Journal of Distance Education
Revue de l'Éducation à Distance

Volume 28(1) Spring/printemps 2014

Graduate Student Experiences On- and Off-campus: Social Connectedness and Perceived Isolation

Tracy Anne Irani, University of Florida, Gainesville
Sandra Barbour Wilson, University of Florida, Fort Pierce
Deidra Lynn Slough, University of Florida, Gainesville
Mark Rieger, University of Delaware, Newark

Abstract

This paper discusses findings of a study investigating graduate student experiences on- and off-campus among all departments within the College of Agricultural and Life Sciences at the University of Florida, a large public land grant institution with a mix of on-campus, off-campus and online distance-delivered graduate academic programs. The investigation utilized a mixed methods approach where a series of focus groups were conducted with students, faculty, graduate advisors and administrators to gain insight into the differences graduate students experience in traditional and non-traditional learning environments. Focus groups findings were used to develop an online survey that examined connectedness and social isolation perceptions of on- and off-campus students. The results of the survey support the hypothesis that off-campus students are less connected to their home departments and feel a greater sense of social isolation than on-campus students. A major implication of this study is the ongoing need for institutions engaged in distance education academic programs to commit to exploring and implementing practical applications designed to fully address connectedness and social presence issues among the students they seek to serve.

Résumé

Cet article discute les conclusions d'une étude portant sur les expériences sur et hors campus de l'étudiant diplômé parmi tous les départements au sein du Collège d'Agriculture et Sciences de la vie à l'Université de la Floride. L'Université de la Floride est un grand établissement subventionné, propriété du domaine public, combinant plusieurs programmes d'études supérieures réalisés sur le campus, hors campus, et en ligne à distance. L'enquête a utilisé une approche de méthodes mixtes où une série de groupes de discussion ont été menés avec les étudiants, les professeurs, les conseillers aux études supérieures et les administrateurs afin de mieux comprendre les différences que les étudiants diplômés vivent dans des environnements d'apprentissage traditionnels et non traditionnels. Les conclusions des groupes de discussion ont servi à développer un sondage en ligne qui a examiné la connectivité et les perceptions d'isolement social des étudiants sur et hors campus. Les résultats du sondage appuient l'hypothèse que les étudiants hors campus sont moins connectés à leur département d'attache et ressentent un plus grand sentiment d'isolement social que les étudiants sur le campus. Une implication majeure de cette étude est la nécessité pour les établissements impliqués dans des programmes universitaires d'enseignement à distance de s'engager à explorer et à mettre en œuvre des applications pratiques, conçues pour répondre pleinement aux enjeux de connectivité et de présence sociale parmi les étudiants qu'ils cherchent à servir.

Journal of Distance Education
Revue de l'Éducation à Distance

Volume 28(1) Spring/printemps 2014

INTRODUCTION

The need to develop alternative delivery mechanisms for instruction in higher education extends back to the 1950s, when increased student enrollment was beginning to limit on-campus space (Curtis, 1957). Early technology-based distance education pioneers focused their efforts first on forms of educational broadcasting, such as instructional television. With the advent of the Internet, emphasis shifted to online-based distance education methods, which have evolved from simple web pages to sophisticated interactive course management platforms supplemented by video, social media and mobile applications. Today, distance education is growing at a rate more than 10 times that of traditional higher education (Allen & Seaman, 2011). Extensive efforts have been made to assess the technology, learning outcomes, student satisfaction and faculty acceptance of distance education (Allen et al., 2002; Allen & Seaman, 2011; Rieger, Turner & Barrick, 2011). As a result, a number of best practice options now exist for individual distance education courses or programs that utilize quality assurance scorecards (Sloan-C, 2012), rubrics (Quality Matters™, 2011) and accreditation standards (SACS, 2012).

Although distance education student performance can be comparable (Miller & Pilcher, 2001; Spooner et al., 1999) or even superior to traditional/synchronous classroom teaching (Bernard et al., 2004; Means et al., 2009), there is evidence that online students feel a weaker sense of connectedness and belongingness (Bollinger & Inan, 2012; Rovai, Wighting & Liu, 2005), and university attachment (Lane and Henson, 2012). The level of social presence in a distance education setting significantly affects the degree of learning interaction and achievement (Kim, 2011; Wei, Chen, & Kinshuk, 2012). Having developed and tested a social presence instrument, Kim (2011) reported factor constructs of social presence to include mutual attention and support, affective connectedness, sense of community, and open communication. These factors, in addition to application of social learning theory (Hill, Song, & West, 2009), can help guide the design of online learning systems to foster social presence (Sung & Mayer 2012), and help replicate some of the components of traditional campus experiences.

