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# Collegiality and Community - Building as a Means for Sustaining Student Persistence in the Computer - Mediated Asynchronous Learning Environment

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## Abstract

Implementation of cutting-edge technology has enabled higher and postsecondary education to create new learning environments by affording greater access to education for more students via virtual classrooms. Although virtual instruction in its asynchronous mode has been reported as to be at least comparable, and sometimes better than conventional learning formats, a concern remains about whether it has changed the fundamental nature of collegiality and community development among participant learners, and how that has affected student persistence in academic programs. This article describes a qualitative study revealing students' viewpoints on their virtual learning experiences in an asynchronous computer-mediated learning (CMAL) environment. Special attention is given to the development of a dynamic virtual learning community among participant learners as a means for developing collegiality and sustaining persistence and consistent engagement in the program.

The participants were twenty-four doctoral-level students engaged in the course offered in the CMAL environment. The findings from the study hold special relevance for higher and postsecondary administrators interested in knowing how development of a virtual community occurred among geographically dispersed learners and the power of such community for sustaining persistence in the online learning environment.

## Introduction

The ongoing transition of the United States into the information age and the rapidly changing and expanding multicultural national demographics of the nation have markedly impacted higher education. More and more nontraditional students, many with multiple job and family responsibilities, are seeking access to higher education (Council for Higher Education Accreditation, 2002; National Center for Education Statistics, 2001). Concomitantly, expenses associated with higher and postsecondary education have increased markedly.

The nexus between demand and access is further exacerbated by a dilemma facing some institutions regarding student applications, matriculations, and persistence to graduation. It is an especially acute issue for institutions lacking a substantial population base from which to draw potential students. Consequently, some higher and postsecondary institutions have been rethinking both their programs of instruction and methods for instructional delivery, with the

goal being to make them more accessible and at the same time attract more students (Bates, 2000; Dunn, 2000; Shoemaker, 1998). The apparent answer lies with considering distance education venues for guided student learning.

Distance education in its computer-mediated asynchronous learning format provides students with new and oftentimes markedly different learning experiences because of being location and time free. Instead of conventional constraints imposed by schedules for classes, a computer-mediated asynchronous learning (CMAL) environment allows for and facilitates maximum involvement by all participants (Moore & Kearsley, 1996; Simonson, Smaldino, Albright, & Zvacek, 2000). It is characterized by a time delay between steps in dialog, allowing participants to respond at their own convenience (Web Based Learning Resources Library, 2002). It gives learners access to course materials, including readings, embedded and streamed multimedia, and external web sites. And it allows learners to participate in facilitated discussions, complete assignments individually and collaboratively, and to gain facility working in teams.

Such changes in learning formats justify questions about the activities with special emphasis on the quality, which has been critically evaluated and reported to be at least comparable and sometimes better than conventional formats (Chute, Thompson, & Hancock, 1999; Moore & Kearsley, 1996; Yen & Mashhadi, 1999). Also there has been concern about whether virtual instruction, in its asynchronous mode, has changed the fundamental nature of collegiality and community development among participant learners, and how that has affected student persistence. The genesis for such consternation has at least two platforms; one being that the on-campus experience, reportedly, encourages persistence in an academic program (Bair & Haworth, 1999; Bowen & Rudenstine, 1992; Golde, 2001; Haworth, 1996; Kowalik, 1989). The other relates to all student services programs, which encompass expenses associated with offices such as: recruitment, registration, financial aid, advising, health services, extracurricular activities, and associated organizations for alumni and foundations (Brigham, 2001; Hollowell & Schiavelli, 2000; Middaugh, 2000; Rames, 2000; Taylor, Canning, Brailsford, & Rokosz, 2003; Winston, 1998).

In spite of being a comparatively recent phenomenon, the CMAL environment and virtual community building have been researched extensively. Hiltz (1998) argued it was possible for people with shared interests to form and sustain relationships and communities through the use of computer-mediated communication. Also it was observed that computer-mediated asynchronous instruction had all the characteristics to support collaborative learning and cooperation between and among the participants (Curtis & Lawson, 2001; Harasim, Hiltz, Teles, & Turoff, 1995; Palloff & Pratt, 2003) and, reportedly, helped retain students in academic programs (Brown, 2001; Eastmond, 1995; Garrison, 1997; Kowch & Schwier, 1997; Powers & Michell, 1997). However, there is little research on the role of virtual community in students persistence in the entire program, and specifically a doctoral program of studies. Different phases of doctoral study might reveal interesting facts; beginning students who work as a tight cohort, advanced students matriculating in different courses, and, of course, the dissertation phase.

