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Student Perceptions of a Successful Online Collaborative Learning Community

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Abstract

This paper shares the perceptions of a group of 11 successful online students regarding the value of the collaborative learning community that developed as part of their participation in the first cohort of the WebIT online Master of Science Degree in Instructional Technology program, at The University of Tennessee at Knoxville during 2008-2010. All 11 students began the program in the Summer semester of 2008 and graduated at the end of the Spring semester, 2010. These students voluntarily completed an electronically-administered Program Completion Survey to provide the WebIT program faculty with information to help improve the design and delivery of the program. The survey consisted of 66 items, 17 of which constituted a subscale that addressed aspects of collaborative learning community. These seventeen items were further grouped into 6 concept clusters that serve to organize the discussion in this paper. The WebIT online program characteristics appeared to be strongly supportive of the emergence of a collaborative learning community among the program completers. These results demonstrate the value of promoting cohort group inter-connectedness as well as the benefit of incorporating professional practice experiences within the instructional program.

Online education has gained increasing popularity throughout the years, mainly because of its convenience and flexibility for students (Bates & Sangra, 2011; Patterson & McFadden, 2009). However, online learners face a number of specific challenges to achieving success in online learning environments (Palloff & Pratt, 2007). These challenges are described in further detail below.

Online Attrition

Research has shown that attrition rates in online courses are often higher than attrition rates for traditional courses (Patterson, Mallett, & McFadden, 2012; Rovai & Downey, 2010). Rovai & Downey (2010) report online course attrition rates above 40% as relatively common among online program students and note that these rates are generally higher than those reported for face-to-face program students. Jordan (2014) reports that typical attrition rates for Massive Open Online Courses (MOOCs) exceed 90%. Based on these findings, researchers have begun to examine the potential causes and possible solutions associated with student attrition in online learning environments.

Online Collaboration

Online learners often report feeling alone and/or isolated during participation in online courses (Palloff & Pratt, 2007). As Sherry Turkle (2012) has suggested, Internet use has the power to isolate people, producing "alone together" social and psychological effects. More and more online educators have raised awareness of the issue of students' perceptions of isolation in online teaching and learning. In attempts to tackle this issue, in recent years, researchers have begun to focus more effort on the creation of effective collaborative learning communities in online learning environments (Lehman & Conceição, 2010; McBride & Fuller, 2007).

Social Cognition

The constructs of social cognition and social learning as reflected in Vygotsky's Socio-Cultural Learning Theory (1978) continue to demonstrate applicability in helping to explain and clarify issues related to creating effective technology-enhanced and online learning environments. After that, Bandura (2009) and others linked the social cognitive theories to the emergence of technological media. Now, it is commonly accepted that the social dimension of online learning is as critically important as the individual component in helping students achieve success in online learning environments (Kearsley, 2000). Learning environments with a social component can be effective in helping reduce a student's sense of isolation; and in helping students be successful (Hall, 2007; Palloff & Pratt, 2007).

Social Presence

Researchers have recently identified social presence as a critical factor in students' perceptions of the quality of their online learning experiences (Garrison, Anderson, & Archer, 2000; Garrison & Cleveland-Innes, 2005). Low levels of social interaction (i.e., presence) are generally associated with lower student satisfaction and success (Brindley, Blaschke & Walti, 2009; Eastmond, 1995; McInnerney & Roberts, 2004; Oestmann & Oestmann, 2006). Conversely these studies also found that online courses that ensure effective collaborative online learning environments tend to achieve the best learning outcomes and are often associated with higher completion rates (Lehman & Conceição, 2010; McBride & Fuller, 2007).

Based upon the theories described above that propose the importance of providing for a strong social dimension within an online learning environment in order to enhance the potential for student retention and success, this paper shares the result of an overt attempt to facilitate an enhanced collaborative online learning community as a teaching and learning strategy within an online graduate degree program. Additional background regarding how the WebIT online program began and progressed is described in Waugh, Demaria, and Trovinger (2011).