The theoretical framework for the study is based on diffusion of innovations. One of the major ways in which adoption of online distance education in higher education has been conceptualized is as a diffusion process. Diffusion theory is based on the diffusion of innovations adoption model (Rogers, 2003), which explains how a technological innovation moves through a process whereby users decide to adopt or not adopt until the innovation either achieves critical mass or is rejected. For Rogers, adoption is a decision of "full use of an innovation as the best course of action available" and rejection is a decision "not to adopt an innovation" (p. 177). Rogers defines diffusion as "the process in which an innovation is communicated through certain channels over time among the members of a social system" (p. 5). As expressed in this definition, innovation, communication channels, time, and social system are the four key components of the diffusion of innovations. These four key components can readily be observed in the evolution of online distance education. Distance education is a technology-based innovation that has evolved over time in terms of being adopted by institutions of higher education. Its beginnings followed the prescribed diffusion path identified by Rogers (2003). Through delivery and discussion of distance education programs, knowledge of the associated mechanisms has spread. The

allure of farther reaching programs that distance education offers, makes it a prime target for use in educational expansion. As it has evolved, concerns over its effects on communications and social systems, as represented by students' experiences, have led researchers to examine these influences on the adoption process with a view toward better understanding how students perceive and make sense of their experiences.

In relation to this, Shin (2002) uses a theoretical construct to characterize distance students' perceptions of teachers, peers, and institutions that can be viewed from a diffusion standpoint, as attributes of distance education as a technological innovation. Termed 'transactional presence', this construct addresses the degree to which a distance student perceives the availability of, and connectedness with, other parties involved in a distance education setting. This not only pertains to student-student or student-teacher relationships, but also to student-advisor relationships. From this perspective, a student's sense of connectedness can be viewed as the sense of belonging and acceptance that, if not met, can lead to feelings of social isolation, often characterized by loneliness, dissatisfaction, marginalization, and interpersonal distress (Bolliger & Inan, 2012). Connectedness and social presence help build a student's sense of community, ultimately impacting overall success (Reinhart, 2010). Not surprisingly, attrition rates are significantly higher in online programs, compared to campus based formats for the same degree (Patterson and McFadden, 2009).

In today's higher education settings, what constitutes the "full college experience" is readily changing and openly diverse. With new technologies, the typical setting of a student program can vary widely. Depending on the major, students may be physically located on- or off-campus, and may be taking in-person or online courses. With graduate programs, non-thesis, thesis, or doctoral tracks may exist, and the student may be located at a site different than the research advisor and/or instructors. Specific to graduate education in traditional, hybrid, and online environments, studies have evaluated perceived isolation (Erichsen & Bolliger, 2011), quality (Ortiz-Rodríguez et al., 2005; Robertson, Grant & Jackson, 2005), personality based learning styles (Rovai & Grooms, 2004), research readiness (Pival, Lock & Hunter, 2007), sense of community (Bloomberg, 2007; Exter et al., 2009; Reinhart, 2010), instructor feedback (Ekong, 2006), attitudes (Ural, 2007), and satisfaction (Bolliger & Halupa, 2012). Ortiz-Rodríguez et al. (2005) reported communication to be the key factor identified by most students as contributing to quality in distance education courses.

The College of Agriculture and Life Sciences (CALS) at the University of Florida (UF) is unique in that it has 18 departments/units spread among 12 research and education centers (RECs) and the main campus. Five of UF's RECs house "2+2," or degree completion programs beyond the associate degree level programs, are for specific undergraduate majors. Often, these students will continue at the REC with an advanced graduate degree. With such a range of distance technologies and branch campus options, there are warranted concerns that students are graduating without feeling connected to their peers, advisors, professors, home departments, college, and even university. Within CALS, a critical emphasis has been placed on online course transformation in a variety of disciplines, including agribusiness, agronomy, environmental horticulture, agricultural communications, entomology, and soil and water science. CALS students in these disciplines are currently involved in programs where they may

be located at remote sites and/or taking distance education classes for some or all of their programs of study. Since curriculum varies from department-to-department and site-to-site, there is no standard "model" for course delivery, interaction, or learning tools other than the university adopted course management platform, SAKAI. As a result, the courses these students take can vary widely in how they are developed, delivered and in what resources students find available to supplement their learning experiences. This can also be true in live classroom situations as well.

