Creating an Online Learning Community: Is it Possible?

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Abstract As institutions are moving towards offering more online and distance education courses, scholars have reported that instructors may have difficulty developing learning communities among students enrolled in these courses (DiRamio and Wolverton 2006). The purpose of this study was to examine the differences in students' perceptions of a learning community when enrolled in an online or on-campus introduction to counseling course. Participants were beginning graduate and advanced undergraduate students interested in pursuing a higher education degree in counseling. Results indicated no significant difference in students' perceptions of learning communities based on course format.

Key words Online learning · Learning community · Course format

Over the past decade, the popularity of online and distance education programs among students and higher education institutions has increased dramatically (Distance Education and Training Council [DETC] 2009). In order to adapt to technological advances, many colleges and universities have committed to providing an increased number of online and distance education courses (Justus Ferreira 2005; Parsad, Lewis and Tice 2008). According to the DETC (2009), colleges and universities have reported that degree programs that offer a combination of online and on-campus instruction are the most rapidly growing degree programs in higher education.

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In fact, the number of students enrolled in these programs grew from 1.82 million to 2.13 million from 2007 to 2008 (DETC 2009). Many students choose to enroll in partially online or online only degree programs because of the "convenience of the method" (DETC 2009, p. 2). Because of their need to balance education with many other life demands (i.e., family life and work), graduate students are among the fastest growing population of students enrolling in online courses and distance education programs (Lorenzetti 2005). Thus, students who were previously unable to enroll in higher education programs due to time constraints and scheduling conflicts are now able to do so because of the flexibility of online education (DETC 2009).

Although enrollment in online courses and distance education programs has drastically increased over the past decade, researchers have reported staggering attrition rates among students enrolled in such programs (DiRamio and Wolverton 2006). When compared with traditional, on-campus courses, the attrition rates for students enrolled in online courses are often 10% higher (Carr 2000). In fact, Terry (2001) reported attrition rates as high as 21% for students enrolled in online courses compared to a 14% attrition rate for students enrolled in traditional, on-campus courses. Some have attributed the high attrition rates in online courses to the inability of course instructors and students to develop a supportive learning community and have speculated that developing a learning community among students and faculty in online courses will increase retention rates (DiRamio and Wolverton 2006).

As online courses and programs have continued to gain popularity, the questions and concerns of quality and comparability of online instruction with traditional classroom methods has increased significantly (Morris et al. 2005; Palloff and Pratt 2007; Schulman and Sims 1999; Summers et al. 2005). Specifically, scholars, educators, and accreditation bodies have raised concerns regarding the ability of such programs to meet accreditation standards, address student learning objectives, and create a functional learning environment (DiRamio and Wolverton 2006; Robinson and Hullinger 2008). Several researchers have found empirical support for the "No Significant Difference Phenomenon" (Russell 2001) when examining various student learning outcomes for students enrolled in online and on-campus formats of higher education courses (e.g., Carey 2001; Robertson et al. 2005; Reuter 2009; Waschull 2001). These researchers have concluded that students enrolled in online or distance education courses and traditional, on-campus courses do not significantly differ on outcomes including ability to meet learning objectives, test scores on course material, and level of participation in the course (Russell 2001). Although researchers have examined the difference between various products of student learning outcomes based on course format, there is a gap in the literature regarding differences between students' experience of a learning community based on course format, which is critical to decreasing attrition rates in higher education (DiRamio and Wolverton 2006).

Learning Communities

One challenge faced by higher education institutions is the shaping of a learning environment that fosters the building of community between and among students and faculty (Bednarz et al. 2008; Boyer 1987; DiRamio and Wolverton 2006; Sorensen et al. 2006). The concept of developing learning communities is based on a constructivist pedagogical foundation, which emphasizes the importance of collaborative learning and the social construction of knowledge (Cross 1998; Sorensen et al. 2006). A sense of community implies shared purpose, commitment, responsibility, and relationships (Bogue 2002). This sense of community in an educational environment encourages collaboration, sharing, and relationships to enhance student learning outcomes (Bogue 2002; Cross 1998).

