Bridging Networked Learning between the Knowledge Economy and Higher Education: A Philosophical Approach

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Abstract

In the first part of this paper the topic of networked learning is approached from the perspective of workers in the knowledge economy who engage in lifelong learning in communities of practice and in formal education. Distributed communities of practice (DCoP) in the knowledge economy are similar in function to networked learning communities (NLCs) in formal education with a stronger focus on situated learning in DCoPs and on critical, reflective learning in NLCs. In the second part of this paper, the authors explore positive and negative reactions to NL and its potential to effect structural, cultural, economic, and pedagogical change in higher education. Using data on a study involving early adopters of NL, a learner-centred approach to NLC is proposed that is based on democratic approaches to pedagogy and able to meet the needs of the growing diversity of its student population.

Keywords

Knowledge economy, lifelong learning, communities of practice, distributed communities of practice, virtual learning communities, networked learning, networked learning

Introduction

In 1964, Marshall McLuhan predicted that the future of work would involve “learning a living” (p. 346); information technology would “unite production, consumption, and learning in an inextricable process” (p. 350). This process of automation would result in a global learning society. A growing body of evidence suggests that McLuhan’s prediction of the emergence of a global learning society has been realized and its knowledge economy (KE) has become a catalyst forcing complex socioeconomic and educational issues to the fore in public and private organizations and in higher education.

In this paper, we argue that the process involved in learning in both the knowledge economy (KE) and in higher education can be reclaimed as a human process that uses technology as a tool, rather than a process that is driven by the technology itself. We focus on the process of connections that occur in networked learning (NL) via using information technology to link learners, tutors, and learning resources (Goodyear, Banks, Hodgson, & McConnell, 2004). We propose that NL can be developed and facilitated with an ethic of care for learners in both the KE and higher education within the traditions of academic culture and values.

Drawing on the literature of learner-centred instructional design, networked learning, virtual and networked learning communities, and ecological learning environments, we reclaim pedagogical discourses from their misuse in the "cyberlibertarian rhetoric of mass commodification" (Greener & Perriton, 2005) associated with "globalization of NL in higher education" (Jones & Steeples, 2002). We posit a philosophy of democratic approaches to NL pedagogy, which may bridge knowledge workers' learning experiences in higher education to critical, reflective participation in distributed communities of practice within the knowledge economy.

The Knowledge Economy and Lifelong Learning

The knowledge economy (KE) is a pervasive force within the global learning society. Norton (2000) defined the KE as an outgrowth of what he labelled, the "Information Technology Paradigm" and argued that the Information Technology Paradigm distinguishes the KE from all previous economic eras in five ways: (1) "in contrast to earlier technological revolutions, this one is about technologies that 'act on information';" (2) "since information is a part of all human activities, all aspects of life are affected;" (3) "any system or organization using information technologies has a network logic, a logic which in turn has become more powerful because of computers;" (4) "the paradigm is accordingly based on the flexibility that networks provide;" and (5) the paradigm is marked by "the technological convergence of such formerly separate sectors as computers, telecommunications, and biology" (p. 35). The influence of the KE across all aspects of life makes it a powerful social, political, cultural, and educational force.

Knowledge and learning, which represent human processes, are central in the World Bank Institute's (2003) outline of the four pillars of the KE: (1) "a supportive economic and institutional regime to provide incentives for the efficient use of existing and new knowledge and the flourishing of entrepreneurship;" (2) "an educated and skilled population to create, share, and use knowledge;" (3) "a dynamic information infrastructure to facilitate the effective communication, dissemination, and processing of information;" (4) "an efficient innovation system of firms, research centers, universities, consultants, and other organizations to tap into the growing stock of global knowledge, assimilate and adapt it to local needs, and create new technology" (p. 2). The KE of the World Bank more explicitly describes connections between knowledge application in economic institutions and knowledge creation by educational and research institutions. The activities of creating, sharing, and using knowledge are people-focused rather than technology-focused.

The KE has a constant, even insatiable need for a well-educated, continuously learning, and networked workforce, which can efficiently produce information, knowledge, and innovation (Alclay, 2003). The rapid pace of change in the KE quickly depreciates knowledge workers' expertise which must continuously be updated with structured formal and informal education and training offered at educational institutions or through professional programs, and unstructured informal education and training, such as life skills learned at home, work, and in the community (World Bank, 2003). This process of learning, training and re-training is called lifelong learning. Lifelong learners can be self-employed knowledge workers or work within academic or corporate organizations.

