

Cohort Learning Online in Graduate Higher Education: Constructing Knowledge in Cyber Community

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Abstract

This paper discusses a qualitative participatory action research study, which examined the nature of the cohort learning experience in an online master's program, from both faculty and student perspectives. After describing this online master's program in adult education designed from a social constructivist theoretical frame, this paper discusses two primary areas of findings related to cohort learning. First, were those related to the ongoing negotiation of the learning process: the importance of an opening residential; a consistent but flexible cohort structure; and building ongoing relationships. Second, were those related to the ongoing construction of knowledge: the role of team-teaching and the cohort model in transformative learning; the application of theory to real life practice, and the value of group support and collaboration in conducting research and constructing knowledge. Implications for practice are discussed.

Key words:

Cohort learning, online learning, online adult degree programs, residential learning, social constructivism

In the last decade, there has been much discussion in higher and adult education circles on distance education, Internet-based and Internet-enhanced learning, and online degree programs. Most institutions of higher education now offer at least some classes online, and many offer entire degree programs. While many have discussed the plusses and minuses of online education, and considered what it offers adult learners, there has been little discussion of online education in Internet-based cohort programs, particularly from the students' perspectives. Cohort-based degree programs are those programs where the same group of students begins a degree program together, takes the same sequence of courses, and, assuming they successfully complete each course, graduate together. While there has been some discussion of cohort based adult degree programs in the past 20 years, there has been very little consideration of the online cohort learning experience. Thus, the purpose of this paper is two-fold: (1) to discuss the results of a participatory action research project which specifically examined the nature of the cohort learning experience in an online master's program that began with a residential component, from both faculty and student perspectives; and (2) to consider the implications for the ongoing development of and academically sound degree programs in adult education and related areas.

Related Literature

There is no question that online degree programs meet many of the needs of adult learners. Nevertheless, learners generally participate in distance education programs not so much because they prefer them to on-campus face-to-face (FTF) instruction, but because computer mediated communication (CMC) and instruction provide a way to reach their personal goals despite constraining personal circumstances (Green, 1999; Northrup, 2002). As Sherron and Boettcher (1997) suggest, the main reasons for the proliferation of degree programs online are the availability of communication through computing technologies; the need for workers to acquire new skills without interrupting their working lives for extended periods of time in this information age; and the need to reduce the administrative cost of education.

In light of the proliferation of online degree programs, there has been much literature in the past ten years on the reasons for the development of online learning, suggested ways of teaching online, and research studies on the nature and impact of online learning and CMC in higher and adult education settings (Dede, 1996; Greene, 1999; Schrumm, 1998). Some of the skepticism of the very early years of online higher education classes and degree programs has given way to increased discussion of how to teach more successfully online, along with the recognition that online degree programs have now made higher education more easily accessible to a wide variety of people. Indeed, there is still concern for issues related to the digital divide (Lax, 2001; Mack, 2001) and the fact that worldwide, those with more access to wealth and power are also likely to have easier access to technology, therefore increasing the gap between the haves and the have-nots. However, more recent discussions have focused not only on analysis of the digital divide, but also on ways of theorizing and intervening in practice to attempt to dismantle it (Gorski, 2002).

Given the proliferation of online degree programs, a number of researchers in recent years have undertaken various studies about the learning process online and its related

areas. For example, Daley and colleagues (2001), studied five online adult education graduate classes from five different universities, and how 45 individual students reported learning. They evaluated students' remarks according to a five dimension learning model discussed by Marzano and Pickering (1997) that includes consideration of: attitudes and perceptions toward learning; how they acquire and integrate knowledge; how they build on or extend it; how they use it meaningfully in their lives; and "types of thinking or habits of mind" (Daley et al., 2001, p. 135). Students' reflective thinking and integration of learning were dependent on how positively they felt about technology, which obviously affected their participation level, engagement and use of the technology, and interaction among learners.

While the focus of this study was more on the learning process of these 45 individuals, others have emphasized the importance of building community online as central to the learning process. Highly relational learners have sometimes found the "faceless" dimension of online learning somewhat impersonal and problematic in meeting their learning needs, and have tended to be the ones to drop out of programs unless there was a way to have their relational learning needs met. As Tu and McIsaac (2002) suggest, those who experience a high level of what they refer to as "social presence"—the extent to which one feels that there is awareness of real communication in its multiple dimensions with others in an interaction in a particular context—report greater satisfaction with that context. This is true in online environments as well as face-to-face environments. Of course, in online environments the non-verbal dimensions of communication, such as facial expression and eye contact, are typically missing. Thus, Tu and McIsaac (2002) studied the specific ways 51 students experienced a high level of social presence in the online learning environment, and evaluated their results across three dimensions: social context, online communication, and interactivity. Participants valued the online social context that promoted familiarity with other participants, trust, informal communication as well as communication about the subject being studied, and a positive experience and attitude toward technology. Online communication was positively valued if it was expressive, included affect and emotion, and was easy to understand. Interaction that was immediate, invited a response, and discussed familiar topics yielded a high level of social presence. These factors were able to provide a satisfactory substitution for the fact that FTF communication was missing. And of course, participants with strong computer skills, and the availability of immediate technical support were factors that added to satisfaction with online learning.