Recently, researchers have conducted studies to assess the impact of a sense of community on student learning and attrition. They have found that developing learning communities in higher education courses enhanced student learning as well as students' ability to translate academic knowledge to professional practice (Cross 1998; Shapiro 1998). In fact, Palmer (2002) suggested, "By now we have enough research (to say nothing of personal experience) to know that the fastest and deepest learning happens when there is a dynamic community of connections between teacher and student and subject" (p. 185). Some scholars have identified learning as a social process and believe that students can achieve learning objectives more quickly when they feel a strong sense of community (Cross 1998; Ke and Hoadley 2009; Palloff and Pratt 2007). Based on studies conducted to date, researchers have concluded that learning communities in higher education are essential for institutions to pursue their mission (Palmer 2002), achieve learning objectives (Cross 1998), and decrease attrition rates (DiRamio and Wolverton 2006).

Learning Communities in Online and Distance Education

A strong sense of community can exist in online or distance settings, and students can develop strong relationships with one another in these courses (Baym 1998; Ke and Hoadley 2009; Palloff and Pratt 2007; Rovai 2002). One perception of community in an online setting is a virtual learning community. In this type of community, "learning tasks and outcomes motivate community efforts" (Thompson and MacDonald 2005, p. 235). Another perception is a community of practice, which is defined as a group of learners who come together for the semester, quarter, or session to engage in a formal learning experience online (Thompson and MacDonald 2005). Included in these descriptions of community is the overall idea that a community is created when a group of learners set out to achieve a common goal and learn with each other, despite the educational setting. In a distance education or online setting, the difficulties surrounding learning at a distance can be overcome by being connected to or having a relationship with other students and the course instructor (Palmer 2002). The building of relationships in an online learning community enables the development of a supportive peer network, brings together the social and academic roles for students, and facilitates collaborative and interactive learning (Motteram and Forrester 2005). The instructor shares responsibility with the students for the fostering of the online community to promote interactive learning (Roblyer and Wiencke 2003).

Although the literature base outlining the impact of a sense of community among students enrolled in traditional, on-campus courses is strong, researchers have conducted few studies to assess the impact of learning communities in distance education. Some researchers have supported the belief that a sense of community can be developed among students and faculty in online courses (DiRamio and Wolverton 2006; Ke and Hoadley 2009). For example, DiRamio and Wolverton (2006) found that instructors can facilitate the development of a learning community in online courses by (1) designing activities to help students feel connected to course material and one another, (2) engaging students in discussions and encouraging them to share their personal experiences related to course material, and (3) promoting responsibility and accountability through frequent instructor-student contact. Thus, instructors of online courses can facilitate the development of an online learning community by adapting instructional techniques to promote students' sense of connection, engagement, and responsibility (DiRamio and Wolverton 2006; Motteram

and Forrester 2005; Palloff and Pratt 2007). We know that a strong sense of community is important for students enrolled in both online and on-campus courses; however, an online setting can present additional challenges regarding the creation of a strong community. As in on-campus courses, developing such an environment in an online course requires instructor innovation and adaptation, as the online community cannot be created using one size fits all techniques (Blair and Hoy 2006; DiRamio and Wolverton 2006; Ke and Hoadley 2009; Palloff and Pratt 2007; Sorensen et al. 2006).

In order to promote the effectiveness of online and distance education courses, the Distance Education and Training Council (DETC) has suggested that instructors (1) "encourage contact between students and teachers," (2) "develop reciprocity and cooperation among students," (3) "encourage active learning," (4) "communicate high expectations," and (5) "respect … different ways of learning" (pp. 5–6). Each of the DETC recommendations is essential to facilitating the development of an online learning community (Thompson and MacDonald 2005). Creating community in an online course often serves to "strengthen the bond between students taking the course and mak[e] the course material more interesting" (DiRamio 2005, p. 4). Cross (1998) summarized research related to satisfaction with educational experiences and discovered that students who experienced a sense of community were more satisfied and less likely to withdraw from degree programs. Although scholars recognize the importance of developing a sense of community among students enrolled in online courses (e.g., DETC 2009; DiRamio and Wolverton 2006; Sorensen et al. 2006; Thompson and MacDonald 2005), there is a gap in the literature regarding students' perceptions of a learning community based on course format, i.e., online or face-to-face courses.

Purpose

The purpose of this study was to examine the differences in students' perceptions of a learning community when enrolled in an on-campus or online introduction to counseling course in order to determine if the development of a learning community could be successfully facilitated in both course formats. Further, we also hoped to provide a foundation for exploring the differences in learning communities in online and on-campus formats. The research question addressed in the study was as follows. What are the differences in perceptions of learning community between students enrolled in an online or on-campus introduction to counseling course?