Within the college, numbers of students at RECs are growing, but their dispersal across sites is uneven, with some sites having as few as two or three students and some having more than 40 students. Students at remote sites may not have the opportunity to be as immersed in their disciplines as their counterparts in academic departments on campus, and their faculty advisors may be based on campus in some cases and off campus in others. This creates potential challenges in student support, faculty advising, and programs of study that need to be addressed, especially because the majority of graduate students in some academic department units, like Environmental Horticulture, are now located at one of IFAS's 12 RECs. Little is known about how the quality of off-campus student experiences compares to that of on-campus students or of students taking classes in one REC setting to another.

About one quarter of the graduate distance education courses taught within CALS originate from faculty located at a REC. Needless to say, the graduate student experience can be very diverse within the statewide UF model. McKeown (2012) defines the traditional college experience as having three broad components: educational, social, and extracurricular. The extent to which these components are incorporated into a non-traditional college experience varies widely, as does a student's need to feel connected. To our knowledge, this is the first study to assess graduate student experiences among all degrees, departments, and centers in traditional and non-traditional learning environments within a single college.

Based on the above, the objectives of this study were to use a mixed methods approach to 1) assess perceptions of students, faculty, and graduate coordinators/administrators in a specific institutional setting as to the perceived quality of their student learning experiences; and 2) assess and compare students as to their perceived level of connectedness and degree of social isolation, as attributes of transactional presence in an instructional setting.
environments.

METHODS

A mixed-methods approach was utilized to capture information from graduate students, faculty, and graduate coordinators/administrators. The focus was on understanding the differences in experiences between students who study in a traditional manner at on-campus facilities and those who study at off-campus facilities, like research and education centers, or through online programs. For the first part of this study, a series of focus groups with students, faculty, graduate advisors, and administrators was conducted to develop insights and understanding of participants' perceptions. For the second part of

the study, focus group findings were used to formulate questions for an online survey that examined connectedness and social isolation perceptions of on- and off-campus students.

Methods for Focus Groups

Focus groups allow researchers to gain in-depth insight into the experiences and beliefs that guide participants' attitudes and opinions (Morgan, 1998). They have been defined by Krueger (1994) as "a carefully planned discussion designed to obtain perceptions on a defined area of interests in a permissive, nonthreatening environment" (p.6). According to Greenbaum (2000) and Krueger (1994), group discussion enables the understanding of opinion and why opinions are held. To ensure consistency between focus groups, a moderator's guide was developed according to the procedures recommended by Krueger (1998) and Greenbaum (2000). The moderator's guide included an opening section that set the rules for the discussion and assured participants that there were no "right" or "wrong" answers and that the moderator's role was to encourage balanced discussion and make sure all viewpoints were heard. Since participants were not all on site, the moderator also explained that participants would be asked after each question if everyone had provided input to ensure that off-site participants had a chance to communicate if they had not already done so. All qualitative data collected during the focus groups were captured through audio recordings and later transcribed into text. The text was analyzed using Glaser's (1965) constant comparative method to identify consensus and themes within the data.

To conduct the focus groups, this study used a triangulation approach consisting of a series of three focus groups, each with a different type of participant. The first consisted of purposively selected on- and off-campus CALS graduate students, the second consisted of graduate coordinators and REC directors, and the third was comprised of college faculty who actively teach and advise graduate students. The hour and a half long focus groups were conducted on December 6, 2010, April 19, 2011, and June 29, 2011, all at the University of Florida in Gainesville, FL. Participants either attended live (in Gainesville or Fort Pierce) or via an interactive communication system (Polycom, Inc., San Jose, CA). All three groups included a mix of on-site and off-site participants.

Participants in each group were asked a series of questions about their key experiences both inside and outside of class; advantages and disadvantages of students in graduate programs delivered on-campus, at remote sites and off-campus via distance education; levels of interaction with peers and faculty; quality of support services; value of professional enrichment activities; and recommendations they had for improving the program (See Appendix A). Questions and the questioning route followed a consistent format for all three groups. In each focus group, the discussion space for the participants was similarly set-up, the time allotment was the same and similar questions were presented to participants in corresponding order.

Participating students consisted of three Ph.Ds, four in M.S. thesis and three in M.S. non-thesis programs. Six female students and four male students participated in the focus group. The respondents were spread across Florida, in Apopka, Balm, Fort Lauderdale, Fort Pierce, Gainesville, Immokalee, Lake

Alfred, and Milton. The REC director/graduate coordinator focus group consisted of five REC directors located at a representative mix of research and education centers and two graduate coordinators located in Gainesville (academic departments are all located in Gainesville). Between the seven participants, six were not currently teaching or advising graduate students and all of them had achieved the rank of professor. This selection was intentional, to glean more of an administrative perspective rather than a teaching/advising perspective. Their home departmental affiliations were Soil and Water Science, Horticulture, and Environmental Horticulture. See Appendix A for questions from moderator's guide for this group.