While Tu and McIsaac (2002) specifically studied "social presence" online, others have considered how students interact online, and how to build community in CMC environments to facilitate student learning. Creating collaborative learning opportunities among smaller groups of students is a significant way of building community online (Bernard, Rojo-de-Rubalcava, & St-Pierre, 2000). Further, several researchers report on case studies at particular universities that support the notion that collaborative learning opportunities increase a sense

of community among online learners (Barab, Thomas, & Merrill, 2001; Fischer & Coleman, 2001-2002; Murphy & Cifuentes, 2001).

There has been much consideration of online communication, how to create community, especially through the use of group assignments and other collaborative learning activities; nevertheless, the literature on cohort learning in online degree programs in cyberspace is extremely limited. While it appears that some of the classroom cases discussed in the literature and cited above may perhaps have taken place in cohort programs, in most of these cases, there is no consideration of the cohort experience itself. Mason (2000) did discuss a cohort of student teachers' computer mediated communication, but her focus was on how CMC was used to enhance students' face-to-face learning rather than either online learning or the cohort experience. Strohschen and Heaney (2000) have discussed the role of team teaching and learning and some cohort dynamics in attempting to implement a critical pedagogy approach in an online degree program, which offers an important beginning to understanding how online cohorts can facilitate learning. While their focus was more on the team teaching aspect than the cohort experience per se, they did point out that student cohort members formed communities for both the goals of building a collaborative learning environment, as well as for meeting their relational and affective needs.

Given that cohort programs have met great success in face-to-face degree programs made up of adult learners, it is indeed surprising that there has not been more consideration of cohort learning specifically in online environments. Lawrence (2002), Bochenek (1999), Saltiel and Russo (2001), and Brooks (1998) have all discussed the benefit of the cohort learning experience in adult degree programs. Nesbit (2001) has noted that cohort groups often facilitate transformative learning experiences among adult learners in cohort degree programs. In this sense "transformative learning" appears to be based on Jack Mezirow's (1995) theory of transformative learning, which focuses on how adults learn and "transform" through the process of critically reflecting on their underlying assumptions, thereby developing a broader and more inclusive view of the world, and of how people of multiple backgrounds, cultures, and social groups, learn, grow, and change. Following a similar line of thinking to Nesbit (2001), Scribner and Donaldson (2001) discussed a study of a cohort group of educational leaders in a doctoral program, and the role of the cohort in facilitating transformative learning. In addition, Fleming (1998) has studied the power of the community experience and transformative learning in residential adult learning settings, some of which were cohort based.

It is clear that insights gained from cohort learning can easily be translated to online degree programs. As noted above, there are clearly online degree programs that are conducted in cohorts, though at this point, the literature specifically on the cohort online learning experience itself, particularly that includes the voices of student participants, is absent. Thus this study gives voice to both the student and faculty participants.

Method

This study was a participatory action research study where, we, as cohort members in the master's program in adult education, conducted research about ourselves and our own experience of cohort learning online within this program at a university in the U.S. Midwest. There were 10 participants in the study, nine women and one man; one of us is African American, the rest are European-American. Seven of us were regular members of a cohort of eight. Our eighth member had taken most classes with an earlier cohort, but joined us to complete the last semester, the Integrative Seminar, to complete the program. The other two of us were co-instructors teaching both the first and last semesters of this cohort online master's program.

From a design perspective, this participatory action research project was conducted within the case of a single cohort group, where all members of the group had participated in the cohort experience. From that standpoint, it was a case study approach of those of us who shared in the cohort experience through the final term of the program, when those of us who were students were graduating from the program. As both Yin (1994) and Merriam (1998) have suggested, a case study is a naturally bounded system, such as a classroom or an organization, where participants in the case are obviously members of the naturally bounded system. The purpose of a case study is to explore the particular in depth. It is not to make generalizations; rather, it is up to the reader to determine whether or not the insights gained from studying the particular case in depth can be applied to other settings. Thus, our purpose here is to offer the exploration of our own experience together. It is up to other educators and learners who are trying to implement online pedagogy that meets the needs of both the educators and the learners to determine if it is applicable.