Methods

Institution and Participants

The sample consisted of advanced undergraduate and entry-level graduate students enrolled in an online or on-campus introductory counseling course taught over a 15-week semester at a large, public research intensive university with high undergraduate enrollment in the western United States (The Carnegie Foundation for the Advancement of Teaching 2011). This institution offers many courses via correspondence or video technology as well as in online formats. Additionally, the University provides basic technical support to faculty and staff members to utilize distance education technology. Faculty members at this institution often teach a combination of on-campus and distance education courses as a part of their teaching loads.

The course instructor had experience teaching both on-campus and online courses prior to conducting this study. The online training experience included both a one-hour University sponsored training as well as mentoring from other faculty members who had extensive experience teaching online. The level of training the faculty member received in teaching both on-campus and online courses was considered comprehensive by the University's standards. Additionally the instructor's teaching evaluations in both course formats prior to the study were positive (i.e., scoring an average of 4.5 on a 5 point scale).

The sampling pool consisted of 37 students enrolled in either the online (N=18) or on-campus (N=19) section of the course. Twenty-seven of the 37 students chose to participate, which resulted in a response rate of 72.97%. Of the 27 participants, 16 were enrolled in the online course and 11 in the on-campus course. The average age of participants was 29.89 years (SD=10.79). Eighty-five percent of the sample was female (n=23), and 14.8% (n=4) were male. Nineteen (70.4%) students were advanced undergraduate students, whereas 8 (29.6%) were graduate students. The average GPA for students in the online course was 3.38 (SD=.43) and 3.35 (SD=.44) for those enrolled in the on-campus course.

We conducted an a priori power analysis using G*Power 3.1 (Faul et al. 2009) to determine the minimum number of participants needed to detect a moderate effect (≥0.50; Granello 2000) with a power of 0.80, which was determined to be 27. Thus, the final sample of 27 participants met the recommended sample size when using an independent-sample t test for data analysis (Faul et al. 2009).

Instruments

The Online Learning Community Survey ([OLCS]; DiRamio 2005) was revised and used, with permission from the author, to measure students' perceptions of a learning community. The instrument had been developed to measure factors that contribute to an online learning community. Participants responded to statements using a four-point Likert-type scale ranging from 1 (strongly disagree) to 4 (strongly agree). The OLCS is comprised of three subscales including (1) the instructor's role (i.e. instructor expectations, rules, duties, and course organization), (2) connections made in the course (i.e. level of participation, group work, and interaction), and (3) student responsibility (i.e. motivation, maturity, and empowerment). DiRamio (2005) reported the reliability of the three subscales on the OLCS based on data collected from 709 undergraduates enrolled in online courses at multiple universities. The Cronbach's Alpha correlation coefficients for the subscales were .79 for the instructor role subscale, .80 for the connections subscale, and .73 for the student responsibility subscale.

The Community Survey (CS) is an adapted version of the OLCS (DiRamio 2005) designed to assess learning communities in traditional, on-campus courses. We modified the language of questions on the OLCS so as to both settings (i.e., online and on-campus) with the assistance of a survey design expert. The modification of language on the OLCS described the course as an "online course," whereas modified language on the CS described the course as a "Fundamentals of Counseling Course". Based on the present sample, the Cronbach's alpha internal consistency estimate of reliability was .78 for the overall assessment. This instrument is valid and reliable in measuring participants' experience of their learning community.

Procedure

After receiving Institutional Review Board approval for human subjects research, the lead researcher invited students enrolled in both courses to participate in the study. Students

were informed that participation in the study was voluntary and had no bearing on their final grade. They were given consent forms outlining the purposes of the study, the policy on confidentiality, and potential risks. Upon consenting to participate in the study (i.e., giving written consent to participate), students enrolled in both course formats answered demographic questions regarding age, gender, grade point average, and undergraduate or graduate status and completed the Community Survey. Finally, researchers entered data into the Statistical Package for Social Sciences (SPSS) 17.0 for analysis.

We conducted an independent-samples t test to assess the difference between students' perceptions of the learning community based on course format (i.e., online and on-campus). We also conducted post hoc analyses (i.e., independent-sample t tests) to determine the differences between students' perceptions of the instructor's role, connections made in the course, and students' sense of responsibility based on course format.

Results

Descriptive statistics for this study are presented in Table I. According to descriptive statistics, students enrolled in both course formats reported experiencing a sense of community as scores rangeD from 18 to 72 on the Community Survey, and the mean scores for the sample were 66.44 (SD=4.07) and 64.18 (SD=4.33) for the online and on-campus students respectively.

