappropriate in a particular context?

Do CNIE members see themselves as working with tools, devices and programs as the essence of educational technology? Must the focus only be on new media, or only digital media? When does a medium or technology stop being new? (One version of history sets the Internet itself as having passed its 40th birthday sometime in 1969, depending on how and what you count.)

And, we need to continue to explore exactly what is technology. Brian Arthur (2009), in a recent thoughtful analysis, tries to explore the essence of technology, and comes up with a succinct definition as "a means to fulfill a human purpose." Arthur's view lines up reasonably well with the AECT definition, especially when he expands his analysis, tries to explore the essence of technology, and comes up with a succinct definition as "a means to fulfill a human purpose." Arthur's view lines up reasonably well with the AECT definition, especially when he expands his definition into "an assemblage of practices and components" and then adds that technology is the "entire collection of practices and devices available to a culture" (p. 28).

Jaron Lanier, virtual reality pioneer, inverts the idea of technology as gadgets and worries that we in fact may have become the gadget (Lanier, 2010). He says at the beginning of his just-released book:

Something started to go wrong with the digital revolution round the turn of the 21st century. The World Wide Web was flooded by a torrent of petty designs sometimes called Web 2.0. This ideology promoted radical freedom on the surface of the web, but that freedom, ironically, is more for machines than people. Nevertheless it is sometimes referred to as "open culture". Anonymous blog comments, vapid video pranks, and lightweight mash-ups may seem trivial and harmless, but as a whole, this widespread practice of fragmentary, interpersonal, communication has demeaned interpersonal interaction. (pp. 3-4)

Lanier's title reflects his frustration as he argues "You are NOT a gadget".

Nevertheless, at the end of the first decade of the 21st century, the term is (once again) educational technology; it is a process (study and practice) and it ultimately is a technological system. The definition has the status of being accepted by the premier international academic association in the field of educational technology (AECT, www.aect.org).

So, how about you as a member of CNIE? Do you feel that the AECT definition captures your study, your practice, and or your place in the field of educational technology? Is something missing from the definition? Let us know, and we will pass your comments on to the newly formed AECT definitions and terminology committee as they continue to examine the conceptual dimensions of our field for the 21st century.

Note: The book Educational technology: A definition with commentary is available from AECT, or at Amazon.com and Chapters.ca. A free downloadable version is available for AECT members only at www.aect.org.


References