Not only is this a case study, it is a participatory action research case study. As Merriam and Simpson (2000) have noted, participatory and action research is research conducted by participants specifically to make something happen. In this case, as participants in the program, we used the concluding seminar to study, write about, and facilitate the integration of our own learning, and particularly for the eight of us who were students, to give voice to our own experience of learning online, specifically in a cohort experience. In the process of studying our own learning experiences, we made new meaning of both the cohort experience itself and of our own ongoing learning experiences throughout the program. Ultimately, we also did a presentation at a USA research conference, and have crafted this article together. The process of doing it has helped make further meaning of our experience together.

Theoretical Framework

Both the online master's program and the participatory action research study itself were informed by a social constructivist theoretical framework. Fosnot (1996) explains that social constructivism as an educational theory "construes learning as an interpretive, recursive, building process by active learners interacting with the physical and social world" (p. 30). In essence, such a view of learning is based on the assumption that people learn best when they apply theory to practice, then revise the theory in light of what is learned in the application, and reapply the revised theory. It also means exploring the unstated theory that is imbedded in practice, which typically happens both through dialogue and critical reflection (Brookfield & Preskill, 1999), which suggests that learning is a social process. This theory to practice looping through reflection, dialogue, and application that is an important part of reflective practice is the way the online master's program is structured, and is how the program is informed by a social constructivist educational framework. While we believe that it is possible for learning to occur through other teaching methodologies, such as the lecture method or simply reading information on one's own, a basic assumption of a social constructivist framework as applied to this program is that learning is a social and interactive process.

The participatory action research itself was also grounded in a social constructivist view of research. As Schwandt (2000) has stated in applying constructivism to research, "We invent concepts, models and schemes to make sense of experience, and we continually test and modify these constructions in light of new experiences." We do so "against a backdrop of shared understandings, practices, language, and so forth" (p. 197). This is precisely what our view of the participatory action research process. In our process together, we developed concepts in light of our experiences, and then we refined them as we made ongoing meaning of this process. Thus, this constructivist paradigm of research was relevant to this participatory action research study, because it was compatible with the basic beliefs that learning happens in a socio-cultural context, and new knowledge is constructed in light of dialogue, in light of challenging one's assumptions through reflection, and in light of one's past experience and new experience of putting ideas into practice. This will be explored more fully in our discussion of the data collection and analysis process, which will make more sense following our explanation of how the master's program is structured.

The Adult Education Online Master's Program

The Adult and Continuing Education (ACE) Department launched its online master's graduate program (AOP) in adult and continuing education in 1998. This Internet-based graduate degree program was modeled after its highly successful cohort-based face-to-face program, which is also theoretically grounded in a social constructivist view of education. In an effort to bring key features of the face-to-face program "online," the design created by faculty of the ACE Department sought to replicate the participatory, interactive instructional strategies and the cohort-building activities in the context of technology.

Because a social constructivist framework is grounded in the belief that learning is a social process with reflective dialogue as one of its primary components, the Internet-based program design, therefore, emphasizes community building with several features. Students attend an initial two-day residential learning experience, where they come together at a conference center. This face-to-face residential serves as an introduction to the program's faculty and students; they are also introduced to the educational philosophy of cohort-based learning. While participation in the residential is a requirement and its costs are part of student fees, students out of the country have the option to "attend" the residential via submitting a video in which they introduce themselves and share their expectations; the group at the residential, in turn, makes a short video of the participants and sends it to the out-of-the-country participant. In situations where a cohort group has "met" others in this way, faculty advisors have intensified email communication to everyone and also encouraged the creation of student websites.

Since a 4-hour training seminar on the use of the program's web-based software is a part of the residential, those students who could not attend, received written instructions and one-on-one support from faculty and help desk staff at the university.

To foster interactive participation, two courses each semester are integrated and taught by a faculty team of two. The faculty team creates a combined syllabus that allows course projects to dovetail content areas of the courses. Course sequences are selected to fit thematically and deepen research opportunities each term. For example, "History and Philosophy of Adult Education" is integrated with "Adult Education in a Sociocultural and Political Context" so that the exploration of the development of the field and its current trends and issues are studied during the term. Moreover, as a faculty cohort, instructors model dialogue and collaboration and demonstrate various perspectives on discussed topics. Students are expected to discuss readings from a theoretical perspective, to talk about how the ideas relate to their life experiences, and their practices. They are also expected to develop their own philosophy and practice of adult education throughout the program, based on ongoing reflection and application of ideas. Success each term is determined by how well students demonstrate their ability to do this in their online discussions and in their course papers. In addition, students are expected to complete an in-depth independent inquiry project (under the guidance of a faculty member) during a four month independent study term. This extended online inquiry phase allows students to engage in more in-depth research of their preferred topics within the field of adult education. Topics of inquiries vary greatly. Students have developed a series of stress management courses for law enforcement staff, Freirean-based prenatal education classes, and an online program design strategic plan for a community college, to give but a few examples.

