E-learning, Constructivism, and the Disappearance of Difference: Pedagogies of Productivity in the Modern Workplace

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Introduction

One of the most noticeable trends in the workplace today is 'e-learning', which is frequently upheld as the panacea for adult education and training needs. Industry Canada (2005) makes the following observations: 1) The global training market for government and industry is valued at US$300 billion; and, 2) The World Bank's education portfolio stands at US$8.5 billion for projects in 86 countries. Higher education institutions, governments, industry, and a global constituency of adult learners are demanding and anticipating online training experiences, "that have a positive impact on individual and organizational performance" (Industry Canada, 2005). The projections for e-learning are optimistic to say the least.

Honey (2001) asserts that, "e-learning is the process of learning from information that is delivered electronically…It leaves us, the learners, to identify relevant information, convert it into something meaningful and apply it appropriately" (p. 201). This a widely held sentiment in the more normative stances on e-learning in the workplace (Baldwin-Evans, 2004; Gasco, Llopis, & Gonzalez, 2004; Harun, 2002; Industry Canada, 2005; Newton, Hase, & Ellis, 2002; David Pollitt, 2005a; David Pollitt, 2005).

Nevertheless, workplaces are transforming. Workers are finding themselves part of a global workforce comprising of people who are socially, culturally and demographically very different from themselves; differences that can drastically influence workplace relationships and operations (Bierema, 2002; Industry Canada, 2002a). More and more, employees may differ in their views of what their jobs are and are not; what comprises productivity and efficiency; and, what decision-making criteria are relevant. Some may have skills considered redundant yet others may be underemployed (Livingstone, 2001). How adults are educated and trained in such a context must also evolve to address an ever more complex profile of workers' learning needs. Newton, Hase, and Ellis (2002) also caution:

> Thus, the widespread rhetoric of promises for more flexible access to training and the subsequent rapid adoption of these goals by governments…and industries have not been accompanied by an understanding of the factors that contribute to effective implementation of online learning… . (p. 157)

Is e-learning *the* answer for workplace adult education and training needs? To look beyond the current enthusiasm and towards a more informed attentiveness about e-

learning is an important and necessary step. With this in mind, I take a more engaged look at e-learning for adult education and training in the workplace.

I see the instrument of e-learning as well as its epistemologies and pedagogies as pertinent for such a discussion. The term 'e-learning' consists of two elements: 'e' and 'learning'. The 'e' is garnering the majority of the debate so far, generating research and discussion that focus almost exclusively on hardware and software (Ally, 2004; Bednar, Cunningham, Duffy, & Perry, 1992; DeRouin, Fritzsche, & Salas, 2005; Duffy & Jonassen, 1992; Salas, Kosarzycki, Burke, Fiore, & Stone, 2002). Interestingly, the instrument of e-learning as it is currently deployed in the workplace is heavily based on a modernist and westernized standpoint. It epitomizes a homogenized, normalized and universalized solution. It speaks to economics and technology; cost savings; hardware and software. Little or no recognition is afforded the changes in work, a diverse workforce, and alternate registers of workers' learning needs.

Where epistemology and pedagogy are concerned, I deliberate Constructivism and carry-out a focused critique of this set of psychological theories about knowledge and instruction as they are gradually more integrated through e-learning for adult education and training in the workplace. Constructivism generally presumes a westernized, rational, and unified subjectivity that is stable and self-determining and not dependent on language, race, discourse, gender or socio-cultural 'situatedness' for identity. Some of the chief criticisms levelled at Constructivism are its implicit affirmation of modernist values and primary privileging of European and Western ways of learning and knowing. Without a better comprehension of the implications of the constructivist learning theories being deployed through e-learning, simply investing more time and money in hardware and/or software, will not likely yield the gains so faithfully anticipated from e-learning (Gasco, Llopis, & Gonzalez, 2004; Harun, 2002; David Pollitt, 2005a; David Pollitt, 2005; David Pollitt, 2005b).

Recent studies being done to research adult learning styles as well as cognitive and educational psychology refer to the growing importance of social and cultural contexts for the adult learning needs of a global workforce (Felder & Brent, 2005; Illeris, 2003; Moore, 2005; Munro & Rice-Munro, 2004; Spencer, 2001). Facing an increasingly global constituency of adult learners in the workplace, the instruments, theories and practices of workers' learning on which e-learning in the workplace is based, is primarily designed for the needs and expectations of a European and Westernized worker. Is this sufficient to answer the learning needs of a diverse constituency of adult learners of different ages, races, genders, sexualities, classes, and languages (Fenwick, 2001b; Korsgaard, 1997)?

To answer this question about e-learning, I argue for a more socio-cultural stance on e-learning and further question whether constructivist notions of learning are ready for a world characterized by globalization, social, technological, and economic transformation, multiculturalism and the destabilization of 'the universal' with respect to learners, learning, pedagogy, multimodal literacy, and the workplace (Kress, 2003; Livingstone, 2001). I begin by proposing a theoretical framework. I present a general synopsis of

Jean Baudrillard's (1929-2007) views on the virtual and then concentrate on one of the central metaphors of his philosophy: the notion of 'simulation' (Baudrillard, 1988, 1994, 2003). Next, I apply this metaphor as a conceptual framework to discern the socio-cultural significance of the present trajectory of technological environments for learning and their effect on socio-cultural 'difference' in the changing workplace.