This article describes experiences reported by a group of doctoral-level students engaged in asynchronous learning in an advanced class required for their major area of study. Special attention is given to the development of a dynamic virtual community among participant learners and how it serves as a means for sustaining student persistence and consistent engagement in the program.

## **Procedure**

## *Participants*

Thirty-four students pursuing a doctoral degree in Educational Leadership in Higher Education were enrolled in a course entitled Administrative Issues in Higher Education offered through the Department of Educational Administration at the University of Nebraska-Lincoln in the CMAL environment. About half were considered seasoned online students, having completed three or more such courses and many had completed at least five. The other students were relatively new to CMAL, but all had finished at least one such course during the past six months. The participants were dispersed across a wide portion of the globe (i.e., Canada , Kenya , Philippines, United States), and a number had extensive and ongoing international business travel schedules during the semester. Others had travel commitments related to a range of professional and/or personal obligations. The participants' ages ranged between 33 and 52 years and all were employed full time. Notably, more than 90% of those participants (N = 31) were paying the non-resident tuition, and were willing to do so because it was the only way for them to pursue such a program of studies.

## *Nature of the Program*

The course was part of a total doctoral program conceived for the purpose of meeting the needs of mature students interested in furthering their academically related development while reducing disruptions to their personal and professional lives ( Seagren & Stick, 1999). Almost all of the coursework was provided using technology (i.e., Lotus Notes Groupware, Learning Space, e-College.com, Blackboard, etc.) (Stick & Ivankova, 2004). The genesis for the learning experiences was predicated upon changing the graduate education paradigm from one of instructor-centered and directed to one in which students influenced and even shared responsibility for control of the course. The instructor's obligation was to create the learning experiences and front load the course. Once the semester began, the instructor's duties shifted from directing and instructing to facilitating and guiding.

The contrast in the instructional philosophy rested with the differences between learning that was passive (i.e., linear, cumulative, factual, lecture, testing and grades, individual interpretation) and that which was active (i.e., shared meaning, collaborative, continuous, evaluation by instructor(s) and peers, problem solving, constructive thinking) and termed a learning dialogue. In conventional education settings, due to constraints of time and sometimes dominating classmates, many students seldom take or are allowed opportunities to express their ideas or develop concepts. The CMAL environment negated such limitations by providing multiple pathways for learning, and each participant had access to and was responsible for utilizing all of them (i.e., virtual classrooms, virtual cafeteria, virtual faculty office, electronic journal, course literature bank, course library, holding all of the required course readings beyond the assigned texts). Additionally, all students had direct access to the University of Nebraska-Lincoln library system and the librarians assigned to work with extended education students throughout the course.

## *Method*

This online asynchronous course contained three virtual classrooms in which students interacted when addressing the issues/questions posted by the Instructor. There were four modules, each being about four weeks in duration. Participants were instructed to respond within their assigned classroom, but all had access to the work entered by members of the other classes, and were encouraged to comment upon that work. About five weeks into the course there was an online discussion among a majority of the students about how eagerly they came to welcome interacting

with their colleagues in the course, and that many knew substantial amounts of information about their classmates despite having never seen them. Some of the participants had been conducting telephone conference calls with class members and “friends” they knew from earlier courses. A number had established an e-mail listserv for exchanging information and/or friendly conversations external to the course.

With the awareness of such extensive interactions came the realization the students were developing a sense of community and a network unlike any other thus far encountered during their academic experiences. Students talked about how useful it was to share experiences academically and socially and that it was valuable to share ideas with others. It also became evident that this kind of interaction and shared knowledge favorably impacted their persistence in the course. Some students proposed the idea of researching the community development experiences created in this CMAL course in lure of the final examination. The instructor agreed with the understanding that the data would be obtained systematically and analyzed using a qualitative thematic analysis approach due to the exploratory nature of the proposed study. The students were asked to discuss four key questions/topics focused on their learning experiences in the CMAL environment, their involvement with class activities, the development of camaraderie and collegiality, and the building of virtual community . The four key questions/topics used are presented in the section below with the working definitions given during the study. Class members within each of the three virtual classrooms were designated as cohorts and a member from each group was identified as the coordinator for the dialogue. This person's responsibility was to ensure that conversations were continuously structured around four key topics provided by the instructor and that the discussions were meaningful.

## **Discussion Questions**

*1. Student learning in a virtual class.* Each person was asked to talk about or explain how he or she learned/gained information that probably would not have occurred (formal or informal) beyond exposure to the course, and what were the events/precipitating factors that led to such learning. During the commenting participants considered what was sought in responses from other participants and whether they were equally comfortable interacting with all members of a designated virtual classroom. Those topics sought to learn if one or more participants preferred to work more with some cohort members, if they looked for involvement with members from other virtual classrooms, and if they had identified the reasons behind such actions.

