Discovering the Meaning of Community In An Online Master's Degree Program

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Abstract

The purpose of this case study was to analyze the characteristics of an online learning community from the perspectives of 18 adult learners all of whom completed an online master's degree program in instructional design and technology. This program was taught at a distance using the Blackboard.com e-learning system. Several program characteristics supported meaningful learning including institutional cooperation, students' prior experiences with technology, positive peer and instructor interactions, constructivist approaches to teaching and learning, cognitive changes generated through text-based, asynchronous critical discourse, accessibility and reliability of web-based technologies, and perspective transformations fostered by authentic assessments.

Introduction

This paper disseminates the preliminary results of an innovative case study conducted by an interdisciplinary team of six faculty members who teach in an online graduate program within a college of education. They investigated the question, "How was an effective online learning community (OLC) developed among the first cohort of students in the Master's of Science in Instructional Design and Technology program?" A WASC accredited program inaugurated in 2001 by a large state university in Southern California, the MSIDT program focuses on the direct applications of technology for teaching, learning, and curriculum development for professionals in K-12, business, industry, military, and corporate settings. The program was designed to provide students with a solid background in the field of instructional design with an emphasis on the design and creation of computer-based training and Internet technologies. The program involves faculty from elementary, secondary, special education, reading, and educational leadership departments all of whom have expertise and/or training in instructional technology, curriculum design, adult learning, assessment and evaluation. Students complete the 30-unit program, consisting of ten online courses completed over a 20 months, by taking two courses per 16-week term segment to fulfill their degree requirements. A face-to-face, two-day orientation session termed "Boot-up Camp" and a one-day "Mid-point Symposium" provided opportunities for community building. This presentation is geared to higher education faculty and administrators, distance educators, e-learning facilitators, web developers, instructional designers, students of instructional design and technology, and corporate trainers who may find the information applicable for improving their professional practices.

Purpose and Rationale

Online learning communities exhibit various features, characteristics, and purposes. It is difficult to categorize the attributes of online learning communities using standardized educational frameworks. The purpose of this study was to examine how an online learning community emerged from the first cohort of MSIDT students. While several contemporary studies have explored how community evolved within the context of a university course taken online for a semester, very little research currently exists regarding how an online learning community evolved within the curricular scope and sequence of an online degree-granting program. Furthermore, while several studies have investigated how an online learning community evolved from one researcher's perspective, few studies have integrated the multiple perspectives of six faculty members who teach in the program.

Methodology

Participants.

The participants were eighteen adult learners, 8 female and 10 male, all of whom were college graduates working in educational fields including K-12, postsecondary, corporate training. Most students lived in the state but a few resided outside; no students from foreign countries participated. Longitudinal research on the program is ongoing and the preliminary findings presented in this paper will be expanded to incorporate data collected and analyzed from two additional cohorts of approximately 18-25 students each.

Faculty.

Each faculty member, including the program coordinator, identified a research focus area--a "unit of analysis." All focus areas reflected theoretical propositions about the characteristics of online learning communities in education found in the current professional literature. The following focus areas regarding online community development were researched: students' attitudes and perceptions about learning online; institutional support, accessibility and reliability of web-based technologies; the impact of gender, race, ethnicity, disability and social class on critical discourse and the social construction of knowledge; constructivist approaches to teaching and learning, assessment/evaluation of learning and perspective transformation.

Setting.

The context of the research was a large, urban, comprehensive BA and Master's Degree institution in a western state. The university had approximately 33,000 students and 1,800 faculty. Structurally, the MSIDT online community mirrored the university community. This online extension of the university was multidimensional and multilayered given the broad range of institutional support provided. The program was inclusive of adult learners, faculty, administrators, support staff, curriculum and instruction, and technology resources governed by university policies and practices. The MSIDT program was conceived of as a "pilot project" initiated by the president and vice-president of the university and represented the university's first distance education program offering.

Design and Analysis.

The case study method proved to be an appropriate research design because it incorporated a comprehensive research strategy that linked all data collected to the initial question of the study. According to Yin (2003), a case study is an empirical inquiry that:

> investigates a contemporary phenomenon within its real-life context, especially when the boundaries between the phenomenon and context are not clearly evident, and that relies on multiple sources of evidence, with data needing to converge in a triangulating fashion, and as another result benefits from the prior development of theoretical propositions to guide data collection and analysis (p.13-14.).