Six male and three female faculty members also participated, representing academic departments with distance education programs within CALS. Faculty participants had academic homes in the departments of Soil and Water Science, Environmental Horticulture, Entomology and Nematology, Fisheries and Aquatic Sciences, Environmental Sciences, Horticulture, and Agronomy, as well as the School of Natural Resources and Environment and the School of Forest Resource Conservation.

The participating teaching faculty members had teaching loads ranging from 10-70% of their appointment, and all but one had taught distance education classes. Four of the faculty members had only taught solely in a distance education format. Between the nine faculty members, they advised 15 Ph.D. students (13 located in GNV, 1 at a REC, 1 out of state), 14 M.S. thesis students (9 located in GNV, 5 at RECs), and 7 M.S. non-thesis students (1 located in GNV, 3 at RECs, and 3 not in GNV or RECs). (See Appendix A for questions from the moderator's guide for this group).

Focus Group Results

To assess objective one, perceptions of on- and off-campus graduate students, graduate coordinators, REC directors, and faculty as to the quality of their academic experiences were explored. For off-campus students, major themes included their perceived sense of isolation and social distance from the main campus. Students at sites with smaller student populations particularly felt more isolated. Students felt that having an interdisciplinary group of faculty and students based at a REC had some limitations. They missed interacting with a faculty member in their field, as opposed to a group that included faculty from different disciplines, and felt that there were not enough faculty at their REC in their discipline to share the intellectual interactions they expected from a graduate student experience. Another major theme was lack of communication and support. There was a sense of lack of communication and student support at the RECs and also a lack of communication with the home academic units in Gainesville. This was experienced less by those at RECs with higher student population bases. Student support was perceived to suffer greatly when students dropped to three to four per site.

On-campus students generally felt satisfied with their experiences, their access to faculty advisors and student peer colleagues. On-campus students appreciated and participated in student extracurricular experiences held on-campus and believed communication and student support were generally good.

Both faculty graduate coordinators and administrators perceived that isolation was also a major theme. Most participants felt that off-campus students became like a family and developed a sense of camaraderie. However, others indicated that off-campus students felt a sense of isolation, especially off-site master's non-thesis students, who were seen as not well integrated into the student body. One commented, "for our master's non-thesis students, they come to campus to take a class and then they are gone and nobody really knows them."

Another major theme was that participants felt there were advantages to both distance and on-campus learning. They felt distance education classes taken by remote site students had some advantages in that students could apply what they learned immediately within their related employment, but opportunities for hands-on laboratory experiences were insufficient. Participants felt that availability of coursework that can be accessed through distance education was a concern. Some felt students who do not spend any time on campus miss out on the "full graduate student experience," which was a disadvantage in their eyes. On the other hand, they also felt that off-site students have advantages, as they can come to a research center and get the feeling of what it is like to work in an interdisciplinary community, not a college town. Off-campus students commented on the benefits of being located close to regional industries and the flexibility of taking a class anywhere at any time. As to support, participants felt IT support off-campus was fairly good, maybe better than within some departments on-campus.

Methods for Survey

Utilizing information collected in the focus groups, an online survey was developed and administered within Qualtrics, an online survey instrument development and analysis software. The questionnaire was comprised of 6 demographic questions, 51 Likert-scale items, and one opened-ended question. The questions examined impacts of the students' graduate program, perceptions of connectedness, critical thinking skills (not analyzed for this article), and demographic characteristics. For the purposes of this study, only the connectedness data will be presented herein. The questions used in the present analysis included:

- State how strongly connected you feel to the following, where 1 = not connected at all and 5 = extremely connected.
  - To my academic department in Gainesville
  - To my College (CALS)
- State the degree of social isolation you have felt during your graduate program, with 1 = not isolated at all and 5 = extremely isolated.
- I am located at a research and education center, main campus, or other (answers to this question were recoded into "on" or "off" campus based on the relative location to the main branch)

The standardized alpha for these items was calculated at 0.74. The full questionnaire was reviewed by a panel of experts for face and content validity, and revisions were made to refine and finalize the survey instrument.

The research design for the study was causal comparative in nature, using an online survey. To conduct the study, a database of students (N = 1104) currently enrolled in distance education courses and programs within CALS was compiled and the students were approached to participate in the survey. To comply with Family Educational Rights and Privacy Act (FERPA) guidelines, an e-mail was sent on an inter-college listserv. The resulting 38.4% response rate, from the 424 responses, was deemed acceptable when compared to studies examining the response rate of university students through web-based means (Kaplowitz, Hadlock, & Levine, 2004).