*2. Involvement - does it lead to investment ?* Participants were asked to comment upon how the nature and degree of responding from others influenced their own involvement in the course. Also sought was information on how the instructor's virtual presence influenced their participation. That question probed for information on the instructor's involvement in multiple ongoing threaded discussions, exploring one or more issues, even though the direction(s) might move away from the initial focus of the posted topic. It also asked the participants to comment upon how they defined substantive interactions; and if involvement with such learning made them believe they had grown as a scholar at that point in the course, or during their program of studies; and if ultimately that influenced their persistence in the program.

*3. Camaraderie - can it happen online?* The last topic addressed camaraderie with members of the designated virtual classrooms, and if there was a greater degree of willingness or hesitancy to become involved with discussions on some issues or with some participants. The second part to that question sought to learn if participants believed they had or would have similar experiences in conventional courses.

4. *The building of community.* Each person was required to explain what he or she perceived to be the community building experiences most helpful, or at least helpful in that course, and what effect that had on their persistence. If students discussed other courses it was required they note the nature of those experiences and the course(s). Importantly, it was requested that they differentiate community building from straight socialization, and to explain what happened if and when they engaged in collegial, academic, or other kinds of interactions with classmates.

## Results

Twenty-four students volunteered to take part in this project. They were unevenly distributed among three virtual classrooms, making up seven, nine, and eight students in each respectively. Initial reservations about such a collaborative group effort being conducted over the Internet were dispelled. The consensus was that the activity was energy and time consuming, more than had been anticipated, but it was a rewarding and intellectually stimulating experience that exceeded student expectations.

The discussion of the four questions by the study participants yielded 120 essay-like responses. They were analyzed for codes and themes, using a qualitative approach (Creswell, 2005; Lincoln & Guba, 1985). The steps in the qualitative analysis included: (1) preliminary exploration of the data by reading through the essays and writing memos; (2) coding the data by segmenting and labeling the text; (3) using codes to develop categories by aggregating similar codes together; (4) aggregating categories into themes; and (5) connecting and interrelating themes. As a result of this analysis, five major themes emerged, consisting of twenty-seven categories. The breakdown of the themes and categories is presented in Table 1. Discussion of the major themes follows the table.

**Table 1. Distribution of Major Themes and Related Categories**

Major Themes	Sub Themes
1. Engaged Learning	Virtual class involvement vs. conventional classroom participation
	Conditions for increased involvement in the course
	Advantages of asynchronous format
	Motivation
	Time management and discipline
	Responsibility for one's learning
	Student diversity
2. Interactive Learning	Comfort level with online learning
	Range of interaction with other students in class
	Participation in ongoing threaded discussions
	Defining substantive online interactions
	Quality of one's writings
	Conditions for substantive online interactions
3. Collaborative Learning	Collaborative learning as a means for improved knowledge
	"Lotus Notes" learning environment
	Role of instructor
4. Developing Camaraderie	Being connected to other students in virtual class
	Students' virtual personalities
	Dialogue as a means to establish relations
	Virtual cafeteria
5. Sense of Community	Introduction to the virtual class

	Positive initial feedback
	Discussion as a foundation for building online community
	Virtual classroom size
	Providing support and encouragement to others
	Barriers to online community building

## Engaged Learning

All participants argued the online environment was more engaging than a traditional face-to-face classroom and vigorously claimed they were “actually contributing more ‘in class’ in the distance education format than in a traditional classroom.” Of note was the asserted high quality interaction between and among students and their consistent and diverse positive feedback to peers. Equally important was the ideas that the CMAL format gave additional time to reflect over responses, while a “faceless” environment contributed to more willing participation. As stated by one of the participants, “The asynchronous approach greatly facilitates the critical exploration of issues as one has the freedom to reflect, look up half-forgotten references, reread the contributions of other students (as often as necessary), ask questions of clarification, and learn from the comprehension of others.”

The special advantages also included “acquiring knowledge due to sharing thoughts in writing” and not being forced to try and remember what was said, having multiple opportunities to reflect, refined relevance of the material, and appreciation of diversity of opinions. Although students' workload was greater, learning was deeper and more rewarding. Points emphasized included: diversity of ideas, learning from peers, group collaboration, equal involvement, and respectful attitude created unique experience and deeper knowledge.

