Strategizing for workplace e-learning: some critical considerations

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Abstract

Purpose – The purpose of this work is twofold. First, the vagueness of e-learning terminology is explored as a premise that the uncritical use of language reflects uncritical approaches to e-learning. North American practitioner literature is then reviewed to examine the way(s) in which e-learning vocabulary and metaphors reveal the attitudes and values that executive decision-makers and analysts bring to bear on organizational e-learning strategies.

Design/methodology/approach – Trade and industry publications related to e-learning in the workplace are written both by and for executives and e-learning analysts. A swath of these publications and web sites, along with three major white papers from the OECD, Canada Conference Board and NGA/ASTD were analyzed for major themes.

Findings – This review finds practitioner literature dominated by concerns about cost and technology in strategizing and implementation to the near exclusion of learner considerations. It is argued that a broader conceptualizing of e-learning's impact is required for effective analysis.

Originality/value – This review lends perspective to the values and priorities of executive decision makers in practice, showing that a broader understanding of workers' learning and affective needs is required if e-learning is to be applied effectively toward developing creative, productive, satisfying and sustainable learning organizations. Organizational decision makers should seek the input and perspective of multiple stakeholders to ensure that e-learning strategies are appropriate not only in terms of financial and technological feasibility but also in the interests of lasting positive effects on employees and organizational culture.

Keywords Learning, Learning organizations, Internet

Paper type Literature review

Introduction

E-learning – indeed the internet as a whole – is a curious and uneasy forum for human interaction, flickering back and forth between psychology and technology, never seeming to reconcile the two. The practice of flaming in e-mails and newsgroups that occurs when oft tacit social norms and boundaries are violated (Shapiro and Hughes, 2002), the present popularity of blogging, and the wealth of chat rooms and discussion boards in online "communities" focused on topics ranging anywhere from parenting to professional development to shoe fetishes suggest that the internet is very much a social space, despite its current limitations on face-to-face interaction.

But with ease, the internet as a social space can be ignored or marginalized: the "right" technology can marshal all of this pesky, unpredictable human interaction strictly in the name of task achievement. Any agency, any serendipity on the part of souls connected in cyberspace may be either disregarded entirely, treated as a nuisance to be overcome, channelled or avoided. In short, there remains – despite the omnipresence of the internet in North American life – an uncomfortable tension between humanity – at its most creative, awful, impulsive, capricious or wondrous – and technology with its sometimes

comforting mantra that all of the above, with the right algorithms, can be conquered, mastered, contained, or whipped into shape for maximum productive capacity. Thus, as the internet and the learning and communication tools it offers up continue to grow in volume and complexity, we continue to draw, redraw and puzzle over the boundaries between people and technology.

"E-learning," an enormous and growing aspect of life online, must be examined in light of this basic tension. Specifically, this study considers e-learning as it applies to workplace learning and training, for it is in the shadow of the quest for an efficient "bottom line" that we run the risk of tipping the balance between technology and its human users unfavourably toward a technological and economic determinism that does not attend to the social aspects and contexts that impact our motivation and ability to learn. Through a critical review of a number of North American workplace learning and technology industry publications and web sites, this work argues that an excessively instrumental approach to e-learning generally fails to meet learning needs of workers and, by extension, ultimately fails to serve the learning organization's quest for success in the "knowledge economy".

First addressed is a fundamental problem in the field of e-learning: an utter lack of consistency in its terminology. Semantic considerations are not obscure or frivolous here. Shaky use of language in the field points to a much larger problem that should become clear: namely that an unexamined use of terminology often reflects workplace e-learning practices that are equally unexamined and ill-defined.

A review of trade and industry publications is then used to examine what the language contained in these materials suggests about the belief systems that underlie e-learning developments and practices. The ways in which e-learning is languaged in practitioner literature reveal problematically narrow and commodified conceptions of knowledge and learning. Technology, it seems, makes it too tempting to attempt to quantify learning by tracking employee performance in relation to ROI, or to assume that the right software alone will facilitate effective online learning relationships from which knowledge "products" can be mined. Because workplace learning or training increasingly employs instructional technology, recognition of its related social factors seems to disappear: technology eclipses the learner, and economic considerations precede educational ones. If the social situatedness of learning is recognized at all – as in the recent flurry of activity as the corporate sector has discovered the "learning community", relationships are considered only is far as they can be structured to generate economic assets for the organization.

