Chapter 6.2

Structuring a Local Virtual Work Ecology for a Collaborative, Multi-Institutional Higher Educational Project:
A Case Study

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ABSTRACT

This chapter focuses on a multi-institutional shared curricular-build project (2009) out of Kansas State University, Johnson County Community College, Kansas City Kansas Community College, and Dodge City Community College. This project involved the building of a range of digital learning objects for modules for an online course that will be taught at the various institutions in both online and hybrid formats. This collaboration is unique in that it brought together experts from cross-functional domains (from both the empirical sciences and the humanities) for an interdisciplinary freshman level course. The team collaborated virtually through computer mediated communications and built e-learning based on instructional design precepts. The curriculum was built to the standards of the public health domain field, the Quality Matters™ rubric (for e-learning standards), federal accessibility guidelines, intellectual property laws, and technological interoperability standards (with the curriculum to be delivered through four disparate learning / course management systems). This chapter focuses on the socio-technical structuring of a local virtual work ecology to support this "Pathways to Public Health" project.

INTRODUCTION

In higher education, with the geographical dispersion of talents and skill sets, many more subject matter experts work on virtual teams. A more recent phenomena has been that of local (vs. global) virtual teams, with peers from institutions of higher education that are within reasonable commuting distances, similar time zones, and even

some co-located members. Demanding schedules make it difficult to meet face-to-face, but collegial and interdisciplinary work requires collaboration and shared decision-making. The nature of the work and team will determine some of the strategies for structuring the local virtual work ecology, which includes both a shared electronic environment and structured interactions between the team members. This chapter will be based on the research literature and practitioner research based on one recent case.

REVIEW OF THE LITERATURE

With growing interorganizational alliances, virtual teams have become commonplace (Kahai, Carroll, & Jestice, 2007). Virtual teams are generally defined as those where team members are not co-located, but are distributed geographically and connected via computer-mediated technologies to collaborate on a shared work project.

Virtual teams are "groups of geographically, organizationally and/or temporally dispersed individuals brought together by information and telecommunications technologies to accomplish one or more organizational tasks" (Powell, Piccoli, & Ives, 2004). There may be differing levels of team virtualization. Zigurs proposes four dimensions of virtuality: "temporal dispersion," "geographic dispersion," "organizational dispersion," and "cultural dispersion" (Sarker, Sarker, & Schneider, 2009, p. 77). A local virtual work ecology refers to the interactions between virtual team members and their technological and physical environments.

VIRTUAL TEAM STRUCTURES

Differing levels of team virtualization may exist, with some virtual teams including sub-group co-location. Baskerville and Nandhakumar cite Mowshowitz's concept of a virtual workgroup as a basis for their thinking, which plays with the meaning of "virtual" as in virtual memory: "A team's virtuality regards the potential for an imagined team to become a real team, giving the organization the ability to assemble teams on an as-needed basis for highly specific purposes" (Baskerville & Nandhakumar, 2007, p. 18). Virtual teams are new organizational forms enabled by more powerful computer technologies (Powell, Piccoli, & Ives, 2004, p. 6). Partially distributed teams (PDTs) involve sub-teams of co-located members working from different geographic locations (Peters, Ocker, & Rosson, 2008, p. 273). Dyadic teams are those that are formed by two people and have been found to result in higher team satisfaction, which is a predictor of virtual team effectiveness (Karayaz & Keating, 2007, p. 2593). The way work is designed may be one of the five critical factors that may support high creativity (Nemiro, 2004, p. xxvii).

THE CHALLENGES OF VIRTUAL TEAMING

The research on virtual teaming highlights a range of supervisory challenges that extend beyond typical management duties. These include:

- difficulty establishing trust (Coppola, Hiltz, & Rotter, 2004; Jarvenpaa & Leidner, 1999; Jarvenpaa et al., 2004);
- difficulty establishing a shared team identity (Armstrong & Cole, 2002; Cramton, 2001);
- managing conflict (Hinds & Bailey, 2003; Hinds & Mortensen, 2005; Montoya-Weiss, Massey & Song, 2001);
- maintaining awareness of members' activities (Hinds & Mortensen, 2005);
- coordinating team member efforts (Maznevski & Chudoba, 2001; Malhotra et al., 2001; Sarkey & Shay, 2002);

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