The fact online learning provided opportunities to gain more information demanded more engagement and more active reflection on the part of the students. It made the participants more responsible for acquiring knowledge and greatly contributed to creating an enhanced learning environment. One participant observed, “The student learner takes on a more active role and more responsibility for his or her own learning thus becoming more engaged in the course content.” Geographical, cultural, professional, economical, political diversity of the students created multiple perspectives on topics, which made responses enlightening, thought provoking, clarifying, and validating. Topics chosen for discussions generated varying degrees of interest, so small group interactions within the larger cohort responses were popular. All participants stated time management and necessity for self-discipline were crucial for increased involvement in virtual class work.

## Interactive Learning

For many participants the CMAL approach was an effective learning format and a preferred method for learning. It afforded freedom to read and reflect before coming back to respond, it facilitated critical exploration of issues, and it allowed participants to reflectively prepare and edit material presented to others. That point was identified as being non-existent in conventional classes, but an important aspect of further improving a person's ability to convey meaningful information in a succinctly but supported fashion. A dramatic increase in the comfort zone was reported, especially when responding to “familiar students.”

However, not all participants were equally or fully engaged with all the students in class. The major factors cited were “time constraints”, “little prior CMAL experience”, and “had not previously taken a course together”, which perhaps unknowingly constricted the newer students to less robust virtual exchanges. Tacitly conveyed was the impression that interactions with

selected students were not desired, perhaps due to personality or quality of work. Some students said they preferred to address the contributions from selected individuals, considering their writings most beneficial, thus developing mentor relationships. Several persons claimed they had a sense of being inferior to others and thus they were uncomfortable and reluctant to respond, particularly when they found themselves lagging behind. Other students pointed out the demands from the CMAL course(s) were so extensive, and much more so than from conventional courses, that they were confronting “burnout” from trying to balance so many tasks. A common refrain was that the online course work was “consuming” but well worth the effort.

For most participants, discussion with colleagues was the most enjoyable aspect of the course. Parenthetically, it was noted that conventional students seldom had the chance to fully engage classmates, and to allow scholarly discussions to find other avenues for conversation. Participation was initiated by the course requirements, and “once the discussion has begun, more and more people join the conversation, almost to the point of masking the asynchronous format.” Topics for discussion invited opinion and responses, and the students shared and nurtured the basic ideas as the discussions progressed. Moving from the initial focus provided new information, insights, and perspectives. One student wrote, “The ability to read other responses was also enlightening, thought-provoking, and even an affirmation of the correctness of one's posting.” The asynchronous format provided permanence to the work and enabled participants to go through a discussion any time and save information. Different students needed different time spans to interpret the comments and to plunge into the discussions.

In the virtual classroom, involvement was determined by the written work. Participants pointed out the major point was “working hard and focusing on the quality of one's work.” Written responses provided a record of involvement, but also fostered development of a student's personal image. One participant observed, “Everyone develops a written personality that gives them a virtual image.” Discussions also contributed to developing scholarly writing in preparation for the dissertation proposal, comprehensive examination, and ultimately the dissertation. Of crucial importance was demonstrating consistency, motivation, and responsibility. Active discussions encouraged everyone's involvement, cultivated further reflection on points, and provided opportunities to recognize missed points and add new information: “Dialogue is enhanced, for not only do we learn something from writing our responses to the questions in each module, but when a classmate responds to one's response, there is a chance to step outside of one's own perspective and learn something new from someone else's point of view.”

The intent of the course was to foster reflective discussion based upon awareness of facts as interpreted by others. No attempt was made to impose a perspective. An admonition presented by the instructor was that personal affronts were unacceptable, but critical commentaries leading to further development of ideas were desired. Establishment of ground rules for interactions and parameters for discussions was done at the outset of the course and encouraged participants to monitor their own behaviors.

Most participants observed that interactions were facilitated by postings encouraging additional questions and substantive responses. Those were responses that “furthered a point, gave examples, or offered conflicting views.” Such entries were accompanied with explanations as to why it had merit. Superficial postings, such as “good job” without an explanation were considered to be of no value, and discouraged. A concern shared by many participants was that the quantity and richness of the postings “required constant attention.” Failing to stay current, even for a few days, often created a sense of being “hopelessly” behind. One student said, “There were too many places to respond, and one could easily get overwhelmed.” Yet, the participants

unanimously endorsed CMAL.

### **Collaborative Learning**

Many participants said the CMAL format encouraged active learning, with peer collaboration and cooperation as a central focus. Furthermore, it tended to foster more meaningful learning, created a “learning environment”, which “enhanced the qualities of reflection and synthesis of thought”, and encouraged active involvement of all the students with little guidance required from the instructor. Most students agreed the “community aspect of this distance learning program had allowed them to help each other as scholars in a supportive, collaborative atmosphere.”