Virtuality and simulation

Baudrillard's views on virtual reality have been characterized as both fatalistic and deterministic (Kellner, 2005). In terms of his deterministic point of view, Baudrillard does not distinguish between 'the real' and 'the virtual'. He accepts no possibility that where one stops the other begins, or that there might be an express, territorial boundary between the two. For Baudrillard, the virtual by its very nature defies the reification of any such frontier. Inevitably, the virtual supplants the real:

> The fact remains, that this expression, 'virtual reality' is positively an oxymoron. We no longer have the good old philosophical sense of the term, where the virtual was what was destined to become the actual, or where a dialectic was established between these two notions. The virtual now is what takes the place of the real; it is the final solution of the real in so far as it both accomplishes the world in its definitive reality and marks its dissolution. (Baudrillard, 2003, p. 39)

Regarding his fatalism when it comes to most matters virtual, Baudrillard adamantly points to what he perceives as society's relentless obsession with new media and technology (Baudrillard, 2003; Kellner, 2004a). He proclaims:

> There is a positive fascination today with the virtual and all its technologies. If it genuinely is a mode of disappearance, this would be an - obscure but deliberate - choice on the part of the species itself: the decision to clone itself, lock, stock and barrel, in another universe; to disappear as the human race, properly speaking, in order to perpetuate itself in an artificial species that would have much more efficient, much more operational attributes. (Baudrillard, 2003, p. 41)

Baudrillard's views on virtual reality are founded on two premises. Firstly, the virtual is, in the absolute sense, incontrovertible. "Virtual reality," explains Baudrillard, "the reality that might be said to be perfectly homogenized, digitized and 'operationalized', substitutes for the other because it is perfect, verifiable and non-contradictory" (2003, p. 39). Secondly, since the virtual transgresses boundaries and replaces the real, the virtual ultimately results in a complete absorption of the subject and subjectivity itself. Baudrillard expounds, "we are no longer dealing with value; we are merely dealing with a turning-into-data, a turning into calculations, a generalized computation in which reality-effects disappear" (2003, p. 40). Instead "it is the virtual which thinks us: no need now for a subject of thought, a subject of action; everything happens by technological mediation" (2003, p. 40).

Central to Baudrillard's philosophy and thinking on the virtual is this idea of 'simulation' (also known as 'simulacrum' with plural 'simulacra') which he affirms as the defining metaphor signifying the break of the postmodern era from the preceding modern era (Baudrillard, 1988, 1994, 2003). Baudrillard posits that whereas modern societies were organized around production, postmodern societies are organized around 'simulation'. In a world once driven by production, labour provided the energy; in a world of simulation, labour is replaced with signs, codes, models and symbols. In the postmodern era, social reproduction, perpetuated by electronic and digital cultural media such as television, computers, cyberspace, information processing, communication, and the knowledge industries, 'simulate' reality (Kellner, 2004a, 2004b, 2005).

The corollary to Baudrillard's postmodern world of simulation is to be found in his notions of 'implosion' and 'hyperreality'. Implosion for Baudrillard signifies the imminent dissolving of boundaries. Identifiers such as economics, politics, race and gender, that once made sense for a modern world based on production and propelled by labour, now disintegrate into one another. Kellner (2005) recapitulates:

> If modern societies, for classical social theory, were characterized by differentiation, for Baudrillard, postmodern societies are characterized by dedifferentiation, the 'collapse' of (the power of) distinctions… In this situation, differences between individuals and groups implode in a rapidly mutating or changing dissolution of the social and the previous boundaries and structures upon which social theory had once focused. (Symbolic exchange and the postmodern break, par. 17).

Hyperreality is the second corollary to Baudrillard's postmodern vision. Here the media of cultural representation provide experiences more intense and 'real' than reality, whereby the symbols, codes, models and images confront individuals in an overwhelming and never-ending barrage of confusion. These are the symbols and images through which individuals come to identify themselves and each other. Kellner (2005) once again captures this moment nicely:

> In this postmodern world, individuals flee from the 'desert of the real' for the ecstasies of hyperreality and the new realm of computer, media, and technological experience. In this universe, subjectivities are fragmented and lost, and a new terrain of experience appears… . (Symbolic exchange and the postmodern break, par. 18)

The central metaphor of simulation together with its corollaries of implosion and hyperreality constitute the nucleus of Baudrillard's view on virtual reality and society in relation to the virtual. The subject in Baudrillard's postmodern world has lost touch with the real and exists in a perpetual state of disintegration and dissolution. Such an individual can no longer distinguish between what is simulacrum and what is real. Under these conditions, sooner or later, the simulacrum is eventually accepted as the criterion for what is 'real', forgetting that the simulacrum never resembled the real to begin with. Here, the conceptual connection between Baudrillard's fatalism as it evolves from his

notion of 'implosion' and his determinism as it evolves from his notion of 'hyperreality' now become clear.

There is no doubt that Baudrillard does have his critics and detractors (Kellner, 2004b, 2005). My goal here is not to defend whether Baudrillard's philosophies are credible or not, whether they formulate a formal theory or are simply a collection of ruminations, nor their ultimate significance on the direction of current debates in modern, postmodern, critical, post-structural, and/or socio-cultural theory. Rather, I suggest that Baudrillard's more dissonant stances on the virtual serve as a useful counterweight to the euphoria regarding e-learning's promise in the workplace. They also propose a definite consonance between his conceptualizations of virtuality and simulacra and the growing impact of e-learning on subjectivity and 'difference' in the workplace.

