

THE IMPACT OF WEB-BASED COURSEWARE TOOLS ON SENSE OF COMMUNITY IN UNIVERSITY CLASSROOMS

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Abstract

This paper lays the conceptual foundation and research plan for a study of how the use of Web-based courseware tools influences community development in university classrooms. Based on previous research primarily in the applied psychology and computer-assisted instruction literature, this paper 1) defines the construct of online community and how it is related to learning; 2) suggests how communities can be identified and measured; and 3) outlines a two-pronged research approach to understanding whether the use of online courseware tools is related to enhanced sense of community in face-to-face university courses.

Keywords: Online learning community, computer-assisted instruction, courseware

Introduction

The use of computer technology to assist traditional classroom instruction, as well as to facilitate distance education, has become ubiquitous in institutions of higher education (Willis, 1994). Colleges and universities are facing new demands to provide educational programs to a growing body of potential students from diverse backgrounds. Many new students are older than typical recent high school graduates or are forced by circumstances to juggle complicated schedule of class, family obligations, and frequently, multiple jobs. It is also believed that many traditional university students have grown to be quite comfortable with computers, the World Wide Web, and electronic communication, in general, and view computer-supported courses as more desirable than non-technology enhanced courses. The drive to satisfy existing students, reach potential students who were previously disadvantaged by traditional course delivery methods, and exploit opportunities to more efficiently utilize human and physical resources has made computer-assisted instruction (CAI) a very appealing strategy for many university administrators and professors (Waschull, 2001).

CAI, as it is employed in a particular course, can range in scope from the extreme of fully online, web-based distance education courses to more much limited use of Internet-accessible public file servers to post static class-related documents. Commercially produced "courseware" systems, integrated software tools for course delivery and support, such as WebCT (WebCT, 2005) or Blackboard (Blackboard, 2005), have been adopted by many universities to support both distance education initiatives and the enhancement of traditional face-to-face classroom instruction. Most research on the use or effectiveness of CAI has focused on one extreme of the CAI spectrum, fully online courses, and, by comparison, very little is known about the use of CAI as an enhancement to traditional classroom-based college and university courses.

This research-in-progress paper provides a conceptual foundation for a study addressing this gap in the CAI research. Drawing from prior research in the community psychology field, this paper provides a perspective from which to consider and explore online communities and, in particular, online learning communities. A two-pronged research plan, embracing both qualitative and empirical research approaches, is presented for testing whether the use of CAI courseware tools can enhance the sense of community for students in face-to-face university courses.

Community

The term community has traditionally described a geographically defined locality—typically, a neighborhood, or block, or building—and the people who reside and interact within its boundaries. Over the past decades, however, community has become increasingly associated with voluntary, socially defined groups, with less focus on physical proximity between members. Based on a survey of a long history of community-focused research in the sociology literature, Brint (2001) offers a formal definition of community as an aggregate “...of people who share common activities and/or beliefs and who are bound together *principally* by relations of affect, loyalty, common values, and/or personal concern” (pg. 9). Frequently, these new communities are based on relationships formed through face-to-face interactions and members may, in fact, come from a particular geographic region or locale. Importantly, however, geographic boundaries have become of secondary importance as communication technology makes it easier to share information and maintain relationships across physical distance.

Researchers in the field of community psychology have devoted significant efforts over the past several decades to understanding how individuals experience communities. In a landmark study, McMillan and Chavis (1986) defined psychological sense of community (SOC) as “...a feeling that members have of belonging and being important to each other, and a shared faith that members’ needs will be met by the commitment to be together” (p. 9) and presented a measurable SOC model. Their model describes four dimensions of SOC: 1) Membership, encompassing feelings of belonging and identification with the group; 2) Influence, representing a sense of reciprocal influence between the individual and other members of the group; 3) Satisfaction of needs, reflecting the group’s ability to facilitate need satisfaction through cooperative action; and 4) Emotional connection, comprising emotional support from group membership. Research based on the McMillan and Chavis model has shown SOC to be positively related to various aspects of personal well-being, including life satisfaction (Prezza & Costantini, 1998), social and political participation (Chavis & Wandersman, 1990; Davidson & Cotter, 1989), and perceptions of safety (Perkins & Taylor, 1996). Specifically, in higher education settings, SOC has been shown to be positively related to student satisfaction and higher student retention rates (Tinto, 1993; Ashar & Skenes, 1993).