Research Context

In 2007, the Instructional Technology (IT) faculty at the University of Tennessee at Knoxville began the planning process for converting an existing resident Masters in IT program into a fully (100%) online Masters in IT program. This process is described in further detail in Waugh, Demaria, and Trovinger (2011). During the Spring semester of 2008, 25 students were recruited for the first cohort (WebIT1) of the WebIT online Masters of Science (MS) program in Instructional Technology at the University of Tennessee at Knoxville. Of the original 25 students who began the program, 11 graduated at the end of the Spring semester, 2010. As the students progressed through the program, more than half (56%) either dropped or were removed for academic difficulties (Waugh & Searle, 2012; Waugh & Su, 2015).

The WebIT program was organized using a cohort model in hopes of fostering the development of a Collaborative Learning Community, an academic community of practice, among the students (Browne-Ferrigno & Jensen, 2012; McBride & Fuller, 2007; Patterson, Mallett, & McFadden, 2012; Polin, 2004; Russell, 2010). The essential characteristics of the WebIT cohort model were the following: the students were recruited at the same time, matriculated together, and progressed through the series of courses and experiences in the instructional program together (Waugh & Searle, 2014). This provided an instructional context in which the students could develop familiarity with one another as they progressed together through the academic program. It was hoped that using this cohort model for the delivery of the curriculum would help to provide the students with a significant sociocultural emphasis during their academic work, thus increasing the students' sense of inter-connectedness with classmates, instructors, and the institution (Tisdell, et al., 2004).

During the Spring semester of 2010, these 11 successful students completed an electronic Program Completion Survey (PCS) designed to provide information regarding their perceptions of the WebIT program, and ways in which it might be improved. This paper is one of a series of papers that reports on the results of an analysis of a specific sub-set of student responses to questions on the PCS instrument (Waugh, DeMaria, & Trovinger, 2011; Waugh & Searle, 2012; Waugh & Searle, 2014; Waugh, Searle, Trovinger, & Morse, 2013; Waugh & Su, 2011; Waugh & Su, 2015). The purpose of this specific paper is to share the perceptions of these 11 successful students regarding their experiences in working together with the other members of their cohort group over the two years of the program. This paper expands upon findings presented by Waugh and Searle in 2012.

Method

This study was conducted as part of a larger case study to guide the continuing development and revision of the online MS in IT program at the University of Tennessee in Knoxville. The case study methodology is described in detail by Stake (1995). The purpose of the larger case study was to determine if an online program could be developed that would allow for broader student involvement (a larger potential student pool) and yet provide a high quality program that meets student needs (Waugh, DeMaria, & Trovinger, 2011). The larger case study, of which this study is one part, consists of a series of analyses of the student response data gathered from different sections of the PCS instrument. The results of these other analyses are presented in a series of related papers (Waugh, DeMaria, & Trovinger, 2011; Waugh & Searle, 2012; Waugh & Searle, 2014; Waugh, Searle, Trovinger, & Morse, 2013; Waugh & Su, 2011; Waugh & Su, 2015). The PCS instrument was composed of several sub-sections (Demographics, Online Program Characteristics and Design, Student preferences for Media and Instructional strategies) and recorded data from the participants regarding these specific aspects of the WebIT program.

Participants and Context

Of the 25 students who were recruited to the WebIT1 cohort in the Spring semester of 2008, 14 did not complete the program. Twelve dropped out and two were removed from the program for academic difficulties. Eleven students successfully completed the WebIT1 curriculum at the end of Spring 2010. Ten of these students were employed as K-12 teachers and one was employed as a technical support specialist in higher education. These eleven students

voluntarily completed an end-of-program electronic survey to share their perceptions of various aspects of the WebIT program.