Knowledge Workers as Learners in Higher Education

Knowledge workers' lifelong learning needs have resulted in an emergent category of higher education learners, who typically need to simultaneously balance career and family commitments with formal participation in higher education. Universities have responded to the needs of this group through introducing a variety of non-traditional delivery modes, including increased part-time, evening, and weekend programme offerings, as well as online-learning and blended online-learning/intensive-seminar models (Bates, 2000; DiPaolo, 2003). Non-traditional programme delivery modes have been designed for both undergraduate and graduate-level study and are often designated as professional or executive versions of existing residential programmes (Hanna, 2000; Parchoma, 2006).

Meeting the needs of these professional or executive learners includes acknowledging their career aspirations with a tendency toward vocational applications of new learning (Greener & Perriton, 2005). Further, the KE's culture of connectivity and collaboration (Ghosh, 2004; Logan & Stokes, 2003) has influenced knowledge worker-learners' expectations for networked, collaborative learning opportunities in higher education.

Communities of Practice

While much research into lifelong learning has been conducted to address management of learning at the organizational level (Cook & Yanow, 1993; Huseman & Goodman, 1999), for the purposes of this paper,

we focus on learning experienced by individuals. In organizations, the need for continuous learning, on the part of workers, is generated by problems in the workplace. Workplace learning has been labelled situated learning because it is anchored in a practical, authentic setting. Lave & Wenger (1991) conceptualized situated learning as where individuals "rather than receiving a body of factual knowledge about the world," are involved in an "activity in and with the world," thus "agent, activity, and world mutually constitute each other" (p. 33). The interactions among individuals engaged in an activity within a community of practice constitute collective learning, from which in turn, individuals learn. For many knowledge workers, their experiences with lifelong learning can be classified as situated learning within a community of practice (CoP).

Ghosh (2004) expanded the theme of connections, defining strategic alliances as interconnected CoP, made up of knowledge workers employed by businesses engaged in a particular industry sector that have formed partnerships in order benefit from sharing knowledge and experience. Ghosh described these communities of practice as particularly beneficial because members engaged in "questioning each others' assumptions, assimilating the partners' skills, beliefs, values, and context of action while detecting gaps between beliefs and experience through [face-to-face or computer-mediated] observation" (p. 305). Participants adjust their mental models to "accommodate and integrate the multiplicity of perspectives, internalize them, and gain a mastery of skills by repetition, and finally abstract the skills learnt and apply (action) them to a new context" (Ghosh, p. 305). Acquiring the ability to apply new knowledge and new skills in variant contexts is perceived as the core value gained from participation in strategic alliances which may only function in the absence of internal competition.

Distributed Communities of Practice and Networked Learning Communities

Daniel (2004) defined distributed communities of practice (DCoP) as "gatherings of geographically dispersed professionals who share common practices and interests in a particular area of concern, where members' activities are mainly enriched and mediated by information and communications technologies (ICT)" (p.5). Members of DCoP are "*informally* [emphasis added] bound together by shared expertise and shared interests or work" (Daniel, Schwier, & McCalla, 2003, p.127). Distinguishing characteristics of DCoP are participation and reflection directed toward learning goals, knowledge application, and expected future developments in shared fields of interest or expertise (Luppicinni, 2003). Therefore, DCoP can be viewed as informal, ICT-mediated gatherings of knowledge workers, whose goals include collaboratively constructing new knowledge.

In order to distinguish more clearly among qualities of online learning experiences, the term, networked learning, was introduced (CSALT, 2004) to shift the focus away from technology and toward learning, in which ICT are used to focus "on the connections between learners, learners and tutors and between learners and the resources they make use of in their learning" (Jones, Ferredy, & Hodgson, 2006, p. 1). Networked learning communities (NLCs) display two important characteristics: (1) learning has a collaborative rather than independent focus, and (2) emphasis shifts away from expert-novice knowledge transmission toward more egalitarian approaches to socially constructing meaning and problem-solving. The foci of NLCs in higher education align well with DCoP, and therefore, can provide learners with apprenticeships for professional DCoP membership.

Networked Learning in Higher Education

The Knowledge Economy's reliance on well-educated, continuously learning knowledge workers has been heralded as an avenue for acquiring public and private (DiPaolo, 2003; Greener & Perriton, 2005) reinvestment in higher education. Large-scale public-private e-learning initiatives, such as the United Kingdom's investment of £55 million in the UKeU (Greener & Perriton, 2005) and the $US 50 Universitas 21 project (DiPaolo, 2003), have promised to globalise higher education through providing anytime, anywhere access via the World Wide Web to renowned universities' vast resources and collaborative, supportive "learning communities" (UkeU, 2003; Universitas 21, 2007). While the rhetoric of laudable claims of "those who wish to create a global educational commodity," promise a great deal:

> These programmes use an impoverished interpretation of 'community' that equates to being a member of a purposeful group with a common desire for an educational product, rather than being co-travellers on an educational journey (Greener & Perriton, 2005, pp. 68-9)

All forms of NL have often been over-sold by proponents and genericised by critics. Unrealized promises of "the transformative power" of Web-based learning (Taylor, 2001), including NL, have garnered broad-brush criticisms. NL has been implicated in the commercialization and impoverishment of higher education (Bok, 2000; Greener & Perriton, 2005; Jones & Steeples, 2002). Emphasis in commentaries by proponents and critics have tend to invoke the language of change and focus on technology at the expense of attention to pedagogy. While the adoption of NL as a core function of the traditional academy does necessitate change, judicious change does not necessitate the commercialization or impoverishment of higher education. Structural, cultural, economic, and pedagogic change within the academy can be attuned to meeting the needs of knowledge workers *and* preserving traditional academic values.