E-learning, the workplace, and the disappearance of difference

Baudrillard intended a break from instantiations of a modern critique based on labour by establishing a postmodern critique based on simulation. Yet the infiltration of technology into the workplace, of which the expanding presence of e-learning is one example, now places Baudrillard's thinking at somewhat of crossroads; an intersection where modernist 'capital' commingles with a postmodern 'simulacra'. Even Baudrillard (1988) admits, to maintain power, capital can and does manipulate simulacrum:

> For, finally, it was capital which was the first to feed throughout its history on the destruction of every referential, of every human goal, which shattered every ideal distinction between true and false, good and evil, in order to establish a radical law of equivalence and exchange…when it wants to fight this catastrophic spiral by secreting one last glimmer of reality, on which to found one last glimmer of power, it only multiplies the signs and accelerates the play of simulation. (Strategy of the real, par. 8)

I now apply this framework, comprising of simulacrum, implosion, hyperreality and virtual reality, to e-learning in the workplace. The juxtaposition of a socio-cultural framework based on Baudrillard's postmodern metaphor of simulation with that of the premier institution of the modern capitalism, the workplace, may prove revelatory when it comes to understanding the workers' experiences of e-learning. How does capital manipulate simulacra in the workplace and does e-learning represent an instrument of such a manipulation? Have the modern, capitalist mantras of 'efficiency', 'effectiveness' and 'productivity' completely appropriated e-learning along with its constructivist pedagogies and in the final analysis relegated (manipulated?) it into yet one more cost-cutting and resource re-distribution tactic? Is a radical online pedagogy based on 'difference' still even possible in the workplace if present circumstances prevail?

I contend with these questions next. However, as mentioned earlier, I see the instrument of e-learning as well as its epistemologies and pedagogies as pertinent, and from this standpoint consider the hardware, software and constructivism of e-learning. What is important to note is that even though I engage with each element of this framework

separately in relation to e-learning, all of these elements are at work *in tandem* through e-learning. Just as e-learning is at once hardware, software and pedagogy, virtual reality is simultaneously simulacrum, implosion and hyperreality. In each case, I elaborate on the implications for the worker, and workplace adult education and training are discussed as they are shaped and interpreted through this *metaphorical* framework.

E-learning as simulacrum

E-learning as simulacrum implies the disappearance of face-to-face adult education and training in the workplace and its supplanting by hardware. The premise is straightforward: greater variety and functionality in media, distribution, and access of information equates to better education and training. Put another way: all workplace adult education and training needs and solutions are in essence a problem that is hardware and media-centered.

Seeing e-learning in these terms means looking exclusively at what channels e-learning may be made available for distribution, and ultimately, what technologies are necessary for access; in simple terms, the 'hardware'. Terms like 'computer-based instruction' and 'web-based training' indicate the medium of access. For example, Harun (2002) discusses the Continuing Medical Education (CME) application as part of the Telehealth Project of the Ministry of Health of Malaysia. In his discussion, he outlines the approach to achieving the TeleHealth objectives as "simulating real-life simulations as encountered within the patient-healthcare provider environment as closely as possible…." (p. 306).

The approach used in Harun's example included four distinct media of education: just-in-time CME, personal CME, formal and modular distance education. These media were made available for healthcare professionals affiliated with Malaysia's Ministry of Health. Harun (2002) goes on to describe the advantages of CME including using computer-based training to teach IT skills, as well as providing healthcare information available at the place and time of need; always current and tailored at the point of the need; delivered at low cost with no travel needed; and, with a personalized e-learning management system to support the professional in using the system (pp. 308-309).

One of the world's largest telecommunications companies is Telefonica. With almost 65 million clients in 41 countries (Gasco, Llopis, & Gonzalez, 2004) Telefonica represents a large multinational entity making a re-investment towards e-learning. They revised their training program and invested in a new HR information system. Telefonica identified and differentiated one type of training from another, "by form of communication between teachers and students" (p. 377), as either 'asynchronous technologies', 'synchronous technologies', 'learning management tools', 'author's tools', and 'learning management systems'. For Telefonica, it was not a question of choosing a type of technology but rather an issue of using different "systems or different techniques of support for its various types of formative actions." (Gasco et al., 2004, p. 378)

What is absent is that neither Harun (2002) nor Gasco et. al. (2004) present any investigation or analysis of the socio-cultural complexities facing professionals, much of

which may not be media-centered: when to retrieve information and why; the usefulness of information retrieval with respect to the values and wishes of patients/clients; the impact of motivational subjectivities, socialization and interaction in the field between professionals and patients/clients; and the varying educational, cultural, and social experiences not only of the patients/clients, but of the professionals themselves.

E-learning as simulacrum is about the disappearance of face-to-face adult education and training in the workplace. With an objective of 'efficiency', e-learning as simulacrum reveals a *homogenizing* perception that all adult education and training in the workplace is fundamentally about distribution and access to information; a challenge readily addressed through investment in more hardware and media. The focus is on *efficient* access and information systems; the *efficient* storage and retrieval of information. Decisions about workplace adult education and training in the workplace now become about development and/or investment in *efficient* hardware and media and not about the social and cultural learning needs of a socially and demographically diverse, multicultural, and multifaceted workforce.

E-learning as implosion

E-learning as implosion is about the disappearance of difference between jobs through software and applications solutions. Again, the formula is simple: the greater the variety in software and applications, the better the adult education and training needs of jobs are met. Put another way: for every job, there are software and application-centered solutions for adult education and training.