The details of the WebIT1 curriculum are described in Waugh, Trovinger, and DeMaria (2011). The researchers and program instructors worked as a team during the development and implementation of the WebIT online program, in an attempt to promote an environment in which social interactions among all participants were encouraged through participation in collaborative activities. The WebIT program began with a three-day face-to-face summer orientation in June prior to the first online course being taught in July. In addition, the WebIT1 students were invited to attend (on a volunteer basis) an annual statewide technology conference, the Tennessee Educational Technology Conference (TETC), sponsored by the Tennessee Department of Education. This was not a curricular requirement but rather a suggested optional experience. The TETC conference was held twice during the two-year curriculum. Approximately 80% of the WebIT1 students attended the conference the first year. Each of the 11 students who successfully completed the WebIT1 curriculum attended the conference both years. During the first year, the WebIT1 students were simply encouraged to attend the TETC conference but during the second year, they were challenged to make a presentation at the TETC conference as a demonstration of their developing skills and abilities. Each of the successful WebIT1 students voluntarily elected to make a presentation at TETC during the second year.

Throughout each of the WebIT courses, students were encouraged to work together and assist one another in accomplishing common coursework tasks. As part of coursework, students were required to produce individual artifacts or demonstrate individual accomplishment, but students were also encouraged to collaborate among themselves and with faculty, Graduate Teaching Associates, and other data sources (Internet resources and remote experts outside the program context) in gathering ideas and information relevant to completing assigned curricular tasks.

Courses in the WebIT program were organized according to the preferences of the individual instructors, so a wide variety of learning contexts and experiences were promoted during the program. This choice to allow for variation in the specific learning strategies employed across the courses included in the WebIT curriculum was made to accommodate the preferences of the individual instructors and to allow them to determine how best to make the transition from a face-to-face to an online instructional experience. It allowed for the instructors to be more comfortable with their specific course design, and it provided the students with a variety of course design experiences. However, this approach was not appreciated by all students (even the successful ones), and some students shared a preference for one or another instructional style as they progressed through the curriculum. Individual students were typically assigned to collaborative work groups rather than being able to form their own groups, but at least one course provided students with the opportunity to work together in self-assigned groups. One other course that was offered during the second year of the curriculum sequence utilized a game format that challenged students to compete with one another as individuals rather than to collaborate, in "winning" the game. This experience provided an "anti-collaborative" contrast to the typical work pattern encouraged in the program. Student perceptions of the value of the game-based approach was highly variable. Many chose activity options that avoided competition with the other members of the cohort. One student shared with the program coordinator that, after developing such strong working relationships with the other students, he/she did not like being put into competition with them.

Data Sources

The primary data sources analyzed as part of this study were the student responses to 17 items out of 66 total items included on the electronically-administered Program Completion Survey (PCS). The PCS instrument was developed by the team of researchers and instructors who collaborated in developing the WebIT program. The instrument was designed to gather information about the participants' perceptions regarding various aspects of the WebIT curriculum and their experiences in completing the curriculum. The validity of the instrument, the degree to which the instrument measured what it was intended to measure, was determined by pilot testing with the WebIT Graduate Teaching Assistants and other IT doctoral students to establish that the items were consistent with the purpose of the instrument, i.e., to measure student perceptions regarding the design of the WebIT online curriculum, and to allow students to share their personal experiences in completing the program. Because of the very small sample size and case study context, no attempt was made to establish an estimate of reliability for the PCS instrument. Since the participation of the respondents was entirely voluntary, we assume that they answered the questions truthfully and that their responses would be stable over time.

The student responses to the 17 items analyzed for this study were grouped and categorized by the nature of the student responses, and this grouping provides the structure for the discussion of the findings shared in this paper. In addition, student comments from other parts of the survey or verbal comments made to the program coordinator, instructors or faculty are included where relevant, in order to elaborate on the data provided by the portion of the survey addressed by this analysis.