Structural Change

The "current structure and organization of most universities and colleges is largely historical" and "unsuited to new forms of technological delivery" (Bates, 2000, p. 36). Paradoxically, a traditional academy is an interesting mix of hierarchical form and autonomous functions. "Despite its hierarchical organizational structure, a [traditional research] university is, in practice, an extremely decentralized organization" (Bates, 2001, p. 41). This existing form provides opportunities for "strong leadership, characterized by clear but broad vision and objectives," and an "integrating, coordinating and facilitating role" for senior management (Bates, p. 40). In turn, functionally distributed, collegial decision-making ability allows a "large and creative 'core' of staff—faculty—who are able and willing to operate relatively autonomously, are concerned with the creation and transmission of knowledge, and have the power to develop and implement new ways of doing things" (p. 41). The paradox hierarchical form and autonomous function can allow academic leaders to "give up control while ensuring that there are commonly shared principles for decision making aligned with the institution's goals" (Suter, 2001, p. 27). Therefore, strategic planning and faculty autonomy can co-exist within the distributed leadership environment of the academy. Through the practice of distributed leadership, universities can be, at once, traditionally governed, innovative, and adaptable to emergent needs.

Cultural Change

Initiating cultural change is most successful at "propitious moments, when some obvious problem, opportunity, or change in circumstances makes change desirable" (Trice & Beyer, 1993, p. 417). The advent of the KE in higher education is accompanied by the obvious problem of increasing flexible access for non-traditional learners (Bates, 2000). Thoughtful adoption of NL can provide desirable opportunities for innovation to address pervasive challenges, such as problem-solving and critical thinking; and emergent challenges, such as rapidly expanding disciplinary knowledge bases (Naylor, 2005), and ever-increasing interdisiciplinarity (Tjeldvoll, 1998).

Thoughtful development and implementation NL opportunities requires the professionalization of teaching through study of such areas of knowledge as, "psychology of learning, organizational management research, communications theories, [and] human-machine interaction" is critical (Bates, p. 41). However, acquiring and maintaining in-depth understanding of these disparate fields, in addition to disciplinary expertise, is not always possible. Research conducted through EDUCAUSE, a non-profit organisation, whose membership includes "more than 1800 campuses, organizations, and corporations" (Barone & Hagner, 2001, p. viii), strongly suggests the involvement of instructional designers, or at a minimum provision of professional educational design resources, increases quality (Hartman & Truman-Davis, 2001). Therefore, most faculty members need to work collaboratively with teams that include emergent professionals, such as instructional designers, educational technologists, programmers, and/or multi-media experts (Bates, 2000; Hanley, 2001; Luker, 2000). As a result, NL requires a shift from away from the cultural perception of teaching as an independent art or craft to a professional activity where research, teaching, and learning are the results of collaborative efforts of an integrated team.

Economic Change

Like traditional teaching, developing and supporting NLCs are time-intensive scholarly activities that are frequently undervalued (Bates, 2000; Strum Kenny et. al, 1998). If networked learning is to take hold in the academy, the criteria for tenure and promotion must be expanded to include and adequately remunerate faculty contributions to NL (EKOS Research Associates, 2005; Olcott & Schmidt, 2000).

Pedagogical Change

Criticism of NL has frequently been based on perceptions that all NL involves a generic, mechanistic approach to teaching and learning that lacks both humanity and rigour (Anderson, Garrison, & Archer, 1999; Bok, 2000; Olcott & Schmidt, 2000). Some NL initiatives may deserve this reputation (Greener & Perriton, 2005). Many do not. NL environments and communities, designed to meet existing or emergent needs have used the power of connectivity to bring together geographically dispersed learners, tutors, experts, and learning resources to solve contextualized problems in innovative ways (McCalla, 2004; McConnell, 2006; Naylor, 2005). Interdisciplinary "cross-fertilisation" of NL practices has lent insight into pervasive classroom-based teaching and learning challenges (Parchoma, 2007). Learner-centred instructional design of NL has supported a wide range of learner needs and goals (Chyung, 2001; Schwier & Daniel, 2006; Vinicini, 2001). Multi-modal, multitask-oriented NL environments may better respond to the learning styles and preferences of many 21st Century learners than more traditional approaches to teaching and learning (Wassoon, 2006). In short, NL environments and communities can provide unique opportunities to use technology to enhance, *not* replace, sound pedagogy.