In addition, our statistical analysis tested whether or not perceptions differed significantly by course format. Independent t test results indicated no statistically significant difference between their experiences of a learning community based on course format (t=1.38, df=25, p=0.18). Thus, the results indicated that course format did not have an effect on students' experience of a learning community.

Post hoc analyses revealed that students' perception of the instructors' role differed based on course format (t=2.73, df=25, p=0.01) while their sense of connection to other students and the instructor (t=1.46, df=25, p=0.16) and sense of responsibility (t=−0.60, df=25, p=0.56) were not significantly different.

Discussion

The purpose of the study was to provide a foundation for examining differences in course formats in regard to the development of a learning community. Results indicated that students in both courses experienced a sense of community and that there were no significant differences based on course format. These results may be attributed to the instructor's commitment and efforts to foster a learning community in both courses using recommendations from the literature, i.e. encouraging communication, fostering relationships among students, providing opportunities for leadership, and developing assignments to increase students' sense of personal responsibility (DETC 2009; DiRamio and Wolverton 2006; Sorensen et al. 2006).

Table I Descriptive Statistics Based on Course Format		n	M	SD	Minimum	Maximum
	Online	16	66.44	4.07	62.00	72.00
Note. Total sample = 27 participants	On-campus	11	64.18	4.33	56.00	72.00

In both courses, the instructor gave careful consideration to the development of assignments and activities that would nurture the development of a sense of community development. In both courses, student-instructor interaction was encouraged; and the instructor focused on giving students the opportunity to work together on projects, fostering reciprocity among students and encouraging them to take a leadership role during the course (DETC 2009; Thompson and MacDonald 2005). Thus, the results of the study indicate that an instructor's intentionality in adapting assignments and interactions to foster community development can facilitate students' experience of a learning community despite course format. Essentially, based upon this study of one course, we believe that students and instructors can indeed develop a learning community as effectively in an online course as in a traditional, on-campus course.

Post hoc analyses revealed that students in both course formats felt connected to other students and the instructor, and they felt a sense of responsibility for their success in the class; however, their sense of the instructor's role was different based on course format. The mean score for the instructor's role was higher for students enrolled in the online course ($M=18.81$; $SD=1.38$) than for those enrolled on-campus course ($M=17.18$; $SD=1.72$). Thus, students enrolled in the online course perceived the instructor had a more significant role in facilitating the development of a learning community than for students in the on-campus course, i.e. the instructor was viewed as a mentor, shared personal experiences, and encouraged students to share their ideas and build relationships (DiRamio 2005). Essentially, the results indicated that students can experience the same sense of community despite setting when the instructor is intentional in structuring the learning environment to create a sense of community (DETC 2009; DiRamio and Wolverton 2006). These results are supported by previous findings, which suggest that instructors in online settings must be intentional and innovative in order to facilitate the development of a learning community because students do not have contact with each other in a physical environment (Blair and Hoy 2006; Sorensen et al. 2006). In summary, students in both courses experienced a sense of community; however, students enrolled in the online course viewed the instructor as having a more central role in creating the learning community than those enrolled in the on-campus course.

Implications

These results of this study have substantive implications for institutions of higher education and instructors of online and distance education courses.

Institutions of Higher Education

The literature base connecting student outcomes and decreased attrition rates to a students' perception of a learning community is strong (e.g., Cross 1998; Palmer 2002; Shapiro 1998). Our results indicate that such a community can be developed in online and distance education courses, which often have higher attrition rates than traditional classroom settings (DETC 2009; Terry 2001). Because researchers have found that a sense of community significantly decreases attrition rates, an instructor's ability to develop this type of community in an online setting is promising for decreasing the attrition rates of online and distance education students as well (DiRamio and Wolverton 2006). Thus, institutions of higher education need to recognize the importance of providing faculty development opportunities to understand how to establish learning communities in online as well as on-campus courses.

According to the results, creating a learning community in an online setting is possible; therefore, institutions of higher education should encourage instructors, despite course format, to take steps to develop that sense of community. Providing accountability for the instructor's ability to do so may be reflected in instructional course evaluations (Stewart et al. 2004). Specific recommendations to assist instructors to develop such a learning environment are outlined below.