Multiple imputation (MI) was used to identify plausible values for the missing data. However, to successfully impute missing values without introducing unreasonable error to the ensuing analyses, the missing data must contain no information about its probability of missingness, rendering it missing at random (MAR), as defined by Rubin (1976). This means that the data cannot be missing for reasons that are inherently tied to the variable, which would make certain populations or groups unable to accurately or objectively answer the question. Being that the process of identifying whether or not data are MAR is "not trivial and relies on fundamentally untestable assumptions" (Curran et al., 1998, p.5), precautions were taken to remove the most likely cases where data missing not at random (MNAR) could be found. These precautions resulted in a mixed usage of listwise deletion and MI. First, all cases missing more than 10% of data were deleted. Originally, 424 individuals responded to the survey, and a total of 142 were removed. All 316 of the missing values in the remaining 282 responses were filled through MI.

SURVEY RESULTS

Survey data were analyzed using the Statistical Package for the Social Sciences (SPSS). Means and frequencies were calculated on demographic variables, connectedness, and degree of social isolation.

Demographics. The respondents consisted of 51.1% females (n = 144), 45.7% males (n = 129), and 3.2% (n = 9) did not indicate a gender. 41.8% (n = 118) were seeking a master's degree, 57.4% (n = 162) were seeking a doctoral degree, and 0.8% (n = 2) did not indicate the degree they were seeking. 67.4% (n = 190) were pursuing their degree on-campus and 32.6% (n = 92) were completing their studies away from the university's main campus. About half of the respondents had never taken a class in a distance education format (50.4%, n = 142). The survey indicated that 35.8% (n = 101) of respondents had taken 1-3 courses and 13.9% (n = 39) had taken 4 or more courses in a distance format.

To assess objective two, perceived connectedness, two hypotheses were developed:

H1: On-campus students will be significantly more likely to feel a sense of connectedness with their academic department, while off-campus students will feel significantly more connected to their college.

H2: Off-campus students will perceive that they are significantly more socially isolated than on-campus students.

To test H1, respondents were asked to rate their perceived level of connection to their home academic department and, also to their college on a scale of 1 to 5, with 1 = Not Connected and 5 = Extremely Connected. Results showed that the connectedness mean for on-campus students to their department was 3.92 (SD = 0.08) and to their college was 2.96 (SD = 0.09; Table 1). The mean response for off-campus students' connectedness to their department was 3.05 (SD= 0.14) and to their college was 2.51 (SD = 0.15; Table 2). It was hypothesized that on-campus students would feel more connected to their department than off-campus distance education students, and that distance education students would feel more connected to the college than to their department. However, results of the one-way ANOVA showed a greater degree of perceived sequestration than the researchers originally expected. This analysis shows that in addition to being further removed from departmental connections ($F = 33.04$, $p < .01$; Tables 3), off-campus students also felt more removed from their respective colleges ($F = 7.40$, $p < .01$; Table 4).

Table 1. Means for Connection for On-Campus Students

	M	*N*	*SD*
Connection to my department	3.92	282	0.08
Connection to my college	2.96	282	0.09

Table 2. Means for Connection for Off-Campus Students

	M	*N*	*SD*
Connection to my department	3.05	282	0.14
Connection to my college	2.51	282	0.15

Table 3. ANOVA for the Regression Equation, Connection to my Department on On/Off-campus

	Sum of Squares	df	Mean Square	*F*	Eta Squared
Between Groups	46.562	1	46.562	33.044**	.106
Within Groups	394.544	280	1.409		
Total	441.106	281			

Table 4. ANOVA for the Regression Equation, Connection to my College on On/Off-campus

	Sum of Squares	df	Mean Square	*F*	Eta Squared
Between Groups	12.387	1	12.387	7.401**	.026
Within Groups	468.652	280	1.674		
Total	481.039	281			

**p < 0.01

To test H2, respondents were asked to assess their feelings of social isolation during their graduate program on a five-point scale (1 = Not Isolated at All and 5 = Extremely Isolated). On-campus students reported a mean of 2.58 (*SD* = 0.08). Off-campus students reported a higher mean at 3.29 (*SD* = 0.12; Table 5). Results of a one-way ANOVA supported H2, indicating that off-campus distance education students felt significantly more isolated than on-campus students, (*F* = 24.86, p < .01). Table 6 displays the ANOVA equation, while Table 5 shows the means table for on/off-campus distance education students' degree of social isolation.