The following data sources were converged to analyze the data collected:

1. Secondary Source Data. Co-researchers consulted secondary source materials generated from the design, delivery, and evaluation phases integral to program development. Co-researchers reviewed documents previously prepared for national, regional, university, and college committees including advisory councils, workgroups, faculty presentations, the program website, Academic Senate approval, and WASC accreditation. At the programmatic level, co-researchers reviewed course proposals and syllabi and the online content of the ten courses comprising the program: Hardware and Authoring Environments (IDT505); Research Practices in Instructional Design and Technology (EDEL511); Instructional Design Issues for Technology-based Instruction (IDT520); Instructional Approaches to Learning and Cognition (IDT525); Planning, Designing, and Evaluating Technology-based Instruction (IDT530); Instructional Strategies Pre-K through Adulthood (IDT535); Web-based Teaching and Learning (IDT540); Emerging Technology and Issues in Instruction (IDT545); Practicum in Instructional Design and Technology (IDT550); and Master's Project (IDT597). Co-researchers had access to most courses which contained approximately 15 asynchronous threaded discussion forums facilitated by the course instructor.
2. Discussion Board Archives. Data was collected an analyzed from the discussion board transcripts from four, fifteen week courses (IDT525, IDT535, IDT540, IDT545). This database served as the primary data source for the study. The data set included approximately 60 discussion forums with average postings of 125 postings per forum totaling 7,500 student postings. Each discussion forum

contained all of the messages that shared a common overall topic, while multiple discussion threads within those topics reflected specific conversations consisting of multiple messages that addressed specific subtopics. The distinct advantage of using archived transcripts was to reduce participants' reactions to the presence of investigators.

3. Students' Written Records. During the mid-point symposium students responded in writing to the prompt, "Being an Online Student." Responses were collected and made available to the research group as a data source.
4. Focus Group Data. A focus group for students was conducted by an outside evaluator in two, one-hour sessions split into two parts: a brief, ten-minute questionnaire followed by a forty-five minute discussion about students' perceptions about the strengths and weaknesses of the program. Both sessions were tape recorded with the consent of the participants. A faculty focus group was also conducted in a single, seventy-five minute session and was tape recorded with participants' consent. Results of both evaluations were provided to the students and to the faculty/co-researchers.
5. Student Survey. A web-based interview protocol was developed and posted within a week of students' completion of the MSIDT degree. The survey was designed to elicit thoughtful, reflective, and in-depth explorations of students' perceptions about the impact of the program, especially their perceptions about learning within the context of an online learning community. The survey questions were grounded in the theoretical propositions regarding online learning communities. It consisted of fourteen, open-ended questions and one question consisting of 21 items configured in a Likert-like scale ranging from "strongly agree, agree, neither agree or disagree, strongly disagree, and no response." Fifteen out of the eighteen students submitted the confidential survey for a response rate of 83%.

Data Analysis.

Each researcher sorted through and chunked the data from the sources indicated above from the vantage point of their unit of analysis. Each researcher identified phenomenological themes relating to the unit of analysis they researched, substantiated with verbatim quotes that provided thick, rich descriptions of students' perceptions. Provisional findings from each thematic analysis were reported to the larger group. The pooled information was then reflected on by the whole group to identify patterns regarding the phenomenon of learning within an online community as it was experienced by MSIDT students. Trustworthiness was arrived at through data triangulation, empirical and consensual validation through member checks, group dialogue and discourse, and through critiques of multiple drafts of research reports disseminated to members by the lead author. (A multimedia presentation at the AECT 2004 conference and submission of this paper to the AECT Proceedings provides additional opportunities for public testing of the preliminary results).