From this review, it is concluded that significant gaps may exist between corporate interests and learner needs when it comes to e-learning. E-learning must be understood as a social phenomena. This better reflects and directs the long-term interests of an organization's learning goals than do the technocentric conceptions of e-learning that abound in the literature reviewed for this paper. Organizations investing significantly in the infrastructure required to implement e-learning can benefit from a more holistic understanding of the ways workers interact and learn in online environments.

E-nomenclature

It is almost impossible to address the topic of e-learning without considering what the term means. It is addressed here for two reasons: first to explicate how it is understood for the purposes of this discussion, and second to illustrate ways in which

the tentativeness of existing definitions contribute to the difficulty of considering e-learning critically across multiple disciplines and learning environments.

Trying to define e-learning
"E-learning" is a confused and confusing field, fragmented into multiple disciplines and emphases. It is a subject of study in psychology, in K-12 education, in instructional technology, in adult and post-secondary education, in human resource management, in workplace learning and training. It is discussed among academics and practitioners, from pragmatic considerations in application to theory, from practical problem-solving to panacaen forecasting. All this territory to map, and the technology that makes it possible continues to evolve more quickly than our ability to make sense of it (Gunasekaran *et al.*, 2002; Salas *et al.*, 2002). With such an urgent discourse, it is little wonder that vague terminology results; before there is sufficient opportunity to properly consider one learning strategy or platform, several more appear on the horizon.

Definitive accounts of e-learning are also plagued by over-generalizations. A good deal of the difficulty rests in failures to distinguish component aspects of e-learning. Whereas objectives, audience, content, instructional strategies and evaluation are reasonably distinct considerations in traditional face-to-face teaching and learning – in theory if not always perfectly in practice, the mere presence of the "e" in front of the "learning" seems to provoke the collapse of these component parts into a great, unwieldy beast that often proves difficult to tame in discussion.

Welsh *et al.* (2003, p.246) define e-learning as "the use of computer network technology, primarily over or through the internet, to deliver information and instruction to individuals". A 2002 US report by the Commission on Technology and Adult Learning (2001, p.4) states that e-learning is "instructional content or learning experiences delivered or enabled by electronic technology". The Conference Board of Canada's (2001, p. 3) workplace e-learning report provides: "E-learning uses information and communications technologies (ICTs) to deliver content (learning, knowledge and skills) on a one-way [asynchronous] or two-way [synchronous] basis". Honey (2001, p.200) concludes that the only "common thread" linking a wide range of e-learning opportunities is that all offer "the possibility of learning from information delivered to us electronically". As these exemplars suggest, most general definitions provide – rather obviously – that learning activities and technology are connected, and suffer a "tip of the iceberg" quality that renders them not terribly helpful or satisfactory.

More useful are efforts to create frameworks or taxonomies of e-learning strategies, systems and activities. A number of these classifications rest on distinctions between collaborative vs individual learning practices (Trentin, 2002; Welsh *et al.*, 2003). Russel *et al.* (2003) summarize schemas based on degrees of structure, interactivity and job-embededness. Others create broad divisions based on synchronous versus asynchronous delivery (Morrison, 2003; Williams, 2001; Zhang and Nunamaker, 2003). For the most part, these classifications can be used to clarify the *what* and *how* of e-learning by sorting and slotting applications based on their functions, broadband requirements, or the ways in which they require users to interact and/or respond.

Less clear are the ways these tools are used, valued, and ascribed meanings, both by individual users and the organizations they work for. We lack a framework within

which to clarify the types of learning experiences we envision when we refer to "collaborative learning" or "knowledge management" or "online communities of practice," or "supportive learning environments" in a workplace e-learning context. Yet these practices – very much shaped by the organizational cultures and context within which they occur – are frequently buried in an avalanche of IT acronyms, or are dismissed as so much academic tripe (Oakes, 2004) by the very decision makers who should be asking the hard questions about how their e-learning initiatives will wash within an organization alive with its own history and milieu. Thus, the challenge of defining e-learning is twofold. First, we require a framework that moves beyond mere functional definitions to incorporate e-learning experiences and the ways in which these are made meaningful in an organizational context. Second (and perhaps more challenging) this framework must be articulated in a way that bridges the significant culture gap between educators and executives.