Table 5. Means for Degree of Social Isolation for On/ Off-campus Students

	M	*N*	*SD*
On-campus	2.58	282	0.08
Off-campus	3.29	282	0.12

Table 6. ANOVA for the Regression Equation, Degree of Social Isolation on On/Off-campus

	Sum of Squares	df	Mean Square	*F*	Eta Squared
Between Groups	31.183	1	31.183	24.859**	.082
Within Groups	351.229	280	1.254		
Total	382.411	281			

**p < 0.01

CONCLUSION

Findings from this study provide evidence that for off-campus students, the graduate experience can be significantly different in terms of their perceptions and experiences of satisfaction, quality of communications, and their degree of connection and social isolation. In the qualitative portion of this study, on- and off-campus students, faculty, and graduate coordinators/administrators generally concurred that the experience was different and less satisfactory in terms of the elements of social

distance and communications, quality, and support. Ortiz-Rodriguez et al. (2005) found that for distance education students, communications and support were key hallmarks of quality in a distance education setting. Focus group participants in the current study felt that communications and support were lacking for off-campus students, while on-campus students generally found these elements to be satisfactory, even good.

Although faculty and coordinators/administrators felt there were both advantages and disadvantages for off-campus distance education students, they also agreed that off-campus students experienced a greater sense of isolation, were not well integrated in the student body, and were "not getting the full graduate student experience." This experience is open to wide interpretation as off-campus students vary in how they seek social and extracurricular opportunities that are intrinsic to a traditional campus (McKeown, 2012). With educational experience at the core of the community of inquiry model for online learning, cognitive, social and teaching presence are multidimensional and interdependent for deep and meaningful learning (Swan et al., 2009; Rourke and Kanuka, 2009). Garrison and Cleveland-Innes (2005) emphasize that high levels of learning are dependent less on the quantity of interaction than on the quality or substance of interaction.

With respect to the quantitative portion of the study, the data suggest that graduate students in programs off-campus feel separated from their on-campus counterparts. This feeling of separation is multi-faceted and stretches from micro-level transactional social relationships to more macro-level occurrences at the department and college levels, which can encompass academic and administrative functions and more. The researchers' first hypothesis was not fully supported because the data showed that perceived connectedness was higher for both academic department and college in on-campus students, rather than higher perceived connectedness to the college with off-campus students. This discrepancy in expectation and reality attests to the extent of detachment felt by off-campus students, which is further confirmed by the data supporting the second hypothesis that perceived social isolation is higher among off-campus students.

This study is one of the first to assess graduate student experiences among all degrees, departments, and centers in traditional and non-traditional learning environments within a single college. Although findings cannot be statistically generalized, this holistic approach provides for multiple informed perspectives from students, faculty, and administrators involved and allows direct comparison of off- and on-campus students in a variety of diverse majors. As such, a major implication of the study is that a quarter of a century since the advent of online, off-site, technology-based distance education, student experiences and perceptions of fundamental concerns with distance education, including perceptions of lack of quality and communications and a sense of social isolation, are still present. From a diffusion standpoint, online distance education is a technological innovation that is being heavily adopted by institutions of higher learning, but is perhaps not as readily embraced in terms of perceptions of their experiences from a student "customer" perspective.

For graduate student education in particular, technology-based distance and remote sites experiences may not be offering such students the same quality of enrichment as on-campus graduate students. Those rich formal and informal interactions between faculty advisor and student, and between students as peer-to-peer learners may contribute significantly to what students learn in graduate school, and may be hard to replicate in an off-campus environment. We do not yet know what the consequences may be to graduating a generation of students who do not get "the full package" of traditional graduate education.

Based on the above, directions for further research include assessing graduates of off-campus distance education programs to determine the impact of their experiences on their future career progress and their attitudes toward distance education. Recommendations for practice include evaluating off-campus distance education programs to assess how effective they are in terms of their advantages/disadvantages, quality, communications, and support, as well as using these findings to develop programs designed to enhance the quality of graduate student experiences and minimize social isolation for these students.