Toward a Philosophy of Networked Learning Communities in Higher Education

NLCs can be developed and supported with an ethic of care for learners within the traditions of academic culture through valuing learner experiences and learning for its own sake. In a series of sixteen semi-structured interviews with faculty, instructional designers, and media producers involved in a 5-year programme of collaborative development of NL environments, at a traditional university in western Canada, the theme of an ethic of care for learners and learning emerged as a primary motivation for commitment to project completion.

Participants in this study were involved in the first phase of a long-term Provincial programme, implemented to encourage the adoption of ICT into teaching and learning, and in turn, prepare learners for participation in the KE (EKOS Research Associates, 2005). At the outset, experimentation and innovation were key goals of the programme funders, as they sought to provide “an important element of strategic plans for many post-secondary institutions to meet the expectations of students and faculty” (EKOS Research Associates, 2005, p. iv).

Faculty participants reported concerns about "something lacking in the standard approach, something lacking in the eyes of the students” (FM-1 in Parchoma, p. 124), and concerns about the "usefulness" of learning traditional experiences "in classes of 350 with one instructor in front of them, going through the material" (FM-7 in Parchoma, 2007, p. 164) as motivating factors for becoming involved in NL. Faculty spoke of their NL efforts as directed toward finding new ways to "stimulate learners" (FM-3, p. 140), "widening horizons about how [to] think about teaching and the whole education process" (FM-2, p. 132), and doing anything we can do "to keep the fire" of learning "alive" (FM-1, p.124). Faculty expressed enthusiasm for "the freedom” of using NL to allow learners to take control of academic discussions and “start to see the issues as something they can actually understand (FM-5, p. 150). A design participant commented that when students are engaged in NL, they “bring a discipline to life” (ID-8, p. 103). Design participants noted that responding to “an impulse to extend learning” (ID-1, p.101); and identifying pedagogical strategies for meeting currently unaddressed “learner needs” (ID-7, p.101); supporting “critical thinking and analysis” (ID-2, p. 102); and translating “theory into practice” (ID-8, p. 102) were strong motivations for project and team commitment. A media producer added that finding where media “can be beneficial” to learning, capable of making “the un-visual, visual” (ID-3, p. 102) motivated his contributions. One faculty participant observed that in NL development teams, "We live and die, based on

the enthusiasm of the individuals who are involved" (FM-8, p. 173). NL team members' discourses—marked by diction of freedom, enthusiasm, meeting learner needs, enabling learner control, critical thinking, analysis, understanding, stimulating, widening horizons, keeping the fire of learning alive, translating theory into practice, and bringing disciplines to life—signify team commitment to learner-centred, democratic approaches to pedagogy.

At the close of the first phase, evaluations of the programme acknowledged successful innovations, and then shifted the evaluation focus to managerial measurements, such as completion and participation rates, timelines, fiscal accountability, and ownership of intellectual property (EKOS Research Associates, 2005; Morrison & Rowan, 2006). Key recommendations included, constructing institutional e-learning strategies, expanding the role of project managers, streamlining project teams, and defining intellectual property rights (EKOS Research Associates, 2005; Morrison & Rowan, 2006). Scalability and accountability were linked to programme continuation (EKOS Research Associates, 2005). The diction of evaluation signified a "desire for educational products" (Green & Perriton, 2007)—the commodification of pedagogy.

Faculty who participated in the programme in this study were identified as early adopters (EKOS Research Associates, 2005). Hagner and Schneebeck (2001) described "early adopters" as "professors who represent the vanguard of innovation in teaching and learning" with technology. However, "their work tends to be *idiosyncratic* [emphasis added]" and has not been scalable for broader use (Hagner & Schneebeck, p. 3). Hagner and Schneebeck advise university leaders to engage early adopters in "scalable solutions" that include "clearly articulated processes and procedures, which are evidently more effective and efficient than individual efforts" (p. 3). We cannot perceive a more effective and efficient approach to eliminating faculty involvement in and enthusiasm for NL than to follow this advice.

One size will never fit across contextualized teaching or learning challenges. Each instance of NL is a unique educational problem that requires a distinct pedagogical solution. At the core of a philosophy for NL learning, there needs to be a personal*, idiosyncratic* ethic of care.

Conclusion

Learning a living, or lifelong learning, is a reality workers in the Knowledge Economy recognize and students in higher education can expect. In formal education, networked learning communities that draw on learner-centred, democratic approaches to pedagogy and are underpinned by an ethic of care can support learners in gaining valuable experience for critical, reflective participation in distributed communities of practice.

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