The cause for concern
The absence of a clear e-learning "nomenclature" is a concern for at least three reasons. First, it perpetuates the fragmentation of the field. The instructors, the technicians, the psychologists and the human resource managers cannot communicate or establish common direction because, like the scattered citizens of Babel, each speaks a different language and work under a different assumption. The philosophical divides between disciplines are at times gaping, with technocratic functionalism dominating IT and corporate discourses, and social relativism and humanism characterizing e-learning among educators (Shapiro and Hughes, 2002). These divisions can only be negotiated and addressed via a common and accepted vocabulary.

On a more practical note, Pailing (2002) suggests that the sheer volume, complexity and interchangeability of terminology make it difficult for organizations to generate well-educated decisions about e-learning strategies. If, as many suggest, a coherent "vision" must guide organizational learning (Henry, 2002; Senge, 1990), such big picture thinking is difficult to achieve when decision makers cannot see the forest for its terminology "trees". Morrison (2003) points out that many executives become bogged down in technological considerations (the *how*) to the point that the over-riding purpose of an e-learning strategy (the *why*) is lost.

Finally, terminology requires careful attention because the ways in which we language e-learning can either invite critical discourse on the topic, or trip it up in obscurity and double-speak. At these still formative stages of determining the ways technology shapes learning, we should attend carefully to what we mean by what we say. "Vocabulary", state internet technology critics Albrecht and Gunn (2002, p. 375), "signals ideology". One of the clearest signs of a developing new ideology is the special lingo its devotees use to signal their allegiance to new truths. As the following section highlights, the vocabulary of e-learning in the world of the corporation marks a dearth of affective and educational considerations that can and should inform strategies for employee learning if long-term corporate and worker interests are to be served.

Challenging e-learning discourses in trade and industry literature
A case can be made that the lure of profit has contributed to a degree of hype that makes it difficult to distinguish fact from utopian fiction in the world of instructional technology. As a result, perhaps nowhere is e-learning less critically examined than in

corporate North America, which still, despite the dot com meltdown of 2002, remains a site of entrepreneurial cacophony (Morrison, 2003, Pailing, 2002).

This section reviews policy documents related to workplace e-learning from the United States and Canada; numerous web sites, vendor sites and online document repositories; and articles from a variety of representative trade and industry publications. Themes were drawn from two major US trade magazines. *KMWorld Magazine* (65,000 print circulation) is a monthly publication targeting "enterprise executives engaged in the business theories, practices and practices of organizational and enterprise knowledge management and business intelligence" (KMWorld, 2005). *T + D* (*Training & Development*, 40,000 print circulation) is published monthly by the American Society for Training & Development, and focuses on practical strategies for human resource development. Both organizations also maintain large interactive web sites with discussion forums for subscribers. Print articles were systematically consulted for the years 1999-2004 using the search term "e-learning." These searches generated 170 relevant articles, from which interpretive themes were drawn. Using the Google search engine, again with "e-learning" as a search term, additional trade publications like *Computerworld* and *Lifelong Learning Market* report were examined, as were a number of vendor sites. Scholarly work and policy papers were simultaneously consulted to triangulate the observed themes.

The intention of these exercises was to study way(s) in which language, e-learning terminology and metaphors are used to represent e-learning in workplace applications. A synthesis of the reviewed literature provides a broad sense of how corporate North America is approaching and making sense of this far-reaching and fundamental shift in employee learning and training. From the review, a number of themes emerged. First, knowledge and learning are almost universally perceived and discussed as commodities, as evidenced in the industrial factory metaphors that pepper this literature, and an omnipresent concern for the "bottom line". E-learning articles focus considerable attention on determining e-learning's costs and potential "return(s) on investment". Further, these discourses are characterized by a strong sense of alarm, urgency and speed. In fact, it is nearly exhausting simply to read them.

In an article entitled *The Brave New World of E-Learning* (apparently without irony), e-learning consultant Adkins (2003, p. 29) warns, "Just in time [learning] is too late". And who, really, has the energy to attend Hewlett Packard's "Non-Stop University?" (Hill, 2004). Finally, practitioner literature promotes e-learning technology and technological solutions in ways that downplay or disregard learner needs, motivations and behaviours. Often, the assumption appears to be that the "right" platform or strategy will automatically bring learners to the fore, regardless of learner characteristics or contextual factors.