The instructor was described as a participant, expert, leader, designer, facilitator, and mediator of the course. That person directed the environment of interactions, guided the students in their discussions, and evaluated and adjusted class activities. It was pointed out that the injections of humor and encouragement produced a “real person” effect, and the ability to provide timely feedback eliminated uncertainty, hesitancy, and frustration. Speaking about the instructor's role in virtual classroom, one student wrote, “Dr. ... has provided just the right amount of nurturing and guidance in the discussions. To read ... comments or see ... a poignant question about your posting makes you keep a heads up approach.” The instructor's role in the CMAL environment was important and complex. In the words of a study participant, “The instructor is the course”. The needs of the students varied in terms of their expectation of the instructor's ability to create a healthy learning environment. The ability to set the tone producing success and providing motivation was “crucial for creating chemistry that would enhance learning and contribute to students' growth.”

### **Developing Camaraderie**

All participants enthusiastically stated that the online asynchronous learning helped them develop a feeling of real and genuine camaraderie, but the extent varied particularly among the newer students. Having similar goals, values, and oftentimes reasonably similar responsibilities led to free exchanges of personal information and further enhanced the sense of camaraderie. It also sustained student persistence in the course. One participant wrote, “A sense of camaraderie ... has helped some of us stay on the path to finish the course. A forum to “shop talk” has been invaluable, and helps some feel more connected to other students. Part of community is knowing that we all have huge personal and professional responsibilities in addition to our coursework.”

The participants' interactions beyond the confines of the course-related material were rich and seemed to contain many helpful comments, especially to students in the earlier stages of their programs of study. Students became acquainted through their dialogue in the virtual classrooms, when “virtual personalities” emerged in writing styles and the tone of responses. Some embellished their work by using different fonts, colors, and size of text. It was there, in the virtual classrooms, where trusting relations were formed, assistance was provided, and collaborative learning experiences were accumulated. The virtual cafeteria provided an opportunity for additional informal connections. Students developed relationship that seemed to be similar to that of a pen pal, but also cultivated new friendships through the virtual learning experience.

An objective of the program was to help students network., As indicated by one of the students, it was successful: “The bottom-line is that the camaraderie is real and genuine. Even though most have never met face to face, a common goal has been acknowledged and is being pursued. Each student in the class may be from a different discipline, but all are seeking the same goal,

knowledge. By developing friendships through dialogue, personalities come through in their writing style, and, indeed, this, rather than body language, may be the wave of the future.”

### **Sense of Community**

The participants identified numerous factors as having contributed to online community building. An important initial step was learning about the other students in the class through the “Participants” course icon. Being able to learn something about each other's backgrounds, sharing personal information, including interests and life goals, helped set the stage for developing a sense of community in the online environment.

The majority of students observed that positive initial feedback from the faculty and other students in class during the first course module was very important for establishing the community. For such students other students' feedback had stimulating and motivating effect on their persistence: “Positive responses from fellow classmates are valued and students are reinforced when something they had written was received well and even quoted by others.” But some admitted they were not influenced in their work by peer comments, but tended to depend upon the feedback from the instructor. That was a particularly vexing finding and interpreted as meaning a person was still viewing the learning paradigm as being instructor-driven. Future research should pursue this topic.

Multiple interactions, especially in small discussion groups performed in the atmosphere of accountability and mutual respect, were crucial for building a community of online learners with diverse backgrounds and opinions. The following quote best represented this idea, “The more that we interact with our classmates and instructors, the better we get to know each other and this enriches our learning experiences and creates a sense of ‘community’ creating a new paradigm.” Another student wrote, “Encouragement and support on the part of the faculty members and students is crucial and keeps me on track.” In an online learning community, “providing support and encouragement to other students was a must.”

Honest questions and disagreement over certain points were important parts of the virtual learning experiences for these participants. Taking time before responding and careful wording of the postings helped create the atmosphere of mutual support, collaboration, and trust: “As collaboration becomes the norm, community emerges.” The virtual classroom helped appreciate the different points of reference that students' varied backgrounds represented and the permanence of the postings were identified as important for furthering reflective thinking. It was contrasted to the transient and fleeting nature of verbal exchanges in a face-to-face context.

Some students noted that class size was very important for creating a viable online learning community. In a virtual environment, “class size can certainly facilitate or impair learning.” Too small a class provided insufficient discussion opportunities and limited opportunities for the students to establish relationship, while too large of a virtual classroom inhibited interactions. Some students reported having been in CMAL courses with virtual classrooms of 15 - 20 plus students and that it was difficult to follow discussions and there was little interest in getting to know peers. The ideal was considered six - ten students, with each being invested in helping the others in the learning community.