In most workplace contexts, there are many and varied jobs with divergent social and cultural needs and circumstances. There are dissimilarities both within and between user groups in the same workplace. In any organization, it is not uncommon to have many user communities each with contradictory needs both within and between communities. As such, the debate now turns to the suitability or appropriateness of the software as compared to its intended purposes (DeRouin et al., 2005).

Suppose a 'gap' exists in a job training scenario. What if no standardized software solution is readily available to fill in the gap? Does the need cease? Does this further imply that adult education and training is not warranted? Conversely, what if standardized software is available for which a workplace training gap was never identified? Does a 'new' need now automatically exist? Would all user communities in the workplace have this need?

Pollitt (2005), for example, elaborates on the experiences of the training organization at The Ford Motor Company providing an insight into the North American retailer. This group is responsible for the non-technical training needs of Ford's dealer channel. These channels comprise approximately 225, 000 employees (p. 639). According to Pollitt (2005), the retailer education and training group, the training organization at The Ford Motor Company, conducted a training analysis to determine what was missing from their curriculum. Their analysis focused on identifying missing 'soft' skills training such as

stress management, change management, diversity, and financial management. The next step was outsourcing their requirements to an outside vendor. The reason to outsource was an obvious choice for Ford's education and training group. The delivery of the training was identified as not part of the core competency of the retailer education and training group and therefore Ford purchased the necessary skills in the form of online courses (p. 6.40). Over 100 online courses were made available to employees based on the curricular gap of this user group.

E-learning as implosion means the disappearance of difference in jobs and their commingling through codes, symbols, and images of software and applications. It achieves a *normalizing* of jobs in the workplace. The objective here is the *effectiveness* of software and applications in accomplishing this *normalizing*. Only the jobs that are recognized by standardized software and applications are relevant since they are the ones accredited by the availability of a standardized software training solution. Discussions in the workplace now address the *effectiveness* of software in filling the *gap* between intentions and outcomes of applications and not the social and cultural learning needs of a socially and demographically diverse, multicultural, and multifaceted workforce.

E-learning as hyperreal

E-learning as hyperreal pertains to the disappearance of difference in the epistemologies and pedagogies that result from the homogenizing effects of hardware and the normalizing and prescriptive trends of software and applications. An e-learning that is hyperreal presents a pedagogy that is 'more real than reality'. It is a pedagogy that has lost all referents in the non-virtual world. So when constructivism is incorporated into e-learning, what views does it carry about how adults learn and need to be trained and how are these views inscribed through the homogenizing effects of hardware and the normalizing trends of software? Does Constructivism in the virtual resemble in any meaningful way the Constructivism of the real?

Constructivism

The coming together of Constructivism with e-learning is receiving increased scrutiny and study (Anderson, 2004; Bednar et al., 1992; Duffy & Jonassen, 1992; Gulati, 2004). Yet, despite this growing awareness of e-learning and Constructivism, little has been written engaging the basic premises of Constructivism and the impact on these basic premises of the transference of Constructivism into the virtual. Is the transference of Constructivism into the virtual so transparent? Just because e-learning applications utilize the terminology of Constructivism, does that make it so? A more thorough explication of Constructivism and constructivist thinking is necessary to illuminate this argument of e-learning as hyperreal.

According to Fosnot (1996), "Constructivism…construes learning as an interpretive, recursive, building process …It is a psychological theory of learning that describes how structures and deeper conceptual understanding come about" (p. 30). From the constructivist point of view, the learner *constructs* their own knowledge. The facts that

are comprehended by the learner are neither stable, nor self-evident, nor universal, as every personal experience is laden with many ways to conceive and perceive the world. In Constructivism, knowledge does not posses any truth independent of or outside of the learner and the end goal is not to find the one correct fact, or answer. The objective is instead to welcome the various and manifold roles that learners play in their own interpretations of their inner and outer worlds (Gulati, 2004; Phillips, 1995).

A focused critique

There are six fundamental concerns to keep in mind about Constructivism. Appreciating how these concerns are affected by the mixture of Constructivism with e-learning is crucial to this discussion:

1. Constructivism is about 'action' and the constructing of learning through actions. A closer look at this notion of 'action' determines that there are essentially four categories or classifications of 'distinct action' that appear representative of the varied sites for 'active' learner involvement in their own learning. These actions are: self-reflection (Bruner, 1973; Fosnot, 1996, p. 13); problem solving (Fenwick, 2001a; Fenwick & Parsons, 1997; Ochoa & Robinson, 2005); collaboration (Hirtle, 1996; Jaramillo, 1996; Vermette & Foote, 2001); and, participation (Fenwick, 2001a; Lave & Wenger, 1991; Stein, 1998). These are the four basic 'actions' around which most Constructivist thinking and theorizing revolves.

2. Constructivism ponders both epistemology and pedagogy and the entire gamut between the question of what knowledge is and how people learn. The breadth of scope that this entails is considerable.

3. Constructivism accepts 'context' as a key part of learning and essential to the question of what knowledge is and how people learn. However, it's important to note that not all constructivist thinkers agree on just how much importance to place on 'context' in the process of learning. Some thinkers accept context as paramount and others consider it as peripheral (Baumgartner, 2003; Fenwick, 2001a; Fosnot, 1996; Null, 2004; Phillips, 1995).