Online and Distance Education Instructors

Students enrolled in the online course viewed the instructor's role in facilitating the development of a learning community as crucial to its development; thus, instructors should be intentional in creating such an environment (Blair and Hoy 2006). In order to develop a sense of community, online instructors first need to recognize and understand the value of creating this environment in an online setting. Instructors who value and are intentional in designing course activities to encourage the development of the online learning community are more able to develop such an environment, despite the setting (DiRamio and Wolverton 2006; Roblyer and Wiencke 2003).

A primary issue facing online instructors is creating an environment which promotes the active engagement of students through course assignments and discussions (DETC 2009; Rovai 2002). Typically, online courses or those delivered at a distance are not structured socially like a traditional classroom; thus there are several considerations for online instructors when helping to facilitate the development of a learning community from a distance. The challenge for instructors is to create a comfortable space for students to become a community of learners (Wilson et al. 2004). Palmer (2002) suggested community building cannot be reduced to a technique but instead can be seen as the instructor's ability to create a capacity for making connections within their classrooms and for that capacity to be developed in their students. Specific recommendations for developing a learning community in an online or distance education environment include (1) developing course assignments to promote collaboration among students and with the instructor, (2) encouraging students to take leadership roles during the course, (3) providing opportunities for students to share their own personal experiences related to course material, (4) sharing her/his own experiences with students, (5) incorporating reflective writing assignments into the course, (6) using group projects to promote collaboration, (7) encouraging responsibility among students for their own learning, (8) creating assignments that encourage active learning, (9) communicating high expectations, and (10) developing an environment where constructive feedback is both welcomed and solicited (DETC 2009; DiRamio and Wolverton 2006). Instructors can use these nine principles as a foundation for course design and implementation.

Limitations

The following limitations regarding instrumentation and sampling must be considered when interpreting the results of this study. First, limitations related to instrumentation include the use of a self-report instrument and modification of an established survey. The use of a self-report instrument, although common in educational research, is a limitation in that self-report instruments are subject to social desirability bias (Gall et al. 2007). Researchers ensured the confidentiality of participant responses in order to decrease this threat to internal validity. Also, the modification of the language in the

Online Learning Community Survey (DiRamio 2005) to develop the Community Survey is another limitation of the present study. In order to decrease this threat to internal validity, researchers piloted the modified assessment to a small sample of students to establish the reliability and validity of the adapted instrument.

Limitations of the present study related to sampling include the small sample size and use of convenience sampling methods to select participants although the sample size was adequate for statistical power (Faul et al. 2009). Replicating results using larger samples is necessary to increase the generalizability of findings. Additionally, the researchers employed convenience sampling methods to select participants for the study. Using convenience or volunteer sampling methods decreases the generalizability of research results (Gall et al. 2007). Further, participants were students enrolled in either an online or on-campus introduction to counseling course taught by the same instructor at one university. Therefore, replication of the current findings using random samples of students from multiple institutions of higher education is necessary to generalize these findings across institutions and degree programs.

Directions for Future Research

The limitations of the study combined with research results provide several directions for future research. First, researchers should replicate the results of this study by conducting similar studies with larger, more diverse samples. Assessing students' perceptions of learning communities of students enrolled in courses both online and on-campus from multiple institutions of higher education will strengthen the literature base. Although there is some evidence that students' perceptions of community are related to student outcomes and attrition rates for student enrolled in on-campus courses, further research should examine the impact of learning communities on student learning outcomes and attrition rates for students enrolled in such courses from a variety of disciplines.

Additionally, researchers did not have knowledge of participants' previous experience in online or distance education courses. Participants' previous experiences in an online course (i.e., positive or negative) may have impacted their willingness and ability to work towards a sense of community in this particular course; thus, it will be important in future research to examine the difference between students' sense of community based on the extent of their previous experience in online courses. Finally, future research should be conducted to develop and further establish the reliability and validity of the Community Survey. Once established as a valid and reliable instrument, it could be used to assess students' perceptions of learning communities in future studies.

Conclusion

The number of students enrolled in online courses and degree programs has rapidly increased over the past decade (DETC 2009; Justus Ferreira 2005; Parsad et al. 2008). Scholars have reported that developing a learning community among online students may pose challenges for online instructors because of the format of the course (DiRamio and Wolverton 2006; Palmer 2002). Thus, the purpose of this study was to examine the differences in students' perceptions of a learning community when enrolled in an on-campus or online introduction to counseling course based on course format. The results of the study indicated there was no significant difference in students' perceptions of learning

communities based on course format; therefore, we believe that creating such a community in online and distance education courses is possible. Our results provide a foundation for exploring the differences in learning communities in online and on-campus formats and for future research in this area.

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