Online Communities

Community is a term that has become almost ubiquitous in any discussion of the Internet. The term ‘Internet community’ is used to denote all those who are involved with the use, development, or support of the Internet. Membership in this broadly defined community is extended to include a vast assortment of entities, including individuals who use the Internet as a communication medium or to access information, entertainment, services, or products; commercial enterprises who conduct business via the Internet; content creators, designers, and architects who populate, create resources, and support the network; and governmental agencies and other groups who have some vested interest in the development or control of the Internet. In a narrower sense, the term ‘online community’ is used to describe a group of individuals who interact primarily via web-based communication tools (i.e., e-mail, bulletin boards, threaded discussions, chat-rooms, instant messaging, video conferencing, or other electronic forums). Online communities can be categorized as falling within classes, or genres, based primarily on purpose. Three genres identified to help organize a discussion of online communities are: 1) commercial online communities, 2) non-commercial online communities, and 3) educational online communities.

Commercial online communities are supported, and frequently established and controlled, by commercial enterprises for the key purpose of advancing their marketing and advertising goals. As early as the mid-1990s, companies began to recognize the benefits of building relationships with customers, or potential customers, by creating opportunities for them to interact socially via company-provided online discussions, chat rooms, file sharing, and personal web pages (Anderson, 1997). The value of such communities to their corporate sponsors is derived from the community as a source of market intelligence, a network for building customer loyalty and attracting new customers, an audience for subtle marketing messages, and a desirable demographic group for advertisers (Hagel & Armstrong, 1997). This perceived value of commercial online communities is evidenced by the increasing investments made by companies in community-supporting software tools, as well as the attractiveness of major web-based community sites in financial markets and as acquisition targets (Werry, 2003).

Online communities also exist in the non-profit sphere, focusing on topics such as social and political activism, personal development, avocational interests, and socializing. These online communities are typically established by existing non-commercial special interest groups or informally by individuals or small groups who splinter away from other face-to-face or online communities. The purpose for these non-commercial communities is typically to support the interpersonal or informational needs of their participants and, perhaps, to further the diffusion of their

ideas, interests, or other agendas. Community-supporting online tools and webspace is generally provided by individuals, universities, or non-profit organizations.

The third genre of online community represents what has come to be commonly referred to as online learning communities. Focusing specifically on education, these communities consist of individuals who are engaged in some form of learning via an electronic forum, which may be informally organized by participants or be supported and delivered by an educational institution, professional association, or other organization. The growth in distance education, both at degree-granting institutions of higher education and as part of various certification and professional development programs, has brought considerable attention to online learning communities. It is this form of online community that is of particular interest in this research.

Online Learning Communities

Online learning communities became a topic of considerable interest to educators in the 1980s and 1990s as concern emerged about the lack of collaborative learning support in many early CAI courseware tools (Baker, 1985; Kagan, 1994). At this time, theories of social learning, which argue that students learn more when they are active participants in the learning process and that learning is enhanced through student interaction, group task completion, and shared reflective discourse, were gaining acceptance. CAI was viewed as an opportunity to support collaborative learning initiatives through the facilitation of online learning communities (Graves, 1992). By interacting electronically, either in CAI-enhanced, face-to-face courses or in fully online courses, members of online learning communities are able to enrich their own personal learning experiences and develop higher-order cognitive knowledge via information exchange, task cooperation, and social support from other members of the community.