Preliminary Findings

Several researchers share a common interest in communities enabled by the Internet and seek to redefine community in a virtual world. Online learning communities (OLC), e-Learning communities, virtual communities, and communities of practice are terms most often encountered in the literature. Online learning communities in higher education are communities existing in virtual environments consisting of formally and systematically organized teaching and learning activities in various academic domains in which the instructor and learners are geographically separated and use computer-mediated technology to communicate. According to Rovai (2001), "strong feelings of community increase the flow of information among all learners, the availability of support, commitment to group goals, cooperation among members, and satisfaction with group efforts" (Bruffee,1993; Dede,1996). The following themes discussed below emerged as constituitive of how learning was experienced within the MSIDT online learning community. When asked to review definitions of OLC's and respond to the survey question, "I feel I have been a member of an online learning community in the MSIDT program," 93% of the students responded that they strongly agreed or agreed with this statement with one student affirming in writing that "a true learning community formed." Comments culled from students' open-ended responses characterized the MSIDT online learning community as: "…a group of individuals sharing resources and learning together for a common purpose;" "…coming together in the context of a primary program structure and Blackboard where communication happens through a variety of means;" "…an amorphous being that grows and expands depending on a variety of factors including the personalities of the people involved;" "…participation from students who engage in a process of learning that requires traveling over and revisiting the same path many times;" "…a group of learners who gain knowledge in an online environment that allows for more personal, meaningful interaction;" However, while students almost

unanimously agreed that a community had formed, there was a caveat. One student observed: "I found it less meaningful than a place-based community."

Prior Experience with Technology

Before being admitted into the program, each student submitted a resume, autobiography, and completed an interview. Experience with computers was required for admission including MS Office, navigating the Internet, using e-mail to send, receive, attach, and download messages. However, some students in the first cohort had additional or advanced skills in programs like Macromedia Director and Flash. These students were identified early on by their peers and served as informal mentors in courses where authoring skills were a requirement. Students' characterized the community as being comprised of: "educational specialists and technology specialists…all contributing to a holistic understanding of the ID field;" "team leaders, technical experts, learning experts, production volunteers;" "members relied upon for certain technical skill;" "the online technical person, the devil's advocate, the lost soul, and many people that were often supportive, helpful, or creative." Data seems to reveal that students in the cohort recognized and valued each member's contribution to the community, whether or not they were advanced technology users. Students' comfort with their own technology skills (prior computer experience) may have made it easier not to feel intimidated by another's advanced skills. This supports the notion that students' prior experience with computers can boost positive perceptions of online learning, as noted by previous researchers (Huang, 2000). These prior computer experiences may contribute to students' perceptions of a developing community of learners.

Peer Interaction

Researchers in previous studies found that students' satisfaction with online learning environments is strongly related to the amount of active interaction with other learners, noting that small group activities can enhance learning motivation (Jung et al, 2002; Shin, 2003). Creating a safe learning environment through positive social relationships can support these interactions and contribute to community development. Data collected during this study support this. Students identified several strengths including social posting threads, group projects, group discussions, and face-to-face meetings at the orientation and at mid-point. Students' comments included:

- "Each member of the cohort was an integral part of the learning community. We all came to the program with our own strengths and weaknesses and looked to the community to fill in the missing areas. Each member challenged me to become my best by asking questions and commenting on my discussion responses."
- "The boot-up, midpoint and commencement experiences were necessary since the relationships needed to be established in order to gain a sense of trust with peers and instructors. I don't feel I would have felt as much of a sense of drive completing the program had I not established relationships with my peers and instructors early on by meeting face-to-face. It would have been much easier to quit halfway through if it had all been online."
- "Social relationships, especially online, are important for learning to occur, in that the exchange of experiences, ideas, and prior knowledge is more natural when all members feel socially connected to the community."

Most students (74%) used social networking to decrease their sense of isolation. Overwhelmingly, students reported a sense of inclusiveness and support from their peers via their interactions through discussion boards, working in groups, peer evaluation, and e-mail. Comments included:

- "Interaction on the discussion board is what made inclusion happen."
- "Most students made me feel included. We asked each other for ideas and we were always flattered to share our knowledge."
- "Private e-mails that were either jokes or social, unrelated to a specific assignment contributed to the feeling of inclusion."
- "I made sure to work with different members throughout the program so I did not feel excluded."

While positive interactions and relationships contributed to students' satisfaction toward online learning, only 26% stated that the most meaningful learning came about through their interactions with others. This supports research by Jung et al (2002) that found collaborative interaction may increase students' sense of community, but it does not necessarily increase learning achievement. Conversely, negative interactions lead students to feel excluded and may decrease their desire to continue in the program. For example, one student noted feeling excluded by one classmate who snubbed a request for help. The student noted: "Needless to say, I did not e-

mail [that person] ever again." Another student expressed that complaining, name calling, and finger pointing closed down learning and inhibited community participation.