The knowledge based economy

The "information age", for many, represents a fundamental shift in the nature and management of productive forces. Some claim that the knowledge-based economy is a post-industrial phenomenon (Hodgins, 2002; Pulley and Sessa, 2001), but its representation in language suggests otherwise. Raw materials may now be intellectual rather than physical, but these are still converted into corporate assets in the same old way: via speedy, efficient and controlled production.

Literature related to workplace learning or training is bald in its efforts to contain learning and knowledge in market paradigms that concern the capture, buying, selling, valuing, transfer, and possession of the "capital" inside workers' heads. OECD (1996, p. 7) report describes the "knowledge based economy" as one in which "producers and users. . .exchange. . .both codified and tacit knowledge". It would seem that even the most informal and embodied aspects of workers' learnings are thus subject to the scrutinizing eye of the organization that seeks to wring or wrest or expose knowledge to further its own interests. Knowledge is packaged into learning objects and modules, "delivered" (Mingail, 2000), "assembled", and "disassembled" (Commission on Technology and Adult Learning, 2001), "quantif[ied] and capitalized on" (Bolita, 1999a). It is "acquired and distributed" (Zhang and Nunamaker, 2003). Learning is a "product line", (Gold, 2003), the "raw resource of the new economy" (Hodgins, 2002, p. 44), an investment upon which a return is expected. For Adkins (2003, p. 28), e-learning is "a core business process that must be automated like any other business process". And, finally, as ASTD CEO John Cone states, "Technology enables us to run learning like a business" (Oakes, 2004, p. 18).

Once knowledge has been deemed a "product", it is only small magic to turn learners into "consumers". Morrison (2003) describes corporate training as a "vertical e-market place" in which the organization delivers a service to its employees. Campion (2001, p.71) describes a "cult of learning" wherein knowledge "flow[s] forth like fuel from the pump ready for us to consume as we continue our travels!!". The lifelong learning "journey" is a frantic one that often leaves little time for that knowledge to be reflected upon. For as is almost universally the case in our "hurry up" culture, learning, like other "services", becomes a question of speed and convenience for the consumer. Learning objects, modules, and "just-in-time" initiatives (Bolita, 1999b; Mingail, 2000; Morgan, 2001; Sambataro, 2000) carve knowledge into tasty and attractively packaged "bites" for the harried e-learner who hasn't the time or energy to partake of a more substantial intellectual "meal."

Much of the metaphorical language described here is so ubiquitous as to be hackneyed. Yet, it is precisely at this point that we begin to take its meanings and assumptions for granted, thus warranting a thoughtful step back for some hermeneutic scrutiny. The industrial production metaphor has significant consequences for the ways in which knowledge workers are asked to think and learn.

Investing in e-learning: the trouble with ROI

> One of the biggest differences between e-learning and other forms of training is that e-learning is completely trackable. You know everything that every learner did, unlike classroom training. You have the opportunity to measure precisely the impact of your elearning investment . . . .E-Learning is not a training tool. It is a business performance improvement tool (Bershin, 2002).

The ability to monitor and measure employee training activity is an oft-cited feature of e-learning (Grollman and Cannon, 2003; Harris, 2004; Kirk, 2002; Little, 2002). It is a significant pre-occupation within industry-based publications and certainly among vendors' ever-present, cost-saving claims. "ROI", or return-on-investment, is everywhere: corporate executives want a clear indication that e-learning can "deliver the goods" in terms of cost-savings and efficiencies. While it is only common sense that training dollars be soundly invested, the knee-jerk hue and cry for ROI often betrays

a narrow understanding of the concept, and by extension, of the true value of workplace learning.