Further, there are several recommendations that can be made to improve practice and enhance students' experiences with distance education. First, academic units with both distance and traditional programs such as the one studied should recognize that even though students may be taking the same or similar courses, the technology and the setting do matter and efforts should be made to provide support systems that improve communication and address needs. Support systems for distance education students need to go beyond the resources of an academic department and/or a university level centralized course management system to include such elements as discipline specific orientation for new students, regularly scheduled feedback sessions, online office hours, repositories with links to specific resources, etc. These systems may require coordination and management beyond what an academic department's graduate coordinator can provide. Acknowledging that unit level support systems and their coordination are essential elements to a successful distance education program and part of the "cost of doing business" would go a long way toward ensuring that more academic programs include them. Second, student assessment should be ongoing and include perceived learning and satisfaction measures designed to ascertain unmet needs and provide input to enhance student experiences. Finally, faculty professional development for those faculty teaching in a hybrid or distance education setting needs to include an emphasis on techniques to bridge potential social isolation gaps and foster connectedness with students.

References

Allen, M., Bourhis, J., Burrell, N., & Mabry, E. (2002). Comparing student satisfaction with distance education to traditional classrooms in higher education: A meta-analysis. *American Journal of Distance Education*, *16*, 83-97.

Allen, I. E., & Seaman, J. (2011). *Going the distance: Online education in the United States, 2011*. Babson Park, MA: Babson Survey Research Group.

Bernard, R. M., Abrami, P. C., Lou, Y., Borokhovski, E., Wade, A., Wozney, L., Wallet, P. A., Fiset, M. & Huang, B. (2004). How does distanced education compare with classroom instruction? A meta-analysis of the empirical literature. *Review of Educational Research*, *74*(3), 379-439.

Bloomberg, L. D. (2007). Culture and community: Case study of a video-conferenced graduate distance education program. *Journal of Distance Education*, *22*(1), 41-58.

Bolliger, D. U., & Halupa, C. (2012). Student perceptions of satisfaction and anxiety in an online doctoral program. *Distance Education*, *33*(1), 81-98.

Bolliger, D. U., & Inan, F. A. (2012). Development and validation of the online student connectedness survey (OSCS). *The International Review of Research in Open and Distance Learning*, *13*(3), 1-13.

Curran, D., Bacchi, M., Hsu Schmitz, S. F., Molenberghs, G., & Sylvester, R. J. (1998). Identifying the types of missingness in quality of life data from clinical trials. *Statistics in Medicine, 17*(5-7), 739-756.

Curtis, D. K. (1957). *Achieving quality in off-campus professional laboratory experiences*. Cedar Falls, IA: Iowa State Teachers College.

Ekong, J. I. (2006). What factors facilitate online counselor training? Experiences of campus Alberta graduate students. *Journal of Distance Education*, *21*(1), 1-14.

Erichsen, E. A. and Bolliger, D. U. (2011). Towards understanding international graduate student isolate in traditional and online environments. *Education Tech Research Dev*. *59*, 309-326.

Exter, M. E., Korkmaz, N., Harlin, N. M., & Bichelmeyer, B. A. (2009). Sense of community within a fully online program- Perspectives of graduate students. *The Quarterly Review of Distance Education*, *10*(2),177-194.

Garrison, D. R. & Cleveland-Innes, M. (2005). Facilitating cognitive presence in online larning: interaction is not enough. *American Journal of Distance Education*, 19(3), 133-148.

Glaser, B. G. (1965). The constant comparative method of qualitative analysis. *Social Problems*, *12*(4), 436–445.

Greenbaum, T. L. (2000). *Moderating focus groups: A practical guide for group facilitation*. Thousand Oaks, CA: Sage Publications, Inc.

Hill, J. R., Song, L., & West, R. E. (2009). Social learning theory and web-based learning environments: a review of research and discussion of implications. *American Journal of Distance Education*, *23*, 88-103.

Kaplowitz, M. D., Hadlock, T. D., & Levine, R. (2004). A comparison of web and mail survey response rates. *Public Opinion Quarterly*, *68*(1), 94-101.

Kim, J. (2011). Developing an instrument to measure social presence in distance higher education. *British Journal of Educational Technology*, *42*(5), 763-777.

Krueger, R. A. (1994). *Focus groups: A practical guide for applied research* (2nd ed.). Thousand Oaks, CA: Sage Publications Inc.

Krueger, R. A. (1998). *Developing questions for focus groups*. Thousand Oaks, CA: Sage Publications, Inc.

Lane, F. C. & Henson, R. K. (2012, February). *Differences between traditional, transfer, and online college students: Measurement invariance of the university attachment scale*. Educational Resources Information Center (ERIC) Document Number: ED530016. 35th Proceedings from the *Southwest Educational Research Association*. New Orleans, LA.

McKeown, K. D. (2012). *Can online learning reproduce the full college experience? Center for Policy Innovation*. Washington, DC: The Heritage Foundation - Center for Public Policy Innovation.