Teacher/Student Interaction

Students' positive interactions with their instructors influenced their perceptions of online learning and contributed to the development of a learning community. Researchers have contended that the instructor's presence and social interaction influence students' motivation, course engagement, and learning achievement (Jung et al, 2002; Shin, 2003). Data collected from the MSIDT cohort reflect this. Several students noted that the lack of instruction on an authoring tool during their first term made them feel excluded, overwhelmed, and intimidated. On the other hand, students noted that when professors "were extremely positive and encouraging" their motivation increased. Instructional factors that contributed to community development included responding to students' contributions in weekly summaries of discussion topics, constant presence on the discussion boards, supportive phone calls, and a "good response time for e-mails and the thoughtfulness and caring they exhibited."

Constructivist Approaches to Teaching and Learning

Effective online learning communities are founded on social constructivist pedagogy. As such, the interchange among students is vital to a constructivist learning environment where the conditions conducive to the development of community are created. In this program, systematically organized teaching and learning experiences engaged learners in knowledge construction through multiple interactions in online discussion groups. Student-to-student interactions were certainly as important as student-to-instructor interactions within this community, and perhaps more so. A learning curriculum was co-created by the learners and teachers in this program and became a pool of resources from which everyone could draw. This can be contrasted with a teaching curriculum, which often limits distance students by structuring the resources and controlling participants' access to them. The difference between a learning curriculum and a teaching curriculum can be likened to the difference between a successful online community and a correspondence course. In a true online learning community, knowledge is co-created by members of the learning community, with each person contributing his or her additional resources to the "curriculum" of the course. This can be contrasted by a correspondence course, where students simply access the existing course curriculum, respond to it, and submit assignments individually. Certainly current research (Johnson, 2001; Rogers, 2000) suggests that students from online learning communities may come to learn more from the information added by the class members than what was originally presented by the instructor. Survey data reveals that 86% of the students confirmed they were engaged in constructivist learning experiences. A student in one course reflected: "The sum was much greater than the total of the parts in this class." Another commented: "The resources we saw this week were awesome! I learned so much from the links provided this week. Thanks everyone for your contributions. I can definitely say that I benefited from all of your professional experiences in this topic—something I knew little about before we began this module."

Meaningful learning in this program seemed to come about as the result of students' interactions with each other, rather than through students' individual learning efforts. Comments included:

- "I thought I'd feel alone, but instead, I feel a part of something different. I guess I feel connected to the people in this learning community. The people are what keep me going."
- "When I first started this program I didn't consider or know anything about an online community. It became apparent eventually, of course. And actually without it, I am not sure I could complete this program, as there have been times when I was feeling burned out and overwhelmed and wondered if I could sustain the effort with other things going on my life."
- "I also feel that as a learner I have been intimately involved in the learning process, and I have a lot of learner control as well as input."

The representative quotes highlighted above suggest that indeed, as Lave and Wenger (1991) suggest, learning is a relationship among people. In fact, according to the students in this program, the "social process, includes, indeed it subsumes, the learning of knowledgeable skills" (p. 29). The "social transactions" among all of the participants in this OLC allowed all members to see themselves as legitimate members of a community of practice—or an online learning community. This is a crucial consideration, especially in light of Conrad's (2002) recent work, which suggests that the creation of an online learning community serves as the foundation for a successful learning environment. Other research (Brown, 2001) certainly emphasizes the important point that students can overcome feelings of being alone when they support one another in an OLC. Moreover, the

feeling of connection to the learning community is especially important because students who feel connected to learning communities often place a higher priority on the class and spend more time devoted to course content (Brown, 2001).

