Diffusion of E-Learning Practice in an Educational Institution: Organizational Learning Attributes and Capabilities

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ABSTRACT
Successful knowledge transfer or diffusion of e-learning practice goes beyond precursor incentives and anticipated rewards for the individual lecturer. It also involves wider enabling of learning attributes and cultural capabilities in an organization. This paper examines how some of these attributes and capabilities play out in an educational institution in the context of web-enabled technology. An organizational-learning model is used to examine diffusion of practices after initial design and development. This paper is based on a case study of eight course-level e-learning projects in a university based in Hong Kong. The study illustrates a number of issues and challenges for the wider uptake of the initial idea from the individual course to the programme and wider institution.

Keywords: Barriers, Diffusion, E-Learning, Knowledge Sharing, Organizational Learning

INTRODUCTION
What we know about knowledge transfer or diffusion across an organization is greatly exceeded by what we do not know (Huber, 2001). Mirroring this observation, other research suggests motivational factors are negatively correlated with knowledge sharing (Taylor & Wright, 2004), and hence there is a need to look beyond incentives and rewards to learning attributes and capabilities in an organization (Szulanski, 1996; Taylor & Wright, 2004). This wider view similarly complements literature on the dynamics of interactions (Staber & Sydow, 2002; Hyland, Davison, & Sloan, 2003; Thomas & Bose, 2006), the need to create framework conditions to stimulate people within and outside organizations (Lundvall & Nielsen, 2007), and the value of social networks (Schoenmakers & Duysters, 2006). In face of this compelling evidence, no matter how well-intentioned, any effort without the necessary preconditions is likely to be doomed to failure, defined in this
case by the absence of wider uptake of any initial individual technology-based teaching and learning initiative (Taylor & Wright, 2004).

A starting point to understanding organizational learning (OL) is to view it as more than an aggregation of individual learning. While individual learning is necessary, alone it is not sufficient (Argyris & Schon, 1978; Kim, 1993). Correspondingly, the necessary extra conditions can be described as creating and transferring knowledge (Nonaka, Toyama, & Konno, 2000) or as learning embedded in organizational memory or institutionalized in systems, structures and practices (Berends, Boersma, & Weggeman, 2003). This paper explores the process of transferring e-learning knowledge from the individual course and teacher to the wider community. The focus is on the process and character of knowledge sharing or diffusion associated with teacher and classroom-based interventions. In this context, teachers are no more well-intended practitioners intent on imparting knowledge than students are simply learners of a subject; rather, teachers, like students, are social beings and they respond to the social, political and organizational context around them (Laurillard, 1994). The introduction, survival and dispersal of new technology is, using a medical metaphor, somewhat akin to a new species invasion of an ecology, in this case the university. Typically, slow adoption of technology by teachers has been a long-standing issue; research has focused on schools as social organizations and on sets of factors associated with teachers, such as attitudes and expertise with technology. Much of this research is in isolation; nor is there an apparent framework to unify the studies (Zhao & Frank, 2003).

This study seeks to shed light on some of the challenges and opportunities for both individual teachers and institutions in relation to e-learning diffusion. As Solomon and Chowdhury (2002) advised, ‘evaluative inquiry’ for OL and change is more than a means to an end, and it is more than skills that results in increased competence or improved classroom effectiveness. A significant effect of evaluative inquiry is the fostering of relationships among organization members and the diffusion of their learning through the organization. Thus, the process also serves as a transfer-of-knowledge process (Solomon & Chowdhury, 2002), such that inquiry provide avenues for growth, for both individual and organization.

**Organizational Learning and Diffusion**

OL, which is the collective process of acquisition and creation of competencies that modify how situations are managed and transform the situation themselves (Stevens & Dimitriadis, 2002), is of great interest as it links individual learning with organizational behavior and change. Organizations in turn are best understood in terms of four distinct and co-equal forms of knowledge: explicit, tacit, individual, and group knowledge (Cook & Brown, 1999), where knowledge and knowing (or ‘knowing in action’) are seen as mutually enabling. To explain this distinction, rather than the more static view of knowledge, ‘knowing in action’ refers to situated practice around varying forms of social interaction in what literature describes as communities of practice (Amin & Roberts, 2008). Thus, knowledge is a tool of knowing (Blackler, 1995) and it is a generative dance between knowledge and knowing that is a powerful source of innovation.

Two broad perspectives in OL are evident: individual and social, although due to the intrinsic complexity of OL, there are few attempts to combine individual and OL in an integrative approach (Stevens & Dimitriadis, 2002). The first, individual learning, is a functional viewpoint; organizations are not super-persons and they learn only in so much as the individuals in them learn (Mumford, 1991; Kim, 1993). Accordingly, organizational memory represents a shared understanding of routines, procedures, rules and documents. The perspective is functionalist as it assumes reality can be described objectively and there is little effort to change conditions in relation to power. The second, a social interpretative view, sees the organization
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