4. Constructivism believes 'experience' is also an indispensable part of learning. Here too, there are debates as to how to distinguish 'experience' that results in learning from experiences that do not and even whether or not such a distinction is possible and what all this means for 'experiential learning' (Fenwick, 2001a).

5. Constructivism recognizes the role of 'interpretation' in knowledge and learning and encourages a multitude of opinion on distinct actions, epistemology, pedagogy, experience, and context. Constructivism epitomizes a vast body of views and stances each of which is open to further 'interpretation' (Bednar et al., 1992).

6. Constructivism's learner is the idealized modern 'masculine' subject - a westernized, rational, and unified individual that is stable and self-determining and not dependent on language, race, discourse, gender or socio-cultural 'situatedness' for identity. This is the 'enlightened' subject that is prone to self-reflection, has the freedom and authority to problem solve, the option and opportunity for collaboration, and access to a community of likeminded equals who are open to his participation. This is the learner that is logocentric and can extract 'himself' from context and experience and has complete free will, autonomy and privilege over context and experience to (re)interpret both. This is the learner who also has the power to preserve his interpretation over all others, has a sense of his own self-efficacy and the natural entitlement to actualize his true 'self' (Alfred, 2002; Birden, 2003; Flowers, 2003; Folely, 2004; Lee & Sheared, 2002; McLean, 2006).

Constructivism is a complex and open system of thoughts, ideas, and intersecting visions. On the surface, such complexity and openness would seem to be an advantage when addressing issues like workplace adult education and training for a global, socially and demographically diverse, multicultural, and multifaceted workforce. However, Constructivism is a heavily contested terrain, and given it's westernized, logocenetric origins, already carries its own ideological standpoint.

SkillSoft, a global, Constructivism-oriented[1] e-learning provider, conducted a study with the employees of some of their clients. The study involved approximately 200 employees from 16 firms located across 14 different countries in Europe, the Middle East, and Asia (Baldwin-Evans, 2004). When asked about the benefits of e-learning, interviewees identified: 1) 'IT and computer literacy'; and, 2) 'Personal skills development', especially, "management, leadership, coaching and mentoring, assertiveness, time management" (p. 271). With respect to motivations for taking training through e-learning, interviews had the following to say: 1) To be more competent and efficient in their current job; and, 2) Training was compulsory and mandated by regulatory bodies or management (p. 269).

Still, the study contains conflicting messages. When questioned about barriers to e-learning, SkillsSoft reported that interviewees often recounted: 1) Lack of time; 2) Fear of technology; 3) Suspicion about e-learning; 3) Self-motivation; 4) Lack of awareness about options and what was offered; and, 5) A lack of management support (p. 273). Regarding if they actually completed a course, "most of the courses being taken aren't being completed all at once", and that, "employees are dipping in and out of courses, skipping the sections they don't need and only learning what they need to learn at that particular time…course completion is not something they consider to be significant" (p. 271). In terms of where the learning was taking place, the majority of interviewees stated 'at their desk'.

[1] SkillSoft's website stipulates the following about their Instructional Design Philosophy: "The model draws heavily from adult learning principles that emphasize learner initiative, self-management and experiential learning" (http://www.skillsoft.com/about/instructional_design.asp, Retrieved March 19, 2007).

The reasons for what motivates employees to undertake e-learning and what they see as benefits for e-learning seem to reflect the discourse of *productivity* promoted by e-learning. At the same time, the reasons specified as barriers to e-learning and lack of commitment seems to indicate that *productivity* as relayed through e-learning is not necessarily resulting in a more 'productive' learning experience or workplace performance. Furthermore, Baldwin-Evans (2004) acknowledges that these responses diverge by firm and geographical location, though no specific data or details are provided in this regard nor to differences in contextual, gendered, racial, social, cultural, and/or other needs of the interviewees (p. 273). This in a nutshell captures e-learning as hyperreal.

As this study illustrates, the complexity and openness of Constructivism present a dilemma for e-learning when accessed by a diverse workforce, especially given the homogenizing and normalizing tendencies of e-learning. Can distinct action, epistemology, pedagogy, context, experience, and interpretation in all their complexity and openness, be transferred to e-learning without loosing their openness and complexity altogether? Or, does this complexity and openness of Constructivism make it susceptible to the homogenizing and normalizing tendencies of e-learning resulting in an 'ideological' pedagogy that is anything but open and complex?

A pedagogy of productivity

As these questions imply, the likelihood of e-learning, with its homogenizing and normalizing tendencies, to authentically deliver constructivist pedagogy, with all its complexity, openness, interpretivism, and multi-dimensionality is quite uncertain. Instead, e-learning as hyperreal results in the disappearance of difference of ways people come to know and learn. It takes distinct action, epistemology, pedagogy, context, experience and interpretation and makes them disappear, and, in their place perpetrates a 'universal' paradigm of knowledge and instruction that more readily reflects the homogenizing effects of hardware and the normalizing effects of software. Such pedagogies and epistemologies bear little or no resemblance to the needs of a global, socially and demographically diverse, multicultural and multifaceted workforce.