Measures

The team of faculty researchers working with the WebIT1 cohort collaborated to produce the WebIT Program Completion Survey. It was administered during the final semester of the program in 2010. The survey items addressed issues of interest to the researchers, and issues reported in the literature as factors related to student success in online programs. Other findings, based upon analyses of other sections from this survey, were reported and discussed by Waugh and Su (2011), Waugh and Searle (2012), and Waugh and Searle (2014).

Research Design

The specific research design is a case study to understand the perceptions of the successful students through their responses to an end of program survey designed to focus on specific program design attributes. The following broad research question guided this specific case study analysis. How did the successful WebIT1 students perceive the relationship between the cohort design of the WebIT program and the instructional approaches used in the first cohort of the WebIT program and their success in completing the program?

Findings and Discussion

The findings and discussion that follow are based on student responses to the collaborative learning community subscale of the WebIT Program Completion Survey (see Table 1) that was electronically administered to the members of the WebIT1 cohort near the end of the Spring semester, 2010. The specific survey questions in Table 1 are formatted as [Number]: [Item]. Multiple-choice-type items are followed by the set of choices provided with the question.

Table 1
Collaborative Learning Community Subscale (Q33-49) of the WebIT Program Completion Survey

33: During your participation as a student in the WebIT cohort, how would you characterize your feelings?	(a) I felt comfortable as a member of the WebIT cohort; (b) I felt isolated and unable to fully participate as a member of the WebIT cohort.
34: If you felt isolated in some way, please elaborate.	[open response]
35: How satisfied are you with your online learning experience in WebIT?	(a) Very Satisfied, (b) Satisfied, (c) Not Sure
36: How would you describe your relationships with your fellow WebIT classmates, the members of your WebIT cohort?	[open response]
37: Thinking back to when WebIT first began and comparing that to the situation in your final semester of coursework, how would you describe your interactions with the other members of the WebIT cohort? Has anything changed over time?	[open response]
38: During the WebIT program, did you ever meet face-to-face with any members of the WebIT cohort group for any reason? If so, why did you meet and how often did you meet?	[open response]
39: Please rank in the order of most frequently used to less frequently used the ways in which you communicated with the other members of your cohort during the WebIT program.	(a) E-mail, (b) online chat, (c) text message, (d) online video chat, (e) instant message, (f) online collaboration software (blog, wiki), (g) phone, (h) face-to-face discussion, (i) other
40: Please identify any other means of communication you used to interact with the other members of the Web IT cohort that were not listed in the question above and indicate where in the ranked list (first, second, etc.) it/they would fall.	[open response]

41: Do you feel that any of the relationships that you formed with other WebIT students might continue beyond the completion of the WebIT program? Please explain.	[open response]
42: How frequently have you communicated with your current WebIT instructors? Has this changed since you first began the WebIT program? Please describe.	[open response]
43: How frequently did you communicate with your past WebIT instructors? Has this changed since you first began the WebIT program? Please describe.	[open response]
44: What type of communication and interactions do you feel best supported your learning during the WebIT program?	[open response]
45: Did the WebIT program provide a learning community to support your personal learning needs?	(a) yes, (b) no
46: How might the WebIT program do a better job of building a learning community, or otherwise supporting your learning?	[open response]
47: How did the WebIT learning community support your personal learning needs? Please describe and give examples.	[open response]
48: The WebIT workshop provided an overview of the campus student services offices and brief tutorials regarding basic student needs such as registration and fee payment. Please indicate which of the following electronic student support services you wanted to know more about (if any) during your participation in the WebIT program? Select any/all that apply.	(a) registration, (b) library services, (c) additional technical support, (d) assistance with study skills, (e) career counseling, (f) assistance with students' rights and responsibilities, (g) information about student governance at UT, (h) none of the above, (i) other
49: If you selected “Other” in the question above, please share information about your needs for student support services that the WebIT program did not provide.	[open response]

Social Support

This section reports and interprets the responses made by students to questions 33, 34, 35, and 38. Questions 33, 34, and 35 asked students to share their feelings during their participation in the WebIT cohort. Specifically, how did they feel, did they feel isolated in any way, and how satisfied were they with their overall experience? Ten of the 11 respondents reported feeling comfortable as a member of the cohort. Only one student reported feeling isolated. This student provided the following elaborative comment in response to Question 34:

> I felt I did not get to work with everybody, it would have been nice to have had the opportunity to do so - even if that meant pre-assigned group[s] or something... more than once I felt like I was left with the under-performers of the class to try to deal with the projects.