Faculty teams are expected to follow the same format for discussion boards and use of the technology so that students don't need to learn a different format or set of navigation skills each term. Course content is introduced by a posted syllabus, texts, and suggested study activities and course assignments. Jointly, the faculty and students negotiate the final syllabus and outcomes. An example is this study, which emerged as the final product for the last term of the program, the "Integrative Seminar." Furthermore, since incorporating student background and content knowledge is crucial to an experience-based knowledge construction model, the format of asynchronous online board discussions makes room for adaptations in the flow of discussion and topics covered within stated course objectives.

The program director guides each cohort through their asynchronous learning journey, which, aside from the opening residential, takes place fully on discussion boards. The AOP has used a number of web-based software over the years (e.g. TopClass, Discuss, and WebCT) with the same results: a 97% completion rate has been achieved in the program to date. The essential technology needs center on use of a discussion board, emails, and synchronous chat rooms for informal discussion and sharing of ideas and personal information. The chat room and a "lounge" area (i.e., a portion of the discussion board dedicated to talks outside of class work) serve in much the same way as the cafeteria or hallway in an on campus class... they allow students to nurture their affective support systems if they so choose. No other technological features such as white boards for synchronous instruction are used. However, periodically, the need by students has surfaced to receive hard copies of articles or faculty feedback and occasional telephone calls.

Data Collection and Analysis

While our own participatory action research design was heavily informed by the theoretical framework of social constructivism, from a practical perspective the data collection and analysis process was based on Carr and Kemmis's (1986) action research cycle of planning, acting, observing, reflecting. Our planning process included generated ideas about how we would go about analyzing our online experience as a cohort of learners and teachers. In this process we decided we would communicate online about our particularly salient points of learning in the cohort experience. In preparing to do this we agreed that we would re-read some of our online comments over the course of the 15 months, and each write a reflection on primary moments, events, and discussions that stood out. Next, we acted by actually writing online. Thus, the primary means of data collection was our ongoing ONLINE discussion of readings about online education, review of key readings about adult development and learning in the program, and their application to our lives and educational practices. Next, the entire group, both participants and instructors, observed the common themes in our writing, and together we began developing some categories. In essence, this generation of common themes and categories is reflective of the constant comparative method of data analysis as discussed by Merriam (1998), but within this participatory action research process, this generation of data analysis and telling our data story was ongoing.

In the next phase, each of us agreed to take responsibility for interviewing others over e-mail in more depth about a particular theme or category related to our learning, and then writing up those sections for the rest of the group to read and comment on. This was part of the reflection phase. We then commented on each other's sections and clarified and made further refinements on the points we had made as individuals in order to prepare for the final write-up of our experience. This process of seeking clarification might be akin to member checks, which are strategies typically used in qualitative research to enhance the dependability of findings (Lincoln & Guba, 1985; Merriam, 1998). We then wrote up our final piece.

Part of the action part of this participatory action-research project was that we also opted to present our work together at a research conference. The findings that are presented in this manuscript are an expansion of what was presented at the conference, and our own further reflections on this knowledge construction process. In a sense, participatory action research is always ongoing. This article presents the results of our collective work as we reflected on how our online experience unfolded, and the knowledge that we created as a result of our experience together.

Findings

As noted above, a social constructivist theoretical framework assumes that knowledge construction is ongoing and takes place in a social context as ideas are discussed and learning processes are negotiated, and is related both to the content and the process of learning. Thus we've opted to break down our findings into two primary areas that reflect this paradigm 1) the ongoing negotiation of the learning process, and 2) the ongoing construction of knowledge by both individuals and the group as a whole. Permeating each area of the findings is the realization we gained that the Internet-based delivery format, i.e., the "technology", was but the vessel within which we engaged in our studies and action research. While the technology context, this "container", inextricably helped and hindered our learning and knowledge construction processes, it simply was the medium for learning and not the primary learning itself.

The Ongoing Negotiation of the Learning Process

Central to the first area of findings related to the ongoing negotiation of the learning process were three primary categories: a) the importance of the residential; b) a consistent but flexible cohort structure, and c) building ongoing relationships.

The Importance of the Residential

The two-day residential at the beginning of the program was deemed as central to the success of the program. Several participants consider the residential as perhaps the most significant factor in contributing to the success of the online experience. The residential consists of structured formal and informal activities. Primary to students' interest as they enter the program is the need to become familiar with the technological aspects of online communication, to get clarification of expectations for participation, and to understand the ways validation of completed assignments via distance is accomplished. A key element not generally expected by students surfaces during discussions at the residential: the focus on community building and co-learning, which seems to be exacerbated in online discussion with its missing "face-to-face element of non-verbal communications. Students acknowledge that meeting the cohort and faculty members allowed them to respond to more than "words on a screen," in the words of a participant. Through life history presentations and informal dialogue after classes, which is later maintained in the lounge and with chats, an atmosphere is created that makes space for trust building. As Mike put it, "It was when a professor sat down with me on the steps of the building that I knew I would feel comfortable in this program." The residential at the end of the program elucidates the importance of this affective aspect of learning. Students report that their own growth and habilitation into knowledge-producing scholars became clear to them as they progressed through the program. While faculty teams change each semester, the students increasingly rely on one another's voices on the screen to verify, validate, and critically reflect individually and in the group on their respective contributions to the discourse on the given topics. The residential sets the tone for negotiated co-learning and establishes an interdependency of the roles of "teacher and student."