Means, B., Toyama, Y., Murphy, R., Bakia, M., & Jones, K. (2009). *Evaluation of evidence-based practices in online learning: A meta-analysis and review of online learning studies.* Washington, DC: U.S. Dept. of Education.

Miller, G., & Pilcher, C. L. (2001). Levels of cognition reached in agricultural distance education courses in comparison to on-campus courses and to faculty perceptions concerning appropriate level. *Journal of Agricultural Education, 42*(1), 21-28.

Morgan, D. L. (1998). *The focus group guidebook*. Thousand Oaks, CA: Sage Publications, Inc.

Ortiz-Rodriguez, M. O., Telg, R. W., Irani, T., Roberts, T. G., & Rhoades, E. (2005). College students' perceptions of quality in distance education: The importance of communication. *The Quarterly Review of Distance Education*, *6*(2), 97-105.

Patterson, B. & McFadden, C. (2009, Summer). Attrition in online and campus degree programs. *Online Journal of Distance Learning Administration,* 12 (2).

Pival, P. R., Lock, J. V., & Hunter, M. (2007). Assessing research readiness of graduate students in distance programs. *Public Services Quarterly*, *3*(3/4), 1-18.

Quality Matters™ (2011). *Higher education program rubric*. Retrieved October 1, 2012, from http://www.qmprogram.org/rubric.

Reinhart, J. (2010). Graduate students' communication practices and perceived sense of community- An examination of information services. *The Quarterly Review of Distance Education*, *11*(4), 223-238.

Rieger, M., Turner, R. E., & Barrick, R. K. (2011). Student evaluation scores for courses delivered by interactive videoconferencing. *NACTA Journal*, *55*(1), 16-20.

Robertson, J. S., Grant, M. M., & Jackson, L. (2005). Is online instruction perceived as effective as campus instruction by graduate students in education? *Internet and Higher Education, 8*, 73-86.

Rogers, E. M. (2003). *Diffusion of innovations* (5th ed.). New York, NY: Free Press.

Rourke, L. & H. Kanuka. (2009). Learning in communities of inquiry: A review of literature. *Journal of Distance Education*, *23*(1), 19-48.

Rovai, A. P., & Grooms, L. D. (2004). The relationship of personality-based learning style preferences and learning among online graduate students. *Journal of Computing in Higher Education*, *16*(1), 30-47.

Rovai, A. P., Wighting, M. J., & Liu, J. (2005). School climate: sense of classroom and school communities in online and on-campus higher education courses. *Quarterly Review of Distance Education*, *6*(4), 361-374.

Shin, N. (2002). Beyond interaction: The relational construct of 'Transactional Presence', *Open Learning*, *17*(2), 121-137.

Southern Association of Colleges and Schools (SACS) Commission on Colleges. (2012). *Best practices for electronically offered degree and certificate programs*. Retrieved October 1, 2012, from http://www.sacscoc.org.

Spooner, F., Jordan, L., Algozzine, B., & Spooner, M. (1999). Student ratings of instruction in distance learning and on-campus classes. *Journal of Educational Research*, *92*, 132-140.

Sung, E. & Mayer, R. E. (2012). Five facets of social presence in online distance education. *Computers in Human Behavior*, *28,* 1738-1747.

Swan, K., Garrison, D. R., & Richardson, J. C. (2009). A constructive approach to online learning: The community of inquiry framework. In Payne, C. R. (Ed.) *Information technology and constructivism in higher education: Progressive learning frameworks* (43-57). Hersery, PA: IGI Global.

The Sloan Consortium (Sloan-C). (2012). *A quality scorecard for the administration of online education programs*. Retrieved October 1, 2012, from http://sloanconsortium.org

Ural, O. (2007). Attitudes of graduate students toward distance education, educational technologies and independent learning. *Turkish Online Journal of Distance Educations*, *8*(4), 34-43.

Wei, C. W., Chen, N. S. & Kinshuk (2012). A model for social presence in online classrooms. *Education Tech Research Development*, *60*, 529-545.

Authors

Tracy A. Irani, Department of Agriculture Education and Communication, University of Florida, Gainesville, Florida. E-mail: irani@ufl.edu

Sandra B. Wilson, Department of Environmental Horticulture, University of Florida, Fort Pierce, Florida. E-mail: sbwilson@ufl.edu

Deidra L. Slough, Center for Public Issues Education, University of Florida, Gainesville, Florida. E-mail: sloughd@ufl.edu

Mark Rieger, Dean and Director of the College of Agriculture and Natural Resources, University of Delaware, Newark. E-mail: mrieger@udel.edu