Five of the respondents reported being very satisfied with their online learning experience in WebIT. Five others reported being satisfied with their experience. One student reported that he/she was not sure that he/she was satisfied. Ten students chose to respond to Question 38. All 10 of the respondents agreed that meeting in person during the TETC conferences was a "great" experience. The individual who reported feeling isolated in Question 34 offered this comment in response to Question 38:

> We met for the TETC twice, and it was a great experience to get to talk to them [the other members of the WebIT1 cohort] and hear from them to take some of the online rust out - we figured out we were missing that face to face component, and that live feeling to our discussions and all.

The concept of social presence has been linked to the successful emergence of online community and online collaborative learning environments (Garrison & Cleveland-Innes, 2005). According to Lehman & Conceição (2010), social presence integrated with cognitive presence and teaching presence are essential elements in building an effective online learning community. By contrast, the feeling of social isolation can greatly negatively influence learners' motivation (Palloff & Pratt, 2007) in online learning environments. While feelings of comfort and satisfaction with academically-focused electronic interactions with other humans do not equate directly to an individual's sense of social presence associated with electronic communication interactions, they can serve to indicate the degree to which those engaged in the electronic interactions perceive that they were part of a successful goal-directed effort with others mediated through electronic communications media, and this perception of the effectiveness of the medium in enabling such interactions is a key component of social presence.

Students' Relationships with Fellow Members of the Cohort Group

This section reports and interprets the responses made by students to questions 36 and 41. Ten students responded to Question 36. All 10 students gave positive responses. Some of the terms used to describe their relationships with the other members of the cohort were "amicable", "amazing", "awesome", "great", "congenial", "supportive", and "friendly". The most common sentiment expressed was positive. One of the most positive comments was the following:

> We've [the members of the WebIT1 cohort] spent a lot of time together and have gotten to know each other better than I expected. Discussions, group projects, and the meetings at the TETC helped bond this group together. As with anything, you get what you put into it. There are members of our cohort that did not participate as much and probably do not feel as close as those that did. I feel like if something pops up after graduation, they are people that I can contact and they will help.

The most negative comment—and it is far from negative—was the following: "I got to know great people in the cohort, and I value their insight to each class and discussion – I also got to know my instructors, but not the actual faculty members."

This last comment reinforces other comments that were made by a few students in other contexts throughout the program, and the data from Questions 42 and 43 regarding the students' perceptions of how communications between themselves and their instructors changed over the course of the program. Though faculty did interact with students throughout the program, the classes were taught by senior Graduate Teaching Associates (GTAs) in Instructional Technology who were mentored by the IT faculty. It was an intentional element of the WebIT program that the GTAs were established as the instructors of the courses so that they would learn to become effective online teachers. Assuming this role, the GTAs would be seen by the students as "in charge" and the primary teacher/leaders for the courses. The program was apparently successful in achieving this goal, but an unintended consequence was the perception by students that the IT program faculty were more distant and less-connected than the students felt was desirable. The instructors (GTAs) were often highly praised for their frequent and tireless contributions to the group, and the group as a whole felt that the GTAs were highly valuable members of the collaborative learning community. However, the role of the faculty members (the GTA mentors) was not seen as particularly influential in fostering the emergence of the collaborative learning community.