The final culmination of Baudrillard's (1988) prognostication of how capital can manipulate simulacra now becomes evident. The underlying principle here is *productivity*. E-learning, presents a hyperreal constructivism that is instantiated at the intersection of the homogenized and normalized where distinct action, context, experience, and interpretation are all also homogenized and normalized. The workplace is a modern, capitalist institution based on modern, capitalist ideology. Constructivism, precisely because of its openness to interpretation and complexity, takes on these traits of modernism and capitalism when applied for e-learning in the workplace. What instead comes forth is a universalized *pedagogy of productivity*. Popkewitz (1996) presents a compelling argument in his analysis of the malleability of Constructivism as it succumbs to such ideology:

> But the constructivist pedagogies are not neutral strategies to teach 'problem-solving'; they politicize the body through connecting power/knowledge. There is a shift from the individual defined by having particular sets of competencies, skills, knowledge (such as those for cognitive mastery) to the individual who embodies pragmatic capabilities and dispositions. (p. 40)

Conclusion: A radical online pedagogy of difference

In this paper, I think about the question of whether or not e-learning is 'the' answer for the workplace adult education and training needs of the future. I accept the instrument of e-learning as well as its epistemologies and pedagogies as pertinent for such an exploration. To question e-learning by focusing just on hardware, or only on software, or to isolate pedagogies from questions of hardware and software would accomplish a premature grasp of the effect of e-learning on socio-cultural 'difference' in the changing workplace. A socio-cultural critique of e-learning remains crucial as capital, technology and the social and cultural play out through a workforce that is progressively more global and heterogeneous. Despite the modern, capitalist idioms of 'efficiency', 'effectiveness' and 'productivity', e-learning on its current trajectory may not meet the promises so desperately desired by so many (Baldwin-Evans, 2004; DeRouin et al., 2005; Salas et al., 2002).

Recall Honey's (2001) declaration that, "e-learning is the process of learning from information that is delivered electronically…It leaves us, the learners, to identify relevant information, convert it into something meaningful and apply it appropriately" (p. 201). Yes, 'information is delivered electronically'. But when Honey maintains 'e-learning is the process of learning from information that is delivered electronically' what is the 'process of learning' that happens when the information that is delivered is homogenized, normalized and universalized. Remember also Baudrillard's views on virtual reality, that, "Virtual reality…might be said to be perfectly homogenized, digitized and 'operationalized'" (2003, p. 39); and secondly, that the virtual ultimately results in a complete absorption of the subject and subjectivity. In this regard, e-learning does not 'leave us, the learners, to identify relevant information…and apply it appropriately'.

The rhetoric of 'efficiency', 'effectiveness' and 'productivity' brings about a fixation on the e-learning solution with a correspondent 'disappearance' of difference in modality of instruction, job requirement and methodology of instruction. A paradoxical scenario ensues. Improvements in 'efficiency', 'effectiveness', and 'productivity' are attributed to the e-learning. Conversely, Constructivism, despite its complexity and openness, reifies the modern subject - a westernized, rational, and unified individual that is stable and self-determining and not dependent on language, race, discourse, gender or socio-cultural 'situatedness' for identity. The 'constructive' employee, who is enlightened, autonomous, empowered, naturally capable, self-determining and has the cognitive capacity to accept responsibility and 'constructive criticism' for their actions and choices, is determined as obstacle and hindrance to any anticipated gains that are not completely realized or surpassed (Baldwin-Evans, 2004; Gasco, Llopis, & Gonzalez, 2004; Harun,

2002; Industry Canada, 2005; Newton, Hase, & Ellis, 2002; David Pollitt, 2005a; David Pollitt, 2005).

Nevertheless, I cannot take complete issue with Honey's perspective, nor fully subscribe to Baudrillard's fatalism and determinism either. There still exists the potential to 'convert' the information delivered 'into something meaningful'. This movement towards homogenization, normalization, and universalization in e-learning in the workplace is not paralleled in the characteristics and composition of the global workforce that is going to come to typify the workplaces of the future. Europe and the West are experiencing a rapidly aging workforce and a coincident decline in birth rates bringing about a critical shortage of skills (Carliner, 2003; Industry Canada, 2002a; OECD, 2001). Immigration from developing countries will provide most of the labour in the near future for the industrialized world and they will bring with them an escalating variety of education, skills and talents not previously recognized or understood in Europe and the West (Industry Canada, 2002b). At the same time, transnational corporations primarily based in Europe and the West continue to increase their presence and investments overseas (OECD, 2001). Workplaces are becoming, and will continue to become, more socially and demographically diverse (Bierema, 2002). A vibrant workplace of immense pluralism and multiplicity will transpire.

Constructivism's autonomous and empowered individual will be joined by a socio-culturally 'different' Other. These 'differences' between workers may produce challenging views on action, learning, context and a divergence of interpretations especially regarding efficiency, effectiveness and productivity. All this will no doubt revitalize the debate of adult education and training in the workplace and the role of e-learning and demand a 'reappearance' of difference in modality of instruction, in job training requirement and in methodology of instruction. Moreover, other ways of knowing that are not cognitively or psychologically focused that are equally legitimate for workplace adult education and training, and were once made invisible with the unproblematic adoption of European and Western theories of learning on the international stage, will likely resurface (Alfred, 2002; Birden, 2003; Flowers, 2003; Folely, 2004; Lee & Sheared, 2002; McLean, 2006).

Is a radical online pedagogy of difference still even possible? Reality, in this instance, is quite different from *virtual reality*. What will become vital from a socio-cultural position is the advent of workplace adult education and training paradigmatically theorized for a global and diverse workforce and how this will all play out next to the burgeoning occurrence of e-learning in the workplace. Much depends on the ingenuity of workplaces to transform the homogenization, normalization, and universalization that comprise the current paradigms of e-learning for workplace adult education and training; what's more, to capture the affect, chaos, and idiosyncrasy of the workplace and inculcate it back into the design of hardware, software and online pedagogy; ultimately, to reintroduce the worker into the 'process of learning' as subjective; as different; as *human* Other, and not a 'perfected simulation' of one.