The primary barriers to online community building were cited as being related to the infrastructure (software, Internet provider, technology support, busy phone line, computer crashing, server disruptions, and computer with required capability) and time management, as the experience with distance learning was relatively new for many students. Some students pointed

to a lack of time for “simultaneous participating in various discussion areas”, “overwhelming assignments”, and “inability for transmitting nonverbal signals.” An instructor's inability to provide adequate course structure also was cited as a cause for slowing down the process of community development among students.

A majority of the participants were positive about barriers to communication being a non-issue in virtual classrooms. Additionally, it was mentioned that the “Virtual Cafeteria” section in the course was very important for relationship development. As noted, “The virtual cafeteria gives everyone in the class a place to divert from the course content a bit and helps to develop more of one's personality. With the many different threads of discussion that are started, almost everyone feels that they can add something to the discussion in an 'informal' format.” This ability “to share more than responses to questions and assignments provide an opportunity to develop a community relationship with other students.”

## **Discussion**

### *Computer-Mediated Asynchronous Learning Environment*

Just as physical space does not equate to building a community, so too it can be said that CMAL does not automatically lead to the building of a community among virtual learners. The findings from this study suggest that it is the interactions between and among course participants that define them as a learning community, and it is there that online learning has benefits exceeding conventional classrooms. Though being separated by time and space, virtual learners have multiple opportunities for both formal and informal interactions, which provides the social context for building community relations. Bates (1991) observed that the important point was not to use interactive technologies merely to connect people, but to maximize social interaction. The CMAL approach utilized in this study seemed to fulfill that stipulation.

The CMAL environment enables professionals with different backgrounds, from geographically diverse locations, from varying educational disciplines, and from many types of institutions to come together. Doing so broadens our concept and experience of higher education. Quintana (1996) further identified exposure to and interaction with person representing a diversity of perspectives as a singularly important benefit to be derived from effective distance education: “Wider range of students in class (regional, national, or global participation)” results “in a wider range of opinions and views shared in class discussions”. In a traditional classroom, it is too easy to associate with just a few around one's desk and not be as aware of the differences in the class. It seems that CMAL is axiomatic to enhancing learners' exposure to the notion of a global society. By doing so it deserves the attention from higher and postsecondary administrators as they seek to balance issues of cost, quality, diversity, access, enrollments, and viability for the 21<sup>st</sup> century.

### *Online versus Face-to-Face*

This study reinforced the belief that virtual classrooms provide greater opportunities for meaningful and extensive communication among participants than has generally been found in a traditional classroom. Other studies reported that interaction in the virtual classroom differed in quality, range, direction, and volume from those in the traditional setting. For example, Hillman (1999) found interaction patterns in the computer-mediated courses resembled discussion, whereas the patterns in the face-to-face courses resembled recitation. Computer-mediated course students used opining (sharing opinions) significantly more than did their instructors, and more than either instructors or students in face-to-face classes.

Anderson and Garrison (1998) argued the capacity to support interaction in an asynchronous format provided an opportunity for reflection and deliberation not found in any synchronous learning environment – including face-to-face classrooms. Furthermore, the permanency of dialogue made for a deeper type of learning, particularly because it allowed for revisiting ‘conversations’ and thoughtfully forming responses supporting or refuting information. The essence of such involvement, which is the hallmark of active learning, is that knowledge becomes personal and better ingrained into cognitive structures, instead of being superficial interactions.

### *Learner-Centered*

The online learning taking place in this course was learner-centered and afforded students more control of the pacing, sequencing, and style of interaction of the learning experience (Chute et al, 1999). The particular emphasis was on “learner-learner interaction” ( Moore , 1989) leading to increased interaction and more active involvement with the course. Dialogue could start with one classmate or with many, and it was possible for meaningful conversations to occur on different issues within the same time frame. The timeless quality, where one was able to enter and depart a conversation at any time or point, was particularly powerful in terms of enhancing learning.

As stated by one of the participants, “faculty members and instructors need to be sensitive that not too many bells and whistles are used to encourage discussion. This tends to be confusing and also at times interrupts the flow of thoughts and conversation.” Recognizing that learning needs to focus on the process and not the product for conveying the activities is important because it can be seductive wondering how to further import technology. Quintana (1996) and Simonson et al (2000) explained that flexibility to pursue education at personally convenient times was a distinct advantage of learning at a distance, and the need was to fine-tune such experiences to best suit learners presenting different needs. As noted by Wellburn, “virtual instruction reaches students everywhere, including urban areas, providing a set of new and innovative types of learning experiences with a focus on flexibility” (1999, p. 46), consequently it would be in the best interests of higher and postsecondary education administrators to address CMAL and the associated issues of student persistence.

