INFORMATION AND COMMUNICATION TECHNOLOGY:

PROMISE OF PROGRESS?

Keith Owre

Information and communication technology (ICT) in education has been promised as an economic 'silver bullet' which in reality seems to be a spent shell. Governments increasingly suggest ICT knowledge is an economic necessity and have charged education with the responsibility of fulfilling this need. Yet the promised transformation of society due to ICT's role in education is not being supported by research. The following discussion situates Canada within an international context of the educational promise of ICT.

PERCEPTIONS OF ICT

ICT's growing economic influence has demanded discussions of educational progress in an international arena. G8 leaders have committed to "developing human resources capable of responding to the demands of the information age and to nurture ICT literacy and skills through education" (Kozma, 2008, p. 1083). The Canadian government is demonstrating a similar recognition of ICT's promise and the role of the education system. The Canadian government's position has changed from ICT skills being something "...many Canadian adults lack" (Canada 2001, p. 30) to a need all sectors of the economy share, which schools are responsible for meeting. Essentially, like others, the government has placed responsibility for the ICT silver bullet's impact firmly in the hands of the education system.

What was the result of government policy identifying the roles ICT and education had in preparing Canadians for a global economy? Six years later, Canada had fallen from 6th to 13th on an international e-Readiness Index[1] (Industry Canada, 2009). This prompted a federal commitment, one year later, in the 2010 *Speech from the Throne* "to drive the adoption of new technology across the economy" (p. 7). The change in emphasis from merely increasing skills to need for pervasive adoption of ICT underscores the perception of an evolving global knowledge economy in which employment is becoming conditional on possessing ICT skills. These are skills instilled by the educational system.

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[1] The e-Readiness Index is made up of 100 indicators of citizens' and governments ability to use ICT (Industry Canada 2009).

PORTRAYALS OF ICT

Governments, round the world have spent billions of dollars yet the impact of ICT on education is scarcely understood. Many educators have characterized ICT's impact on education as second only to textbooks (Tomei, 2005). However, others disagree. Most notably Reynolds, Treharne and Tripp have charged official views of ICT as being *optimistic-rhetoric* (2003, p. 151).

The charge is not a new one. Postman (1998) was among the first to recognize technology takes as well as gives. He reminds us that the car pollutes while transporting. Technology is not neutral; winners and losers are created due to technology embodying not merely knowledge, but political and social prejudices as well (Postman 1998). Belief in technology's benevolence blinds us to its potential dark side. Research results are less than conclusive.

Burns and Ungerleider (2003), after reviewing over 800 research studies, concluded that too little is known about the impact of ICT in schools (p. 47). Others have found little benefit from students' use. Waxman, Lin, and Micho's review of 42 research studies, found that in comparison to traditional instruction, teaching and learning with technology had a small, positive, statistically significant effect on cognitive and affective outcomes, but nothing pointing to the fulfilment of ICT's educational promise (2003). The educational impact of the ICT silver bullet has been found to be soft.

British researchers supply further evidence of the unfulfilled promise of ICT. Mumtaz found 360 British third- and fifth-grade students most frequent use of school computers was for word processing, which students characterized as "boring" (2001, p. 347). Results from the U.K.'s 2004 *The Transforming the School Workforce (TSW) Pathfinder Project* investigation shows ICT uses (word processing, presentation software, and the World Wide Web) were focused on supporting "basic" skills (Pilkington, 2008, p. 1006), a situation ripe for creation of an atmosphere of "ibored" rather than "I understand and I remember" (Bauleke and Herrmann, 2010, p. 38). Has ICT's impact in Canada been different, or has the silver bullet similarly i-bored Canadian students with a whispered passing?

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Keith Owre is pursuing graduate studies at the University of New Brunswick hoping to
explore technology's impact in counselling. Correspondence regarding this article can
be addressed to keith.owre@unb.ca