References

Alfred, M. V. (2002). Linking the personal and the social for a more critical democratic adult education. *New Directions for Adult and Continuing Education, 96*, 89-95.

Ally, M. (2004). Foundations of educational theory for online learning. In T. Anderson & F. Elloumi (Eds.), *Theory and practice of online learning* (pp. 3-31). Athabasca, AB: Athabasca University.

Anderson, T. (2004). Toward a theory of online learning. In T. Anderson & F. Elloumi (Eds.), *Theory and practice of online learning* (pp. 3-31). Athabasca, AB: Athabasca University.

Baldwin-Evans, K. (2004). Employees and e-learning: What do the end-users think? *Industrial and Commercial Training, 36*(7), 269-274.

Baudrillard, J. (1988). Simulacra and simulations. In M. Poster (Ed.), *Jean Baudrillard: Selected writings* (pp. 166-184). Stanford: Stanford University Press.

Baudrillard, J. (1994). *Simulacra and simulation* (S. F. Glaser, Trans.). Ann Arbor, MI: The University of Michigan Press.

Baudrillard, J. (2003). *Passwords* (C. Turner, Trans.). New York, NY: Verso

Baumgartner, L. M. (2003). Adult learning theory: The basics. In L. M. Baumgartner, M.-Y. Lee, S. Birden & D. Flowers (Eds.), *Adult Learning Theory: A primer* (pp. 1-4). Columbus, OH: The Ohio State University.

Bednar, A. K., Cunningham, D., Duffy, T. M., & Perry, D., J. (1992). Theory into practice: How do we link? In T. M. Duffy & D. H. Jonassen (Eds.), *Constructivism and the technology of instruction: A conversation* (pp. 17-34). Mahwah, NJ: Lawrence Erlbaum Associates, Publishers.

Bierema, L. L. (2002). The sociocultural contexts of learning in the workplace. *New Directions for Adult and Continuing Education, 96*, 69-78.

Birden, S. (2003). Critical and postmodern challenges for education. In L. M. Baumgartner, M.-Y. Lee, S. Birden & D. Flowers (Eds.), *Adult learning theory: A primer* (pp. 29-34). Columbus, OH: The Ohio State University.

Bruner, J. S. (1973). Beyond the information given: Studies in the psychology of knowing. In J. M. Anglin (Ed.), *Education* (pp. 401-425). New York, NY: W. W. Norton & Company Inc.

Carliner, S. (2003). The economy-training op connection. *T + D, 57*(8), 65-66.

DeRouin, R. E., Fritzsche, B. A., & Salas, E. (2005). E-learning in organizations. *Journal of Management, 31* (6), 920-940.

Duffy, T. M., & Jonassen, D. H. (1992). Constructivism: New implications for instructional technology. In T. M. Duffy & D. H. Jonassen (Eds.), *Constructivism and the technology of instruction: A conversation* (pp. 1-16). Mahwah, NJ: Lawrence Erlbaum Associates, Publishers.

Felder, R. M., & Brent, R. (2005). Understanding student differences. *Journal of Engineering Education, 94* (1), 57-72

Fenwick, T. (2001a). Experiential Learning: A theoretical critique explored through five perspectives. *Information series no. 385.* Retrieved March 4, 2006, from http://www.eric.ed.gov/ERICDocs/data/ericdocs2/content_storage_01/0000000b/80/26/30/a1.pdf

Fenwick, T. (2001b). Tides of change: New themes and questions in workplace learning. *New Directions for Adult and Continuing Education, 92*, 3-17.

Fenwick, T., & Parsons, J. (1997). A critical investigation of the problems with Problem-based Learning. Retrieved March 4, 2006, from http://www.eric.ed.gov/ERICDocs/data/ericdocs2/content_storage_01/0000000b/80/26/d2/a2.pdf

Flowers, D. (2003). An afrocentric view of adult learning theory. In L. M. Baumgartner, M.-Y. Lee, S. Birden & D. Flowers (Eds.), *Adult learning theory: A primer* (pp. 1-4). Columbus, OH: The Ohio State University.

Folely, G. (Ed.). (2004). *Dimensions of adult learning: Adult education and training in a global era*. Berkshire, UK: Open University Press.

Fosnot, C. T. (1996). Constructivism: A psychological theory of learning. In C. T. Fosnot (Ed.), *Constructivism: Theory, perspectives, and practice* (pp. 8-33). New York, NY: Teachers College Press.

Gasco, J. L., Llopis, J., & Gonzalez, M. R. (2004). The use of information technology in training human resources: An e-learning case study. *Journal of European Industrial Training, 28*(5), 370-382.

Gulati, S. (2004). *Constructivism and emerging online learning pedagogy: A discussion for formal to acknowledge and promote the informal.* Paper presented at the Universities Association for Continuing Education (April, 2004), London, UK.

Harun, M. H. (2002). Integrating e-learning into the workplace. *Internet and Higher Education, 4*, 301-310.

Hirtle, J. S. P. (1996). Social Constructivism. *English Journal, 85*(1), 91-92.

Honey, P. (2001). E-learning: A performance appraisal and some suggestions for improvement. *The Learning Organization, 8*(5), 200-202.