### *Threaded versus Linear*

Participants in this study believed that the discussions surrounding instructor-presented topics were the most important communication tool in the asynchronous online learning and served as the primary step for building community relations. Hart and Mason (1999) argued that by utilizing threaded discussions and document sharing, computer-facilitated instruction provided both teachers and students with a communications environment rich with opportunity for reflection. That viewpoint was supported by Berge and Collins (1995), who asserted that unlike the linear flow of a traditional classroom discussion, a computer-facilitated communication environment allowed students to continue a discussion for several days, alternating participating and lurking in the background to reflect and read, until they were sufficiently comfortable with their opinions to add to a discussion. Once having done so, such participants generally were eager to know how their contribution(s) were received and responses by others in the course (students and/or the instructor) served as validation for their work.

In a virtual classroom, dialogue is a means for enhancing learning regardless of the nature of the conversation. It allows students to learn from writing their responses to the questions in each module, and when a response is made to their posting there is a chance to step outside of a personal perspective. Supporting that idea, Simonson et al (2000) wrote, “students can benefit

from a wider range of cognitive, linguistic, cultural, and affective styles than they would encounter in a self-contained classroom” (p. 117). Furthermore, it seems critical for students to be conversant with alternative viewpoints, how to best interface with persons presenting other perspectives, and to know how issues have been or might be addressed in other circumstances. The ability to share and learn in a CMAL context provides all these opportunities in addition to fostering a community relationship unparalleled in conventional classrooms. As students get to know and trust each other, their interactions become more vigorous and frequent and the learning experiences become enriched.

### *Creating Learning Community*

In this study, it was apparent that an online learning community emerged with a system of relations, liaisons, and bonds. One of the prerequisites for building a community among virtual learners is sharing the same goals and values. This idea has been extensively discussed in the literature. In her study of the process of community building in distance learning classes, Brown (2001), for example, found that students used similarities of backgrounds, interests, and ideas or shared circumstances, which helped in the development of virtual conversations. Branden and Lambert (1999) argued people tended to communicate with those who shared a similar outlook on life, a common language, and belief and value structure that was compatible. Garrison (1997) also claimed it was possible for people with shared interests to form and sustain relationships and communities through the use of computer-mediated communication. That observation was also supported by results from this investigation.

### *Support and Candor*

Another prerequisite for a virtual community development included a collaborative learning environment and cooperation between and among the participants. It was observed that computer-mediated asynchronous instruction had all of the requisite characteristics for supporting collaborative learning (Curtis & Lawson, 2001; Harasim, Hiltz, Teles, & Turoff, 1995; Palloff & Pratt, 2003). In fact, Zhang (1998) pointed out it was important for instructors engaged in providing extended learning to be especially sensitive about employing selected approaches for facilitating interactions, because the nature of active learning fostered absorption of knowledge when it was made personal. Obtaining support and encouragement from an instructor and other students was tantamount to validating the fact that ideas and opinions were valued and respected.

Verduin and Clark (1991) reported that some adult distance learners suffered from a low self-concept, particularly those who had been away from formal learning for an extended period of time. Frequently, such students tend to be insecure when writing or speaking before peers and try to avoid personal exposure by lingering in the background. But the nature of the CMAL is such it can be constructed to require involvement from all participants and also that each person be involved at least to a benchmark level. Requiring such involvement enhances the learning for an individual while also helping all involved to benefit from the ideas and experiences from other contributors.

Instructors need to bolster students' efforts through praise and positive acknowledgement of their achievements, but it is necessary to be candid with students. Those in need of improving both the quality and quantity of work submitted need to be so informed, and the sooner it is done in a course the better it is for all involved. When addressing serious issues with a student it is best to communicate off-line from the confines of a course, and the instructor should ensure that records of such communication are retained. In Brown's (2001) study the community-minded participants

were interested in and provided positive reactions to each other's virtual cafeteria and classroom input. Receiving such messages reportedly bolstered participants' self-confidence and raised their comfort level with the course involvement.