There are mixed opinions in the social science literature about the potential of CAI and computer-mediated communication, in general, to promote interaction and social relationships. Some authors argue that overall communication within a social network is restricted when computer-mediated communication is used (Hollingshead & McGrath, 1995; Sarbough-Thompson & Feldman, 1998), group identity is reduced, and social ties are diminished (Shapiro, et al, 2002). Morgan and Tam (1999) suggest that students communicating electronically in fully online learning programs are more likely to experience feelings of isolation and alienation from the school and other students. Other authors are more optimistic about the community-building potential of CAI. Supporters of social media theory argue that computer-supported communication media can encode and transmit all symbolic and social information that is supported by face-to-face exchange (Short, et al., 1976). They claim that face-to-face presence is not necessary to create the feeling of involvement and “presence” in a social exchange, a claim that has been born out by some empirical research (Franscescato, et al., 2006). Research has also demonstrated that CAI can be an effective tool to support cooperative learning and the acquisition of higher order skills (Brachman & DeBonte, 1997; Butler, 1995), although most of this research has been conducted in primary and secondary educational environments.

Research Plan

While there are some research results suggesting the potential for CAI to support online learning communities, the realization of this potential has gone largely untested. Kling & Courtright (2003) lament the overly casual use of the term community to describe any group of learners participating in electronic forums. They argue that this trend is the result of wishful thinking on the part of educators and software providers. They suggest that this type of “wishful” conclusion is detrimental to the educational process in that it trivializes the difficulty in developing and supporting true learning communities. Other authors concur with Kling and Courtright’s concerns, suggesting that use of the term community has become an overused buzzword to evoke pleasant and affirmative associations (Clark, 2003) and sell courseware packages to universities (Sauer, 2003). If CAI is to be viewed as a viable strategy for building community among students in college classrooms, its usefulness must be validated through empirical observation and testing rather than assumption or wishful thinking (Haythornthwaite, et al., 2000; Kling & Courtright, 2003).

These authors have developed a two-prong research plan designed to explore and test the nature of the relationship between CAI and the development of online learning communities in face-to-face university courses. First, a case study is underway based on observations of two university classes, one class using Web-based courseware (WebCT) solely for online access to course documents while the other employs Web-based courseware (WebCT) communication tools—e-mail, threaded-discussions, chat rooms, and team work spaces—to support student

interaction outside of scheduled face-to-face class meetings. This qualitative research approach is well-suited for exploratory, explanatory, and descriptive studies (Yin, 1993) and has been particularly valuable in the evaluation of policy and educational initiative where strictly quantitative methods tend to obscure subtle or complex information or relationships (Tellis, 1997). The case study will explore both the complexities of using courseware tools to support a sense of community among students enrolled in face-to-face university courses and the potentially subtle differences in sense of community attributable to the use of these tools. For this study, extraneous factors have been tightly controlled to provide a rigorous setting for the illuminating the relationship between the web-based courseware tools used and the sense of community outcome. Both courses, which began in January 2007, are similar in terms of number of students, program level, and discipline, and both have been designed and delivered by one of this paper's authors.

Second, a large sample, empirical analysis will test hypotheses related to whether the use of communication-related courseware tools (e-mail, threaded-discussions, chat rooms, and team work spaces) have an impact on students' sense of community in face-to-face courses. A quasi-experimental, program evaluation approach will be used (Cook & Campbell, 1979). Multiple university course sections across the university will be surveyed and categorized into one of two study groups: one for those sections in which the instructor incorporated the use of communication-related courseware tools as a significant component of the overall course plan and the other for those without such use of courseware tools. In both qualitative and quantitative studies, the outcome of interest is sense of community, which will be measured using the Sense of Community Index (SCI), an instrument initially developed and validated by McMillan and Chavis (1986) and modified to its brief form by Chavis, et al. (1986). While numerous instruments have been used over the years to measure sense of community, the SCI is the most commonly used and broadly validated (Chipuer & Pretty, 1999).

Conclusion

This paper has presented the conceptual foundation for an in-progress qualitative and empirical study of the relationship between the use of web-based courseware tools and sense of community among students enrolled in face-to-face university courses. When completed, this work will answer Kling & Courtright's (2003) and Haythornthwaite, et al.'s (2000) calls for a more objective and rational evaluation of the effectiveness of CAI and online courseware tools for transforming groups of students into learning communities.

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