Illeris, K. (2003). Workplace learning and learning theory. *Journal of Workplace Learning, 15*(4), 167-178.

Industry Canada. (2002a). *Achieving excellence: Investing in people, knowledge and opportunity*. Retrieved June 25, 2004. from http://www.innovationstrategy.gc.ca/gol/innovation/site.nsf/vDownload/Page_PDF/$file/achieving.pdf.

Industry Canada. (2002b). *Knowledge matters: Skills and learning for Canadians*. Retrieved March 2, 2004. from http://www11.sdc.gc.ca/sl-ca/doc/knowledge.pdf.

Industry Canada. (2005). The Canadian education and training industry. *Commercial education and training.* Retrieved September 8, 2005, from http://strategis.ic.gc.ca/epic/internet/incet-ecf.nsf/en/ok01770e.html

Jaramillo, J. A. (1996). Vygotsky's sociocultural theory and contributions to the development of constructivist curricula. *Education, 117*(1), 133-140.

Kellner, D. (2004a). Boundaries and borderlines: Reflections on Jean Baudrillard and Critical Theory. Retrieved August 15, 2004, from http://www.gseis.ucla.edu/faculty/kellner/kellner.html
http://www.gseis.ucla.edu/faculty/kellner/essays/boundariesborderlines.pdf

Kellner, D. (2004b). Reflections on modernity and postmodernity in McLuhan and Baudrillard. Retrieved August 14, 2004, from http://www.gseis.ucla.edu/faculty/kellner/
http://www.gseis.ucla.edu/faculty/kellner/essays/modernitybaudrillardmcluhan.pdf

Kellner, D. (2005). Jean Baudrillard. *Stanford encyclopedia of philosophy (summer 2005 edition)* Retrieved May 10, 2005, from http://plato.stanford.edu/entries/baudrillard/#1

Korsgaard, O. (1997). The impact of globalization on adult education. In S. Walters (Ed.), *Globalization, adult education and training: Impacts and issues* (pp. 15-26). London, UK: Zed Books Ltd.

Kress, G. (2003). *Literacy in the new media age*. New York, NY: Routledge.

Lave, J., & Wenger, E. (1991). *Situated Learning: Legitimate peripheral participation*. New York, NY: Cambridge University Press.

Lee, M.-Y., & Sheared, V. (2002). Socialization and immigrant students' learning in Adult Education programs. *New Directions for Adult and Continuing Education, 96*, 27-36.

Livingstone, D. W. (2001). Expanding notions of work and learning: Profiles of latent power. *New Directions for Adult and Continuing Education, 92*, 19-30.

McLean, G. N. (2006). Rethinking adult learning in the workplace. *Advances in Developing Human Resources, 8*(3), 416-423.

Moore, J. (2005). Recognising and questioning the epistemological basis of Educational Psychology practice. *Educational Psychology in Practice, 21*(2), 103-116.

Munro, R. A., & Rice-Munro, E. J. (2004). Learning styles, teaching approaches, and technology. *The Journal for Quality and Participation, 27*(1), 26-32.

Newton, D., Hase, S., & Ellis, A. (2002). Effective implementation of online learning: A case study of the Queensland mining industry. *Journal of Workplace Learning, 14*(4), 156-165.

Null, J. W. (2004). Is Constructivism traditional? Historical and practical perspectives on a popular advocacy. *The Educational Forum, 68*(2), 180-188.

Ochoa, T. A., & Robinson, J. M. (2005). Revisiting group consensus: Collaborative Learning dynamics during Problem-based Learning activity in education. *Teacher Education and Special Education, 28*(1), 10-20.

Organization for Economic Cooperation and Development. (2001). Education policy analysis 2001 - Competencies for the knowledge economy. *Education.* Retrieved August 21, 2004, from http://www.oecd.org/dataoecd/42/25/1842070.pdf

Phillips, D. C. (1995). The good, the bad, and the ugly: The many faces of Constructivism. *Educational Researcher, 24*(7), 5-12.

Pollitt, D. (2005a). E-learning connects Cable & Wireless with big cost savings. *Human Resource Management International Digest, 13*(1), 19-20.

Pollitt, D. (2005). E-learning delivers management skills to Ford's North American dealers. *Training & Management Development Methods, 19*, 6.39-36.42.

Pollitt, D. (2005b). ScottishPower goes diy with e-learning. *Training & Management Development Methods, 19*, 6.33-36.37.

Popkewitz, T. S. (1996). Rethinking decentralization and state/civil society distinctions: The state as a problematic of governing. *Journal of Education Policy, 11*(1), 27-51.

Salas, E., Kosarzycki, M. P., Burke, C. S., Fiore, S. M., & Stone, D. L. (2002). Emerging themes in distance learning research and practice: Some food for thought. *International Journal of Management Reviews, 4*(2), 135-153.

Spencer, B. (2001). Changing questions of workplace learning researchers. *New Directions for Adult and Continuing Education, 92*, 31-40.

Stein, D. (1998). Situated Learning in adult education Retrieved March 4, 2006, from http://www.eric.ed.gov/ERICDocs/data/ericdocs2/content_storage_01/0000000b/80/2a/2b/04.pdf

Vermette, P., & Foote, C. (2001). Constructivist philosophy and Cooperative Learning practice: Toward integration and reconciliation in secondary classrooms. *American Secondary Education, 30*(1), 26-37.