The first difficulty is revealed with the complex process of calculating the value of employee learning is over-simplified. Bershin's "precise" measure of investment does not exist, and the notion that impact could be measured via tracking employee performance alone is simply wrong-minded. Moyer (2001) points to some hazards of poorly executed ROI: Test scores, and completion rates – those variables easiest to measure in an e-learning initiative, do not capture learner satisfaction, impact on corporate culture, or effects – either short- or long-term – on productivity. Forman (2002, p. 399) suggests that ROI analyses are inadequate because they are usually limited to "cost reduction and avoidance", but fail to capture benefits, innovation, or "unique value" created via employee learning. Further, cost-avoidance, an inherently conservative and cautious stance, may inhibit innovation and creativity (Kruse, 2004). ROI proves a poor means of articulating the value of knowledge because knowledge is not quantifiable (Morrison, 2003; OECD, 1996). This problem is exacerbated by the fact that, as is the case for most educational research, outcomes are difficult to assess and replicate given the unique context of each given learning situation. Finally, the rapid rate of change and short "shelf-life" of knowledge presents yet another evaluation barrier (OECD, 1996).

A second difficulty with ROI measured strictly in terms of the "output" of human capital is the potential for tracking strategies to backfire. Implemented in the wrong existing corporate culture or with the wrong attitude, the tracking of employee performance for an e-learning ROI can exacerbate existing hostility and suspicion among workers – or breed it afresh. Morgan (2001, p. 207) argues, "In an on-line environment the process of evaluating what an individual is learning at every step can produce much frustration and resentment. Many learners resent the 'Big Brother' feeling that a computer is watching and evaluating their every move. Many learning systems fall into this trap, creating experiences that users come to resent and reject." Adult educator and organizational learning consultant Owenby (2002, p. 54) states that he has witnessed "the resistance and alienation of learners compelled to attend so-called continuous learning programs, which they had no voice in formulating and whose goals they felt were unrelated either to their daily work or their personal development goals".

The point here is not that ROI should be cast aside entirely, or that some degree of accountability shouldn't accompany workplace learning. However, the presentation of ROI – particularly among e-learning vendors – points to a quick-fix mentality. It is assumed here that the mere presence of the right technology makes easy work of what is in fact a complex and ultimately uncertain process.

Work faster, learn faster

Early 20th century organizational science guru Frederick Taylor made no bones about his quest to make workers more efficient. "One of Taylor's proudest accomplishments", recounts curriculum theorist Kliebard (2000, p. 53), "was to inveigle a man he called Schmidt into increasing his handling of pig iron at a Bethlehem Steel plant from $12\frac{1}{2}$ tons a day to 47 tons. Kliebard proceeds to describe Taylor's cajoling of the semi-literate Schmidt into working harder and faster for the same rate of pay. "Schmidt's step", observes Kliebard (2000, p. 53) wryly, "must have been a little heavier as he trotted home that night".

Little has really changed, only Schmidt has moved from the factory floor to a cubicle. The utter sense of panic characterizing e-learning literature again suggests that the role of learning or training in the post-modern organization is not nearly as enlightening or empowering as learning organization literature theorizes it should be. There is no time for creativity, conversation or reflective practice. In fact, knowledge workers run the risk of information overload (Hardaker and Smith, 2002; Pringle, 2002) and key decision makers risk making hasty choices that do not capture all of the significant variables involved. ASTD (American Society of Training & Development) CEO John Cone states, "As a CEO you have to move fast . . . .You typically don't think about how inclusive you could be. . .but about how you can get the decision made quickly" (Oakes, 2004, p. 17). Another corporate executive describes the crucial need to move quickly and execute "nano decision making" (McMahon, 2003).

Pulley and Sessa (2001, p. 226) suggest that poor decision making and "spiritual depletion" may result from the urgency that accompanies the rapid pace of technological change. While it would be naïve to discount the importance of speed for its competitive advantage, one wonders whether its longer-term consequences do not in fact undermine the original objectives. Rapid-fire executive decisions and "extreme learning" for knowledge workers may sometimes amount to killing the goose that lays the golden eggs.

If you build it, they will learn

Much of the literature reviewed for this paper expounded on the virtues of e-learning for its "anytime, anywhere access", its ability to adapt to individual learner needs, and its power to bring people together for collaborative work (Sambataro, 2000; Zhang and Nunamaker, 2003). And although "e-learning is not a panacea" repeats across these works like a mantra, often the assumption remains that the right technology can solve the complex puzzle that is effective learning. "Literature on instructional technology in the workplace", finds Williams (2001, p. 133), "tends to focus on technical issues of design and not the adult learning principles that are necessary for effective design and adult learning". In their study of English firms, Russel *et al.* (2003, p. 36) observe: "[A]mongst the majority of firms. . .studied, learning is often a secondary consideration to the provision of a 'technical solution' or 'design impact'". Summarily, a technocentric approach characterizes the very workplace literature that decision-makers are likely to turn to when deciding upon a corporate e-learning strategy. And it is possibly just this focus on technology instead of users that leads to the demise of many e-learning initiatives.