A Consistent but Flexible Cohort Structure

The components of the program structure included clearly announced course requirements with the encouragement of tailoring each term's topics to include students' experiences, a more or less "closed" cohort group with only occasional additions of "course takers", and the flexibility of negotiating course assignments and alternative communication when technological problems closed the board. Prior to the start of each term, a syllabus for the integrated courses was posted. Members of the cohort had the opportunity to review the syllabus, its proposed texts, and suggested assignments and negotiate for changes or adjustments. Suggestions have been minimal, but changes were negotiated easily. Robin noted, "It was more that it was out there if we chose to negotiate...the feeling that you can help control your own learning experience is very empowering."

The cohort remained intact throughout the program, in that those members that began the program together were still together the last term. The relationships, which began at the residential, developed throughout each term. Pam noted, "As the courses progressed, members learned a great deal about each other. An atmosphere of mutual respect prevailed as discussions sometimes became intense when members shared opinions, feelings and personal experiences. Life changes occurred in the cohort including a birth, medical problems, family issues and professional crises including job changes." During the last term one new member, who had started the program with an earlier cohort, was added to the group, and became a part of the group relatively easily. Marguerite notes, "...it helped that he was in an earlier cohort". Thus, the cohort is mostly a closed group, but the structure is flexible enough to include an occasional student from another cohort.

There are always some technological problems in online delivery of programs. During the residential, "the technology", i.e., computer skills and managing primarily text-based learning, was cited as one of the main concerns upon entering the program. A portion of the residential was spent on training to use the particular software platform with the urgent reminder that any problems can be overcome with adequate communication. Nevertheless, many members expressed frustrations they experienced in dealing with various aspects of Internet-based courses. This was often based on their limited familiarity with Internet navigation or of computer skills. Mary describes her experience using the Mac computer, "Once I learned how to navigate – by trial and error in the system, the technology was easy." Marguerite "needed additional technical support and paid a private consultant." As the program progressed, however, many of these issues were resolved. From the faculty's viewpoint, such issues were minimized with open discussion on our differences in computer savvy. Mary Lynn's comment puts the issue in perspective, "They (technology problems) are to be expected in this kind of environment." The availability of help desk staff as part of the university infrastructure and assurances by faculty when a student struggled with technology put it into perspective – that of being a vehicle to communication. Most of the students' initial concern with the technology had abated by mid semester of the first term, though there were occasions when we had to resort to e-mail when the server was down. Dealing with these occasional difficulties was kept in perspective.

The Ongoing Building of Relationships

The ongoing building of relationships among and between students and faculty, in the context of sharing the roles of teachers and learners, was another important factor in the ongoing negotiation of the learning process. Relationship building became an integral part of the online learning experience. Some noted that until the last term, the fact that the cohort group consisted of all women might have added to the significance that relationships played. Mary noted "We found common ground in the experience of being female. It became easy and comfortable to reveal deep feelings about the adventures (positive and negative) of learning as a woman... While we bonded well as a group of women, there were no adverse results when a man joined the group." In reflecting on joining the group the last term, Mike noted, "having the support of the cohort in doing so helps greatly. It's like walking into a room of people you don't know...if there is acceptance, you can get on with business more easily than if there is resistance." And Janet emphasized, "Every good relationship is based around some commonality" and there was the commonality of a cohort learning experience online.

There were a number of collaborative assignments, and participants noted that these were an opportunity to develop friendships via telephone calls, the chat room, and emails. Janet observed, "We learned to value the differences in perceptions based on age, race, politics, culture, marital status, life experiences, and the last term, gender, because they became tools for learning. Our various backgrounds and ways of knowing made the learning very broad."

An obvious factor in online relationships is that no one can attend class and not participate. Pam pointed out, "Everyone had to find her voice. I feel that I know people far better than I might have in the less intense situation of a classroom." And Mary explained, "without inflection, tone, body language or eye contact, our words and stories built our relationships." Sharing one's personal story and life experience relative to the discussion of readings was not only an important part of relationship-building but also the theory-practice connection of how one applies what one is learning in practice. Mary summed up the group's experience, "We concluded that the power of online learning includes building relationships. Criteria for success are 1) meeting at the residential, 2) remaining together throughout the program, 3) being open, honest and participatory in postings and feedback, 4) respecting and learning from the diversity of experiences and opinions. These factors produced a comfortable, supportive, trusting, and productive group relationship."