A number of researchers have reported that a critical relationship exists between the emergence of social presence and a collaborative learning community (e.g., Garrison & Cleveland-Innes, 2005; Harasim, 2012; Lehman & Conceição, 2010; McBride & Fuller, 2007; Palloff & Pratt, 2007). Oestmann and Oestmann (2006) also argue that a significant positive relationship exists between students' online social interactions and their cognitive development. In this specific instance, the successful WebIT1 students felt that the members of their cohort group formed a very successful collaborative learning community and that the relationships that developed were likely to extend beyond the academic context in which they formed. However, not all researchers acknowledge the likelihood that virtual relationships can transcend the boundary between real and virtual space. Eastmond (1995) claims that it is unlikely for online students to transfer their virtual relationships into real-world social relationships and to maintain them beyond the context in which they were originally formed.

Cohort Size

This section reports and interprets the responses made by students to questions 36 and 37. In responding to Question 36, one of the WebIT students made the point that "it [our relationships] became better as the group became smaller." In responding to Question 37, another student commented that: "If our group had stayed as large as it was when we started, I don't think the relationships would be as close for me."

These responses are consistent with findings from previous research (Loh & Smyth, 2010; Roberts & McInnerney, 2007) on the correlation between cohort size and online learning outcomes. Several studies have found that student success is enhanced by small cohort size (Hill, Song, & West, 2009; Kreijns, Kischner, & Jochems, 2003). Palloff and Pratt (2007) consider 15-20 students as the ideal cohort size.

Chidambaram and Tung (2005) report that students in larger online classes showed lower motivation than those in smaller online classes. However, Oestmann and Oestmann (2006) report finding that "larger online class sizes support Vygotsky's Socio-Cultural Learning Theory in

which more opportunities for social interaction resulted in higher measures of learning outcomes" (p. 5). They report the results of a study to support this view in which large online classes are defined as more than 20 students, while small online classes are defined as having less than 10 students.

Learning Community and Students' Needs

This section reports and interprets the responses made by students to questions 37, 38, 45, 46, and 47. In response to survey question 45, the WebIT group unanimously reported that the WebIT program provided them with a learning community that supported their personal learning needs. Since the student response to Question 45 was unanimous, Question 46 was not presented to the students.

In response to question 37, the students reported a "better and better" learning experience as they progressed through the program. They described their experiences as becoming less "intense", "less isolated" and "more relaxed" over time. One student described being nervous when she started the program, particularly about having to work with other students to achieve certain course goals, but that her concerns were "dissolved by the members in the group as time passed." In terms of specific examples of how the WebIT learning community supported the students' needs, members of the group mentioned: (a) large numbers of student interactions (formal and informal), (b) student sharing of ideas, moral support, and solutions to problems, (c) timely feedback from other members of the community, (d) benefits of diverse backgrounds of cohort members working in teams, and (e) benefits of collaboration and teamwork. Eight of the 10 responses to Question 47 specifically mentioned the term "support" or a close synonym. A typical response was the following: "Cohort members were very supportive of one another."

As described earlier (Question 38), this sense of a supportive, collaborative learning community was greatly enhanced by the TETC conference experiences. One respondent expressed a desire to meet face-to-face (f2f) with other members of the cohort more often, but that it was not possible due to their geographic dispersion, because she "live[d] so far away" so they met frequently using Facebook and Twitter.

In spite of their geographical dispersion, the WebIT1 cohort group reported achieving a strong sense of connectedness through virtual interaction, peer assistance, and collaborative teamwork. Further, the respondents expressed their appreciation of the enjoyable information sharing experiences and the reliable support, both academic and moral, from the whole community including the professors, GTAs, and members of the cohort. Several of the students claimed that "learning from others" was an effective way to "broaden knowledge". One student commented that it would be even better if this virtual collaboration was "more structured" so the learning community could better serve students' needs.