The first error in this line of thinking is the assumption that "anytime anywhere" access is always appropriate and valued. Clearly the collapse of time space barriers is a boon to multinational corporations who struggle to deliver consistent training to a workforce scattered across countries and time zones (Henry, 2002; Welsh *et al.*, 2003). However, there are negative consequences as well. Some authors point to information burnout and resentment of employees expected to carry work-related learning home with them (OECD, 1996), or simply suffer from "Internet Fatigue" due to relentless online exposure (Albrecht and Gunn, 2002). The blurring of the lines between work and home that are lauded in policy documents (Conference Board of Canada, 2001; Commission on Technology and Adult Learning, 2001) may not be embraced by workers who intuit (if they don't always articulate) the "colonization" of their personal

lives by their employers' interests (Shapiro and Hughes, 2002). It is a mistake, therefore, to assume that the ubiquitous availability of information and learning material online will ensure the willingness of workers to spend yet more time in front of their computers.

It is also often claimed that individualized pacing, multimedia components, the non-linear structure of hypertext, and 24/7 access amounts to a customized learning environment for the individual learner (Barron, 2000). Assertions that e-learning provides the flexibility to adapt to different learning styles (Barron, 2000, Grollman and Cannon, 2003, Kirk, 2002, Little, 2002) are often ill-defined. What learning styles, in these cases, have been identified? And specifically, how are these learning styles addressed in the learning environment?

Gunasanaker *et al.* (2002, p.48) approve of online self-assessment tools, citing these as evidence that e-learning is moving away from a "one-size-fits-all" approach. Parlour-game style online self-assessment tools are insufficient, however. If learning is indeed "life long", one's learning style is a complex evolution dependent upon a learner's self-awareness and strengths, weaknesses, and locus of control. Research cited by Moyer (2001) suggests that learners' success in an online environment is a function of age; mature learners often present more life experience and motivation, and hence fair better in non-traditional settings.

This espoused "customization" of learning for individuals also, ironically, is accompanied by intrusions that de-individuate. Customized learning, for example, often requires that the learner's performance be tracked, recorded and assessed – very likely by a third party. Further, customization, as facilitated by technology, often refers only to the way(s) in which fact-based, rote training materials are delivered. Often, learning and compliance are treated as if they are the same thing (Lamont, 2003). Finally, customized learning environments are often directed to individual learners. Hardaker and Smith (2002) suggests that "individualistic psychological approaches" fail to adequately account for all of the contextual variables that affect learning. Beyond individual learning styles – even if these can be reliably determined – rests the characteristics of the learning environment, relationships with colleagues in increasingly interactive online "communities", comfort level with technology, and organizational culture.

With a growing appreciation for the possibilities of technology-facilitated knowledge sharing and knowledge management comes a third mistaken assumption that "online learning communities" will come to fruition simply if workers are dropped into the appropriate online environment with a pressing problem or concern. In a prime example, Alstete (2001) discusses the ways in which technologies like web discussion, whiteboards and "announcements/assignments" section of courseware packages like WebCT can be adapted for team work. "There is a positive synergy that results from these types of electronic tools when they are coordinated together to help yield higher performance through convenience, accessibility, and structure of the design" (Alstete, 2001, p.49). One American financial services company, pursuing "leadership" and "employee empowerment", sought out an e-learning platform that provided "online training. . .tracking and measurement" (Gold, 2003, p. 50). Another take on this theme is the idea that, if the technology is fun and engaging enough, relationships can be facilitated. More recently, games and simulations are touted as the technology of choice for facilitating online relationships (Grollman and Cannon, 2003; Zhang and Nunamaker, 2003).

The error here is clear. Technology does not build fruitful, productive working relationships; people do. Research in learning communities or communities of practice make a strong case for the interdependency of learning and social context (Johnson, 2001; Wenger, 1998); and these relationships can take time, commitment and skill on the parts of participants to achieve homeostasis and maturity. This may be all the more true in online communities which, in the absence of face-to-face interaction, often require or benefit greatly from the presence of a facilitator who works actively to move the community toward mature, sustained inquiry (Alexander, 2001; Johnson, 2001; Rudestam and Schoenholtz-Read, 2002; Spitzer, 2002).