The Ongoing Construction of Knowledge of Individuals and the Group

The cohort experience was particularly important in regard to the second area of findings, the ongoing construction of knowledge by individuals and the group. These findings fell into three primary areas discussed below: a) Team teaching/cohort learning as contributing to transformative learning; b) the connection of theory to real life practice; c) the value of group support in conducting research and constructing knowledge together.

Team-Teaching—Cohort-Learning as Contributing to Transformative Learning

Nearly all members considered their online learning experience to be transformative, in how Jack Mezirow (1995) defines the terms, where they constructed new knowledge together. Marguerite, in thinking about the cohort noted, "I have developed personally and professionally through my exposure to their ideas, their contributions, their passion and compassion." Cohort members provide a continuity, and yet a diversity of voices, and Marguerite went on to explain "our cohort provided balance in the voices of teachers and students. Each cohort group is a unique blend of personalities and fields of experience, which can challenge concerns about isolation with online learning." Mary Lynn emphasized the professional development of the cohort and noted "Professionally, I was exposed to more areas of the field of Adult Education than just my own practice areas," and Mary explained "Learning in a cohort was transformative because it became so much more comfortable to professionally facilitate different views in a classroom." Speaking specifically on the issue of constructing knowledge together Mary Lynn noted, "Having the opportunity to reflect and build on the contributions of others made the knowledge I constructed more powerful. I liked the asynchronous discussion board..."

In general, the team teaching dimension of this online program was experienced positively and as another potential avenue to interact with new ideas. But as Pam noted, "Team teaching was very effective when the team members both took part. Some faculty handled the online classroom better than others." Mary Lynn explained that the team teaching "In most cases, was great because we got the benefit of different 'expert' perspectives on the same topic," enabling them to construct knowledge in new and deeper ways. Mary referred to the benefit of the residential in meeting instructors personally and face-to-face. "I definitely felt more bonded with and had a sense of relationship with the instructors I'd met personally. The face-to-face heightened my awareness of the gift of our senses and the value of seeing, hearing, and touching. I felt I knew them, and they me."

From the vantage point of this faculty team, the fact that we had developed a collegial relationship prior to teaching online together added to our ability to work well as a teaching team both the first and last semesters in this online program. Even though we are quite different in our approaches, with one of us being much more grounded in philosophy and more open ended on assignments, and the other more grounded in sociology and more detail oriented, we both participated equally online and appreciated the other's different perspectives, and pushed the students to do their best work, and to see themselves as adult education scholars that can contribute to the knowledge base of this field.

Connecting Theory to Real-Life Practice

In explaining the connection of theory to real life practice and its role in knowledge construction, Janet explained "First, we had to examine our primary purpose for coming together, which was to study the theories and practices...to develop our own philosophies about Adult Education and how they relate to real-life practice. Secondly, we had to find ways to transfer the value of the experience of learning in an online cohort and how that experience relates to practice." Janet goes on to explain the importance of learning enough adult education content "in order to begin to develop our own theories." The knowledge has changed Mary Lynn's practice as an

adult instructor in that she is “more careful when building thematic units and curriculum changes to include real life contextual materials. “ She goes on to explain that, “ I am more conscious of silence during discussions and let the students help each other draw out their own experiences more. I have stopped using 12-year old reading texts and moved forward to more relevant materials.” When asked about considerations in negotiating planning with others who may have differing philosophies on adult education, Robin felt that colleagues needed to be reminded that these are adults, who may be subject matter experts in their own field, and who are probably self-directed learners in that field specifically. Because of these three factors, she felt that, “This means a change in the way an educator, views her/his role in the process of education, and also a change in the way material is presented, negotiated and the way grades are assessed.”

When examining the impact of learning in an online cohort and how that experience relates to practice, Janet explains, “We were better informed about the knowledge because of time that online learning allowed for intense and well thought out interaction with the content. Yet, what was most powerful for all of us was that the cohort provided the safe environment for permitting us to take a hard and honest look at our own knowledge. Therefore, the online cohort experience added great value to each individual’s ability to determine either ‘how they are’ in their practice or ‘how they plan to change’ their practice.”

Group Support in Deeper Knowledge Construction

Robin explored the role of group support in enabling the group to go deeper into the material and also conduct and complete research projects, and explains “The cohort became a place for some of us to bounce ideas off of one another and as a place to build a team to help in research.” Some focused more on support for creating and accessing knowledge, while others gained more from the emotional support and encouragement to go deeper. Robin notes that the cohort was valuable in the research and knowledge construction process in “knowing they were writing to an audience, an audience that they knew in this case, helped them hone their work. Still others took what those around them researched and used it to springboard their own ideas.”