Interestingly, McBride and Fuller (2007) address some particular characteristics of Instructional Technology students (compared to other online learners) that may lead them [the IT students] to a higher level of comfort concerning building online communities. If this phenomenon is real, then it might mean that additional or different types of efforts would be needed by course designers in order to build effective online communities for other types of students. Several researchers (Brindley, Blaschke, & Walti, 2009; McInnerney & Roberts, 2004; Slagter van Tryon & Bishop, 2012) have noted that in order to achieve success in building a sense of online community, it is important to create a sense of connectedness (social presence) and meaning-making through communication-interactions (cognitive presence).

Means of Communication

This section reports and interprets the responses made by students to questions 39 and 40. In response to question 39, most students (8 out of 11) identified E-mail as their most frequently used form of communication throughout the duration of the WebIT program. Online chat and text messaging were the second and third most frequently used media reported by the students. One student selected "other" and responded to Question 40 that he/she used social media (Facebook and Twitter) to communicate with other members of the cohort. Two other members of the group indicated that they did not use any other forms of communication [other than those listed in the question] to interact with the other members of the cohort during the WebIT program.

The students reported using a wide range of electronic communication media to collaborate with the other members of their cohort group. E-mail was the most frequently used medium, but the group expressed a distinct preference for using synchronous communication tools (e.g., Wimba), as well.

Curtis and Lawson (2001) propose that a relationship exists between the electronic communication medium used and the nature of the communication that emerges. They conclude that the nature of the communication medium utilized influences the nature of online learners' interactions. According to Curtis and Lawson (2001), learners tend to have a preference for digital tools that provide a relatively consistent interface for users' interactions. This phenomenon may help to explain why the WebIT students reported that E-mail was used more often than other communication media, since E-mail provided a "lowest common denominator" among the largest possible set of program participants. However, the students also communicated a positive view of the value of synchronous communication tools such as Wimba. Each form of computer-mediated communication has distinct advantages and disadvantages, and the preferences shared by the members of the WebIT1 cohort may reflect their appreciation for the advantages of each medium in meeting specific communications-context needs. Motteram and Forester (2005) note that the robust availability of a wide variety of electronic communication tools enable a "constantly available learning environment, which students can utilize at their own convenience" (p. 290).

Academic Support and Learner Skills

This section reports and interprets responses made by students to questions 42, 43, 44, 48, and 49. Question 42 asked about the frequency of student communication with their current WebIT instructors. Most of the students indicated that they did not communicate with their current instructors very often but their responses varied from a few times a semester to as much as once per week. Some of the students stated that they would contact their instructors whenever they had any questions or needed any clarification, but that this was a relatively infrequent occurrence. Their responses to Question 43 were very similar. They communicated with past WebIT instructors about as frequently as they communicated with their current instructors. Though communication with instructors is obviously desirable, and clearly occurred, this pattern of responses indicated that outside of a course communication context (asynchronous or synchronous), the students did not tend to interact much with their instructors, so the instructors were not dominant members in what they experienced as a collaborative learning community.

The most common reported means of communication with instructors during the WebIT program was via E-mail. However, some students indicated that they commonly used Wimba (Wimba Incorporated, 2009) and text chat to communicate with their instructors outside of a

formal class meeting. The student responses indicate that their perception of the frequency of their communication with instructors, while rather low, was relatively consistent throughout the program.

The need for timely instructor support is critical to student success in online programs. Marjanovic (1999) points out that an asynchronous medium like E-mail allows for students and instructors to communicate any time and any place, and this provides a crucial sense of social presence in a nascent online community. Motteram and Forrester (2005) concur yet caution about the potential difficulties that can emerge when student expectations for faculty availability differ from the reality of faculty availability. Should such a mis-match in expectations occur, it seems likely that it might affect a student's sense of the social presence of others in the online community, and this might affect a student's sense of isolation or dis-connectedness related to the community.