Summary
In summary, this review bears witness to the "industrialization" of training for "efficient. . .mass dissemination" (Forman, 2003, p. 40), a narrow, fragmented and arguably short-term perspective on the place of knowledge and learning in organizations. The representation of e-learning in trade and industry literature suggests that some practitioners and decision-makers may emphasize technological and economic considerations at the expense of tailoring learning and training strategies to the "human" in their human capital.

The point is not that businesses should abandon their rational and practical concerns for the bottom line, or that technological considerations are unimportant. However, the impressive pile of bones that represents a large number of corporate e-learning initiatives to date (Albrecht and Gunn, 2002; Henry, 2002; Pailing, 2002), including virtual "white elephant" online universities and learning portals, cobwebbed courseware, and high learner attrition rates (Moyer, 2001; Spitzer, 2002; Welsh *et al.*, 2003) should be evidence enough that these factors are inadequate, in and of themselves, for successful workplace e-learning. The wealth of organizational behaviour and learning books littering office shelves everywhere – many pre-dating web technology and each promising "the" solution to human resource management and/or leadership dilemmas, reveals that the challenge of harnessing human potential to productive ends is vast, complex and perennial. So why pose IT as the (next) be-all and end-all?

Discussion and conclusion
This work reviewed trade literature and white papers to provide a perspective on the ways in which e-learning is valued and discussed in the workplace. E-learning research and reflections from the fields of post-secondary education and adult education were also consulted, although these perspectives are not specifically articulated. However, it is summarily clear that e-learning remains a fragmented and confusing field, lacking the definition and theory required for interdisciplinary study. If the broad fields of "business" and "liberal education" have always been somewhat at cross-purposes, the field of e-learning renders no surprises.

Yet with the accepted imperative for lifelong learning, and the workplace increasingly recognized as a significant site of that learning, adult educators and executives could benefit from good conversation. Spitzer (2002, p. 167) recalls *Megatrends* guru John Naisbitt's now 20 year-old advice that "one of the keys to the success of technology [is] to marry 'high tech' with 'high touch'". The literature reviewed for this study suggests that e-learning strategies in the workplace can leave

much to be desired in terms of the "human touch". Where technological and economic considerations abound, there is a failure to accommodate or appreciate the full complexity of adult learning processes and the situated nature of knowledge. E-learning's high-tech media may provide the illusory sense that knowledge can be produced, packaged, consumed and exchanged online, but an abundance of literature in constructivism and adult learning makes a strong case that it is in fluid, dynamic and highly social contexts that meaningful learning and creative problem solving are most likely to occur (Hardaker and Smith, 2002; Marsick *et al.* 2000; Trentin, 2002; Wenger, 1998).

Organizational learning literature – most still not moving significantly away from the premises found in seminal and oft-cited works by Senge (1990) and Watkins and Marsick (1993) – generally espouses the importance of creativity, conversation, teamwork and empowerment for knowledge workers to exercise their full collective potential for learning and innovation. Yet e-learning, as a growing site of this learning, appears for the most part to remain trapped within the confines of technology, rationalism, and assembly-line thinking.

The implications are that much work needs to be done if workplace e-learning strategies are to be aligned with the learning organization model. Organizational e-learning initiatives should therefore be informed not only by cost and technology considerations but also by their potential consequences for learners and organizational culture. Failure to address the affective, social and contextual elements of learning can lead to a narrow, industrialized "production" of workplace knowledge that Laiken (2001, p. 1) argues is "notoriously inhospitable to human creativity and learning".

The stakeholders and expertise that impact the success of an organization's online training and learning initiatives are as varied as the numerous disciplines that inform the IT field as a whole. Managers, content experts, adult educators, business analysts, technicians and workers must bring multiple perspectives and interests to the strategic process if a common vision for workplace learning is to be realized. However, if strategic decisions are unilateral on the part of organization's executive(s), one can only hope that they are informed by a broader and deeper understanding of affective, contextual and cultural learning variables than the practitioner literature here reviewed indicates. "[I]ncreasingly," state Russel *et al.* (2003, p. 36), "learning about learning is good business sense".

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