While virtually all members used the cohort for both intellectual and emotional support, the research process itself is often a solitary process, and many of their comments reflected this, particularly in regard to the research term. As Janet explains, “As much as I enjoyed the cohort, I felt that I did my research projects mostly alone. I felt that when we had collaborative book reports, each on a different aspect of the study, that reading from the others was a wonderful way to not have to do so much research and to receive the benefit of other's research. I guess they aided just by my knowing who would be reading my project and feeling that I wanted my work to be respected by them.” Mary Lynn also noted, “I learned a lot from the others in my cohort, but none of it related directly to the research for my inquiry. I completed that research on my own.” Pam also expressed this although she didn’t find it problematic and explains, “I had no problem with doing the research on my own. If I had needed help or aid from the cohort, I would have felt comfortable asking for it.” And Robin noted, “I didn’t really feel a connection with my cohort during the inquiry project. They all chose such different topics from mine that I really didn’t feel I could ask them for help.” While some of this was more or less expected, given that aspects of research are a somewhat solitary process, it was clear that they had a different experience of conducting this participatory action research project than they did of their inquiry term when they were conducting an independent research project. But both of these aspects were ways of constructing both individual and group knowledge.

Discussion

Not unlike other technology vehicles of communication that the last century brought to society, online technology is but a tool. The study suggests that while it is very important to build a consistent and flexible structure that can accommodate technology in the building of community in online environments, it is helpful to draw on what is already known to facilitate successful adult degree programs. As many have pointed out, cohort programs have been extremely successful adult learning environments, precisely because the continuity of the cohort group from one course to another builds a stable community (Lawrence, 2002; Saltiel & Russo, 2001). It is because of this stable community that the limitations of technology, such as when the server would go down, were relatively easily dealt with by this cohort group. In these kinds of circumstances, the group would take some responsibility for deciding how to deal with the problem, such as resorting to e-mail, phone calls, until the difficulty with the usual mode of communication was taken care of. Of course, the availability of instructors and/or the director of the program was important. But as a community of adult learners that has grown to know and count on each other over time, as a group, we proved to be quite capable of determining how to solve these

difficulties as they arose. The social constructivist theoretical framework of the program design probably enhanced the ease with which the group took action. Given that learners were expected to take some responsibility for their learning through critical reflection and in applying ideas in practice relative to the course content, it was easy to critically reflect and take action to solve practical problems, such as the few times when the usual mode of technological communication didn't work.

Not only was the cohort feature central to the success of the program, as the recent-graduates/co-authors of this paper note, the design feature of the residential where most of the participants came together to meet each other face-to-face at the start of the program, was integral to it. As Fleming (1998) also found in her study of residential learning, the residential aspect helped participants get to know each other in a face-to-face setting, which helped build a the base for a solid sense of community at the beginning of the program. While we recognize that it may not always be practical or possible to have an entire group come together at the start of a program, we do believe that it is possible to provide some face-to-face contact at the beginning. This might be through requiring, or strongly encouraging those who can, to physically attend, and/or for those others who are unable to attend to make themselves present in some face-to-face way. This might be through interactive video, or sending videos back and forth, or through a combination of picture and/or audio contact.

The feature of the beginning residential likely increased the group's ability to maintain a high level of what Tu and McIsaac (2002) refer to as "social presence" throughout the 15 months of the program. The high level of "social presence" was also enhanced by the fact that the structural components of the program and a commitment by the teachers to participatory pedagogy in light of the social constructivist theoretical grounding of the program fostered the creation of a learning community that allowed cohort members to engage in sharing power. Between teachers and students, the concept of negotiating components like assignments, readings, group projects, and quality and quantity of weekly postings were initially introduced at the residential. While the community was established based on the common purpose of working together in a cohort, the relationships were built because of everyone's commitment to trust and participation. In addition, in teaching teams each term, teachers modeled a commitment to collaboration, much as they provided a structure for collaboration to take place. While this was more successful with some teaching teams than others, the openness of teachers to adjust discussion to its flow and emerging themes or to extend assignments deadlines when technology failed or skill levels varied added to the comfort with which everyone was able to reach agreed upon objectives. The 16-week independent inquiry phase allowed for mentoring and the picking up of themes in one-on-one exchanges. Throughout the program, as a collective group, we nurtured community building through acknowledging technological and other limitations and through expressing experiences within our affective and cognitive domains. This fomented an environment in which the cohort group could engage in collective knowledge construction.