The WebIT program employed a wide variety of computer-mediated communication (CMC) tools to promote intra-group communications. The majority of the students (6 out of 11) reported a preference for the immediacy associated with synchronous communications, through a tool such as Wimba (Wimba Incorporated, 2009). One student response that seemed typical was: "The verbal [spoken] conversations during Wimba in the synchronous meetings were probably the most helpful." However, other students expressed preferences for discussion forums, online chats, and E-mail as means of communication. Still other students felt that the asynchronous means of communication had certain disadvantages that made them less desirable than synchronous communication. The overall pattern of responses from these WebIT students seemed to indicate a group preference for using synchronous communication tools, due to the efficiency and immediacy of this means of electronic communication, but such a preference was not universal.

Student responses to Question 48 provided information about the other kinds of support services they would like to have had available. The largest number (5 out of 11) indicated that they would have preferred having more information about library services. Two students indicated a desire for more information about career counseling. Individual students indicated a desire for wanting more information about each of the following services: (a) Registration, (b) Additional Technical Support, and (c) Assistance with Study Skills. Students who chose "other" in their response to Question 48, were given an opportunity to respond to Question 49. No student chose "other" as a response to Question 48.

Limitations

This case study was based upon a small sample of students and thus any generalization from the findings reported from this context should be made with caution. These findings may be of some value in helping interpret data from related contexts, but they may also be limited to this specific context. These interpretations are shared in hopes that they might be of some value in facilitating the development or evolution of successful online programs.

Conclusion

The members of the WebIT1 cohort who successfully completed the program reported that a supportive, collaborative learning community arose during their participation in the WebIT MS. in IT program. A strong sense of community/group affinity is evident in the students' survey responses. These students reported engaging in a relatively consistent amount of communication with instructors and faculty over time. They also reported that their interactions with members of the cohort increased, across multiple forms of electronic communication, over time.

Formal face-to-face (f2f) meetings with the WebIT1 students were limited to a single pre-program three-day workshop. Two informal, non-required, i.e., voluntary, f2f meetings were held at an annual statewide educational computing conference, and each of the 11 students who completed the program voluntarily participated in both of these annual events. Other student-initiated f2f meetings were organized and attended by some of the members of the WebIT1 cohort group. However, these meetings were limited by the geographic dispersion of the members of the cohort. Those students who lived in closer proximity chose to meet outside-of-class to collaborate on course projects. The majority of the successful students in the cohort reported that they believed that their relationships, often described as friendships, with fellow cohort members would continue beyond the WebIT program.

Based on student feedback, the WebIT program characteristics that seem to be strongly associated with the emergence of a collaborative learning community among the successful members of the WebIT1 cohort are the following: (a) the pre-program orientation, (b) the WebIT program policy to encourage student collaboration on course projects, (c) the integration of optional group meetings that provide students with an opportunity to demonstrate program-related accomplishments, (d) the utilization of diverse, context specific, instructional strategies that encompass both individual and group-based learning approaches, and (e) the rotation of individuals within collaborative project groups over time. In addition, the successful WebIT1 students indicated a decided preference for a smaller cohort size, expressing the belief that a smaller cohort provided a more familiar and inviting context for their collaborative learning and mutual support. The successful WebIT1 students also expressed preferences for the use of E-mail and listserv (asynchronous) communications in addition to synchronous communication environments.

The 11 successful WebIT1 students specifically selected an online program as a vehicle for acquiring a Master’s degree in Instructional Technology. Despite this, they responded very favorably to the several instances in which f2f involvement with other students was either required or suggested as an optional experience. Some students even sought to organize additional f2f meetings among members of the cohort who were geographically proximal to one another. This indicates the perceived value of these physical interactions held by some students (in WebIT1, the successful students) who elect to pursue online graduate studies. Based on our experience with the successful WebIT1 students, an online program model that incorporates the strategies mentioned in the previous paragraph, and specifically several, periodic physical meetings intended to foster group inter-connectedness and academic program-profession connectedness of some type, may be relatively more successful in fostering the emergence of a collaborative learning community and in meeting the needs of a large proportion of the students who matriculate in online graduate programs.

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