Accessibility and Reliability of Technology

One student observed, "I believe that even with the logistical issues we've had to deal with, I have learned a lot in this program. One thing that I have definitely learned is that the creation of a community of learning is very powerful. By reading others' posts I have had the opportunity to ask myself some very deep questions." 53% of the students surveyed responded that they agreed or strongly agreed that when there were technical difficulties with the reliability of the technology their sense of community was diminished; 43% said if they could not access the course their sense of community was impaired. However, 73% of the students agreed that Blackboard was easy to navigate and this reinforced their sense of community. In online learning communities technology accessibility and reliability is a critical factor for leaming and community development. If access to the technology is interrupted or if the technology is unreliable or slow, students experience frustration which inhibits community participation.

In this study, there were a few technology issues having to do more with interrupted access to Blackboard and occasional slow transmission, but the technology itself was not a major factor impeding students' learning. Effective and frequent communication on the part of the instructor and to other students was more important than the technology. A mix of instructional strategies matched to the content and a variety of online tools, especially discussion forums, were equally important to students' success. Students with low-tech skills enjoyed learning the software programs such as FrontPage and Dreamweaver; high-tech students apparently enjoyed an open-ended approach to learning. Learning in a web-based environment was especially beneficial to MSIDT students because they were immersed in the very technologies they were studying. "I think our Masters program is more valid since we are becoming experts in instructional media by using it to get our degree," a student remarked. Instructors anticipated negative comments about the technology, but found that students were generally supportive, or at least neutral, about learning in a computer-mediated environment. The quality of the instruction and frequency of communication seemed to minimize technology issues. Overall, students affirmed that learning via technology contributed to their sense of community as these quotes reveal:

- "Technology can help or hurt education. It is just a tool as we have seen many times during our MSIDT program. If students are sitting at cubicles working on computers for hours on end this certainly increases isolation. Students who are creating a multimedia-learning object together as a group project would experience a decrease in isolation. Similarly technology could increase or decrease the level of abstraction in today's learning environment."
- "Communication in the online classroom is important in order to maintain a sense of community and reduce the feelings of isolation that students might feel. The online courses that I have taken took advantage of different modes of communication such as e-mail, discussion boards, group forums, and real time chatrooms. Providing different forums in which students and instructors could interact ensured timely feedback, privacy, and the opportunity to discuss issues related to the course."
- "I started this program believing that the various media (audio, video, hyperlinks, etc.,) were the powerful tools to cause learning. Now I see that these media are simply the vehicles for delivering information that is packaged using principles of instructional design that match the learners."

Critical Discourse

The survey revealed that 80% of students agreed that engaging in the online discussions challenged them to think critically. Students perceived that open dialogue was an equalizing force and alleviated power, gender, race, class, disability and cultural diversity issues. "Online discussions are a gift from heaven for me…I feel free from cultural mores and more confident expressing my ideas. I feel safe to convey my thoughts in writing because I have time to re-write and edit my posts before I submit them," a student remarked. Participants shared their struggles with learning new information because they had established a comfortable rapport with their peers.

Institutional Cooperation

Five individuals were interviewed to ascertain their perceptions about community development as it pertained to application processing, bookstore ordering, being a program liason, coordinating scheduling, creating a curriculum database in SIS+, using library information technology, consulting on web application

design and development, and serving as program librarian. 54% of the support providers surveyed strongly agreed or agreed that the MSIDT online learning community seemed to be an extension of the campus community online; 20% did not agree or disagree; and 20% disagreed. All institutional support providers strongly agreed that they contributed to the development of the online learning community. Likewise, all strongly agreed or agreed that they were comfortable sharing information, knowledge, suggestions and ideas with the program coordinator, MSIDT students, and faculty. They expressed commitment to the program by assisting students to attain their academic goals. 60% of the support staff strongly agreed that they were participating in a constructivist learning environment where they could be called upon to help students solve ill-structured problems; 40% believed they worked collaboratively with the students, faculty, and program coordinator to achieve the program's outcomes. Fully 80% of the support providers strongly agreed that they saw themselves as an important and respected part of the online learning community while 20% neither agreed or disagreed with this statement.

Perspective Transformation

Current applications of technology in institutions of higher education are not taking advantage of the potential of distance learning to inspire the construction of new models and outcomes for adult learning. Moreover, the capacity of web-based instruction to provide models of transformative learning has yet to be explored. The online classroom is "fertile territory for transformative learning" (Palloff & Pratt, p. 131). Mezirow (1991) defines perspective transformation as:

> …the process of becoming critically aware of how and why our assumptions have come to constrain the way we perceive, understand, and feel about our world; changing these structures of habitual expectation to make possible a more inclusive, discriminating, and integrative perspective; and, finally, making choices or otherwise acting upon these new understandings (p.167).