### *Community and Camaraderie*

Community building in this study was facilitated by the development of a sense of camaraderie. The results were interpreted as meaning that it was possible to develop true camaraderie in the CMAL environment. The participants with more experience in the program testified to that point by explaining they often relied upon each other for support beyond the boundaries of a given course, and that it was common to solicit guidance from students with more experience in the program. Brown (2001) argued such interactions usually happened after long-term and/or intense association with participants, and/or positive face-to-face interaction that followed on-line associations. Chute et al (1999) pointed out that effective use of both synchronous and asynchronous forms of communication and interaction could allow the formation of strong bonds between the participants in a distance learning class. In research conducted on students in three Masters of Technology Programs, Souder (1994) also found that through their interactions, the students developed a sense of connection, a “kindred spirit” that was strengthened by their common experience of physical separation from an instructor and from each other.

The idea that communities could develop and flourish without physical proximity was reported in earlier research (Palloff & Pratt, 1999; Turkel, 1995). Anderson and Garrison (1998) and Brown (2001) claimed that although such communities were different from their face-to-face and place-bound communities, it could not be denied they met the diverse social and intellectual needs of widely-distributed individuals. Students who completed multiple courses together continued to amplify their online relationships and reportedly developed a higher level of community over an extended period of time.

However, Sherry and Myers (1996) and Hart and Mason (1999) pointed out it was important to differentiate community from the issue of location or virtual space, because it was the dynamics of interactions occurring at those locations that defined a community. Contesting that position were Powers and Mitchell (1997), who revealed that despite distance and lack of face-to-face contact, a definitive community emerged, not by instructor effort, but by “necessity and survival on the part of the students” (p. 19).

### *Community, Collegiality and Persistence*

Collegiality and the learning community created in the CMAL environment also favorably impacted student persistence. Students were engaged in communications with each other both on class and other social issues, providing positive reactions and creating encouraging attitudes. Such interactions increased the participants' self-confidence and raised their comfort level. Shared interests and experiences among the participants helped develop long-term relationships that oftentimes grew into friendship. The long-term implications of such interactions for student engagement and sustained persistence in the program should not be divulged. In spite of the explicit connection between positive learning experiences and student retention in distance learning programs, only a few studies explored this relationship in the CMAL environment (Brown, 2001; Ivankova, 2004; Palloff & Pratt, 1999). The importance of this topic should not be neglected and must be brought to the attention of distance learning administrators and policy makers.

### *Limitations and Implications*

The limitations of this study rest with its reliance on participants' community-building experiences in one course in one doctoral program offered in the CMAL environment. Participants' responses were reflections of, and confined to their personal experiences, involving the self-assessment component. The uniqueness of the study within a specific context makes it difficult to replicate exactly in another context (Creswell, 2003). Due to the interpretative nature of qualitative research, the findings from this study might be subject to different interpretations by different reader, whereas there is always a potential for the researchers to introduce their own bias into the analysis and interpretations of the findings.

In spite of this, the findings from this study are believed to be useful for other academic programs offered in the CMAL environment. In the first place, they might help academic institutions better meet distance students' needs and increase their retention and degree completion rate. Knowledge and understanding of the mechanisms of developing collegiality and community building in a distance learning environment may provide a valuable tool for creating high quality learning opportunities for students who experience the double pressure of family and employment constraints and learning at a distance. The findings can also prove significant to adult learners contemplating such learning experiences and evaluating potential advantages and limitations of the CMAL environment.

### *Future Research*

Investigations of the collegiality and community-building in distance education and their impact on student engagement and persistence in academic programs should be done at different levels of higher and postsecondary education and include different venues of distance learning delivery. Maturity level of students, as well as extent, of technology expertise are factors to consider in such endeavors. The influence of peer assessment or response is another aspect warranting consideration. Perhaps the nature and degree of such commentary enhances or restricts participant involvement, or maybe the role of an instructor is pivotal to ensuring each student derives the maximum benefit to both their intellectual and emotional development.

Consideration could be given to the role of an instructor as a leader or progenitor of knowledge versus being a facilitator for students to develop the self efficacy required to become a motivated and persistent learner. Also it will be beneficial to explore the issue of virtual collegiality and community as an instrument for enhancing student virtual learning experiences and sustaining their matriculation and persistence in distance education programs.

### **Conclusion**

Distance education and technology have been reshaping higher education, creating new learning environments with both traditional and non-traditional students pursuing degrees in virtual classrooms. Computer-mediated asynchronous learning via the Internet increasingly is viewed as a viable alternative and, sometimes the only effective mode of knowledge acquisition. It possesses all the positive characteristics of the conventional face-to-face instruction, and oftentimes provides better quality learning due to higher cognitive involvement. It also has a potential for building online communities among the learners with bonds and relationship overriding space and time boundaries that favorably impact student engagement and persistence in academic programs. Recognition of this potency inherent in the CMAL environment is an important issue for administrators of higher and postsecondary education institutions.

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