Distance Learning Applications Using Virtual Communities

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INTRODUCTION

On many college and university campuses, the use of distance learning continues to grow with academic courses and programs that have all, or at least part, of an online component(s). Most colleges or universities have some form of Intranet where instructors can make course materials available online to their students and/or they may have an online location where students can converse with others on course-related topics. A review of the literature indicates that while the use of campus-based Intranets and the Internet on college and university campuses is widely discussed from a variety of theoretical and practical bases, the body of published knowledge on developing and implementing virtual communities is less robust. However, numerous papers on this topic do exist and their findings indicate that the use of a virtual community can be essential in today's distance learning environment.

HOW VIRTUAL COMMUNITIES CAN BE USED IN ACADEMIC APPLICATIONS: ORIGINAL AND CURRENT IMPLEMENTATIONS

A few years ago in academics, original implementations of virtual communities were used to address one (or more) specific learning need(s) of distance learners, rather than to explore the possibilities of using a virtual community as a tool to enhance the overall communications process in distance learning courses and/or programs.

McLoughlin (1999) studied the responses of students from different cultural backgrounds to distance learning and to virtual communities. The author's research involved students from several different indigenous Australian cultures. McLoughlin's findings stressed the need to understand that distance learning is often a compromise between the design of academic approaches that are flexible enough to handle widely divergent student population groups; yet specific enough to address the cultural needs, preferences, and learning styles of highly localized groups of individual learners. Distance learning courses were substantially improved in cases where the instructor was willing to recognize and develop a virtual community specifically geared to online learners as an integral part of rolling out an online curriculum. When developed properly, such virtual communities can serve as important communication bridges between students and the instructor and/or between individual students, thereby enhancing the distance learning experience.

Bishop (2000) studied the development of virtual communities for individuals from a wide variety of economic backgrounds. The author observed that many of the original virtual communities were constructed by, and to serve, "privileged" population arenas such as "computer enthusiasts and innovators" or others with a high level of formal education and relative prosperity. Her research indicated that success in developing virtual communities can be enhanced by recognizing the need to make the technology accessible to individuals of all social and economic backgrounds. "Free or low-cost" access to virtual community software and services on the Internet was found to be a key driver of success in implementing education-oriented virtual communities for students in the public schools.

There is an indirect implication in McLoughlin's and Bishop's research for an online educator at the college or university level. At institutions that are strapped for computer resources, crowding and overuse by students can limit student accessibility to virtual community Web sites. Students who are unable to afford private Internet service for their dormitory or apartment units are often forced to wait their turn to access the Internet on a limited number of public access terminals on campus. The spontaneity and enthusiasm associated with accessing a 24/7 virtual community whenever desired will be hampered under such a scenario. For academic institutions that have established adequate computer facilities to serve their campus populations, this concern is greatly reduced. Thus, unlimited access for all students, 24/7 (24 hours per day, seven days a week), is a basic necessity for a virtual community to survive and sustain active membership over a distance learning course's duration.

Researchers have also examined several current implementations of virtual communities in academics, especially as they relate to a public school setting. For college or university students, virtual community applications

can be extrapolated from an extension of these research outcomes. In today's distance learning environment, virtual communities can be utilized as an efficient and an effective communication channel and problem-solving tool.

Beghetto (2001) observed that parents of public school students took advantage of the power of virtual communities in a variety of ways. He noted the use of various forms of electronic conferencing; such as parent/teacher conferences and student/teacher/parent interactions that now take place on a routine basis. The author stated that in many of these situations, the quality of the interactions increased substantially when they were carried out through electronic media. Individuals and/or groups of people were brought into contact where face-to-face meetings may have been logistically difficult or impossible to coordinate. The ability to ask and answer questions between teachers and parents in an asynchronous mode that allowed both parties to review and digest what was discussed also substantially increased the accuracy of the information transferred and the knowledge gained by both parties. While Beghetto's comments were structured around the public school system, it is not a significant stretch to see how similar electronic conferences could be held between instructor/student(s) and through student team interactions (using a personal e-mail system or some form of password-protected access in portions of a virtual community) for a college or university setting. It would also be logical to extend Beghetto's work to encompass virtual community feedback discussions on how well an online course is meeting students' needs and wants in disseminating relevant course information and/or providing meaningful opportunities for student interaction(s). Depending on how a virtual community is set up, formal or informal discussions could be structured to occur with or without the participation of the instructor, as appropriate.

Innovative problem-solving tasks have taken on a new approach in distance learning. Looi and Ang (2000) reported on the development of collaborative learning environments where students work together to generate common knowledge through interactions over the Internet. Using a highly-structured approach, Looi and Ang described instructors posing problems using a software package that allows students to sign on and contribute to the generation of solutions in an online environment. This application of problem-solving software takes the concept of virtual communities in a new direction. It relies less on student-originated questions, answers, and general discussions and it relies more on the specific online tasks assigned by an instructor. Looi and Ang recognized the unconventional nature of this application and they recommended assigning problems that maintain more student freedom (in terms of free-flowing interactions that typically occur within a virtual community) as the most suitable for a distance learning course. Citing a specific application of a project where two schools competed online to perform project work in the field of aroma therapy, Looi and Ang suggested that the questions posed and the problems designed encouraged multiple students to work together toward solutions that actually increased usage of the virtual community.

While Looi and Ang focused on the construction of suitable projects to stimulate student use of a virtual community, Hedberg and Corrent-Agostinho (2000) described the importance of maintaining a flexibility in the online learning process that allows students an opportunity to explore materials and formulate their own approaches to solving the problems at hand. The authors were more concerned with whether or not the technical infrastructure supporting a virtual community would allow students to take projects in their own directions or force rigid adherence to a predetermined set of steps. They recognized that no computer software package was likely to cover all of the possible hypotheses and requests for additional information that students could generate while in search of an answer(s) to a complex problem(s). Instead of attempting to serve this perceived impossibility, the authors advocated the creation of software systems and accompanying online applications that focused on presenting difficult problems (many of the problems without exact solutions) to students. This would allow the students to record and discuss their efforts to solve the problems regardless of where they generated the information necessary to support their conclusions. In essence, Hedberg and Corrent-Agostinho maintained that a virtual community should not be expected to directly handle all conceivable student inquiries, but that it should be flexible enough to allow students to raise and discuss the relevant issues with their peers in formulating answers to difficult questions.

Taken together, the latter two teams of researchers offer both an opportunity and a watch-out for the use of virtual communities in distance learning courses and/or programs. The opportunity is that students can explore the advantages of learning in a virtual community. Students are likely to propose their own approaches and solutions to the problems and/or the issues that are presented to a student group. The watch-out is that the instructor must be diligent in understanding when some degree of structure must be imposed in order to keep the learning on track. He/She must be diligent in recognizing when students should break away from working purely online in order to understand and solve complex problems/issues.

Instructors have many options in the use of virtual communities for distance learning courses and/or programs. The instructor can use a virtual community for the