Knowledge construction online appears to have occurred within an integrated set of variables, i.e., individual and group processes within affective and cognitive domains, and with an instrumental dimension related to being able to navigate Internet-based course delivery and troubleshoot when problems with technology constrained the flow of communication. While this is no great revelation as the existing literature tells us (Barab, Thomas, & Merrill, 2001; Daley et al., 2001; Northrup, 2002), an additional element comes into play that can be described as an awareness of being connected – in both its technological and metaphorical meanings. Indeed, technology skills are necessary to navigate; yet it is important to have a way to negotiate the limits and failures of technology, such as when access to the discussion boards fail. But as this participatory research project brings to light, the social and relational elements of community building and collaboration are instrumental in energizing the interaction of the variables discussed above.

Cohort members expected to gain "an education" within the convenience of an Internet-based, distance education program. The aspect of their personal transformation as a part of this learning was not expected nor was it clear at first. In fact, it was not until the end of the program and during the reflection on the experiences that cohort members expressed their realization that they "had grown" more than professionally. The knowledge that had been collectively created was not necessarily "new" as much as it had become emotionally and cognitively integrated into awareness of what it means now to "be an educator" and to "be a whole person." The awareness that the role of educator is inextricably connected to the person paved the way to creating entirely new approaches to each one's practice.

In this regard, the connection of theory to real life practice took on new dimensions. Cohort members expressed that they gained a sense of strength and validation of hunches they have had all along. Moreover, by being able to learn from one another about best practices, successes, and failures, cohort members gained from the authenticity of the "real life" experiences their colleagues shared online instead of relying primarily on "text

book” theories as guides. These exchanges, which had been structured into assignments and course discussion, are invaluable in bringing to life the tenets of participatory adult education practice – in any delivery setting. Additionally, the program assignments required that cohort members apply what was discussed and/or learned from texts and teachers with projects or outside observations of educational settings. In this way, analyses and syntheses of theories were immediately applied to their real life work settings. Indeed, as many have discussed, sharing real-life experiences, and the discussion of application of theory to real-life practice seems to be common to most higher education cohort groups (Lawrence, 2002; Saltiel and Russo, 2001); it is surely not unique to cohort learning online. However, as the experience of this cohort indicates, these features that are often typical of face-to-face cohorts can be translated to the online environment. Perhaps the primary difference is only in the immediacy with which one could apply an idea and get feedback. Once a “new idea” was applied, the online exchanges provided opportunities for sharing insights and reflections on the experiences quite immediately. Given the structure of the program, the flexibility of instructors to adapt “lessons” each week to the occurrences of insights, and make the space that the informal areas of the discussion board offered (e.g. a lounge and a chat room), group support became an integral aspect of the knowledge construction. At any time, one could turn to the board and with that to one another to bounce off ideas or share frustrations and get a relatively immediate posting of support or feedback. In this way, no cohort member was ever “alone” even when independent research tasks or course work had one working in Georgia and another laboring over an assignment in Italy. While Daley et al. (2001) also touch on this idea, they discuss it from the perspective of those who have positive attitudes about the use of technology, which perhaps implies interactions and constructing knowledge together. But in this study, this sense of bringing theory and practice together was a result, in part, of our collaborative interactions as a cohort.

What does this suggest for the practice of education in Internet-based degree program delivery? Obviously as a group, we first would strongly recommend the following:

1. use of an ongoing cohort learning model;
2. an opening residential, or some other means where participants can meet each other face-to-face at the very beginning of the program, to develop a sense of a commitment to a learning community;
3. a commitment by instructors to the use of a participatory pedagogy;
4. a specific strategy for learning to both initially use the technology, and a way to trouble shoot it;
5. collaborative assignments with specific but negotiable guidelines.

It seems that it is these five components together that contributed to the success of the program and to the members’ learning. While it may not be possible to include all of these components in other programs, or to always have the benefit of a teaching team and two integrated courses, it is possible to incorporate many of these features, that are likely to contribute to the success and overall learning of a cohort group. Perhaps most important to this particular group was the willingness of all participants (both faculty and students) to recognize that we are all simultaneously teachers and learners. Of course, faculty are responsible for designing a syllabus and helping organize the discussion. Yet these faculty also respected the fact that most of the students were adult educators themselves, and in teaching roles in their day-to-day professional lives on a regular basis. In these courses, they were in teaching roles as well, as fully active participants in discussions, and in the online presentations that they were responsible for. Online, everyone’s contributions “stand in front of the class,” and syntheses and analyses of concepts and ideas become a collective and collaborative means of knowledge production by the cohort group. This is what makes it “constructing knowledge in community “ and is the heart of the cohort experience. In sum, the implication for developing a cyber pedagogy is quite simple: it is found in the authentic voices of the learners as they collaboratively create knowledge and self-determine personal growth in a community of trust and mutual support in a cohort setting. In that, a cohort-based approach to collaborative learning and knowledge construction grounded in participatory education principles works in spite of the constraints of “technology.”

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