Perspective transformation occurs along four lines of action: a change in the individual's existing frames of reference; the individual's ability to assimilate entirely new perspectives, a change in the individual's ability to be more critically reflective through problem solving activities, and the individual's ability to construct new meaning perspectives or habits of mind. In this study, 87% of the students experienced perspective transformations, as measured through reflective self-assessments, critical discourse in the discussion boards, tests, midterms, individual and group papers and projects. There is evidence that students were able to elaborate on their previously existing frames of reference as a consequence of community participation given these comments:

- "I took subjects I had learned in my credential program to a much deeper level of learning and understanding which enabled me to revisit some of the areas I hadn't given much thought to."
- "I'm slowly getting beyond the basics and really getting into more of a long-term understanding of the concepts."
- "This concept of learner-centered communities definitely opened my eyes because it supplied the words to the ideas that have been banging around in my head for a few years now."
- "The goals I had at the beginning of the program have remained the same, but I am more confident now. Colleagues are already looking to me for advice and I in no way would ever have expected that."

Some students assimilated entirely new frames of reference:

- "The constructivist perspective…was a new learning experience for me and a positive one at that. I had to admit that I kept thinking, 'What is it that the teacher expects of me.' Once I let go of that view and took the view of 'What do I expect of me,' then I felt less anxiety."
- "I recall one Saturday afternoon I sat in Starbucks and read through a number of chapters. I was so fascinated that every now and then I would catch myself talking out loud, saying something to the tune of 'curious, I did not know that!' I sort of shook my head and realized, I am learning. How could that be?"
- "Before this program, I had never built a lesson plan and I didn't know where to start. I built a lesson plan and learned a lot. Ironically, the same week I built my lesson plan, I was asked to do one at work and the experience in the program gave me the confidence to build a lesson plan properly. Without this experience, I honestly do not feel I would have been successful at work."

Some students changed their perspectives by becoming critically reflective of their assumptions through problem solving activities:

- "I was convinced that writing the collaborative research paper was going to be a bust both in terms of the end product and its educational value, but I was wrong. I really benefited from the interaction with my peers on a research task and found the challenges of asynchronous collaboration very instructive."
- "At the beginning of this program, I felt like an Olympic high diver preparing to climb the ladder up to the diving board, mentally preparing myself over the first few months, gathering the knowledge to take the leap three stories down to a complete immersion in a new career. At the midpoint of the program, I felt the rush of adrenaline and significantly more confidence to leap off the ledge as I am now poised with new knowledge which will help me make a clean break into the water."

Some students transformed their habits of mind, the filters they used to interpret the meaning of their experience:

- "I am becoming more and more aware that I am not aware of my awareness until I need to be aware of it."
- "I'm excited about the transformation that is beginning to happen at my school because I can see an opportunity to influence the school as it transitions towards the adoption of a new philosophy. I thought I would receive resistance when I discussed it with the group, but since then that discussion the group has operated at a higher level of enthusiasm."
- "The major learning that has taken place for me in this program has been the gradual chipping away of my ingrained instructivist nature. After many years of teaching using a single epistemology, the constructivist crack is beginning to open. It takes me a great amount of time to shift perspectives, so it will be interesting to see if my students need time to make a shift also, but I believe they will."
- "The major thing I forsee beyond commencement is a grand unification of all of the theories, principles, and knowledge that I have gained in this program."

Discussion

At this point in time, this case study provides provisional answers to the following question: "How was an effective online learning community (OLC) developed among the first cohort of students in the Master's of Science in Instructional Design and Technology program?" Preliminary results indicate that various program characteristics were conducive to the development of an online learning community: institutional collaboration, members' prior technological proficiency, positive peer and instructor interactions, adopting constructivist approaches to teaching and learning, cognitive growth through effectively facilitated critical discourse, accessibility and reliability of web-based technologies, and authentic assessments prompting perspective transformations. These findings are significant for online program providers in higher education because they underscore the importance of building online learning communities as foundations for transformative learning.

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