CASE ANALYSIS: EXPLORING THE APPLICATION OF USING RICH MEDIA TECHNOLOGIES AND SOCIAL PRESENCE TO DECREASE ATTRITION IN AN ONLINE GRADUATE PROGRAM

Evie Oregon, Western Kentucky University
Lauren McCoy, Western Kentucky University
Lacee Carmon-Johnson, Purdue University

ABSTRACT

Distance education has become a popular method for delivering sport management programs because online learning provides opportunities for learners to continue their education in various settings. Despite increased interests in online learning, the literature shows that one of the largest challenges to higher education is student retention in online programs. This case analysis will analyze the methodologies of Media Richness Theory and Social Presence Theory in online course design and instruction and how they aid overall program retention. This study, conducted in a graduate sport management program, could prove to be a resource for similar programs looking to improve online interaction.

Keywords: Sport Administration, Distance Education, Online Course Design, Attrition, Retention

INTRODUCTION

Colleges and universities are offering an increasing number of fully online courses and degree programs challenging the traditional model of higher education. Touted for its cost effectiveness and convenience, online learning provides opportunities for more learners to continue their education in various settings (Oliver, 1999). In the past, online learning was defined as any class that offered any part of its curriculum online (Berge & Collins, 1995). Today, e-learning is known as instruction delivered on an digital device to access educational curriculum outside of a traditional classroom. It refers to a course, program or degree delivered completely online (Clark & Mayer, 2016). In short, online education now allows students to complete courses that include content and instructional methods without ever meeting each other or their instructor face-to-face.

According to the 2015 Babson Survey Research Group's *Online Report Card—Tracking Online Education in the United States*, more than one in four students now takes at least one distance education course, with over 2.8 million students taking all their courses through distance education. With the popularity of online education, higher education institutions are challenged to meet the increasing demand for programs and courses. For example, distance education is an especially popular method for delivering sport administration programs at both the undergraduate and graduate level, and it has been instrumental in helping departments meet the increasing demand for course offerings (Keiper & Kreider, 2014).

Despite the increased number of institutions providing online learning programs, and more students choosing distance education, student retention remains one of the largest challenges in higher education (Heyman, 2010). Literature shows that attrition rates are higher in online courses

than their face-to-face counterparts (Angelino, Williams, & Natvig, 2007; Carr, 2000; Moody, 2004). Specifically, Hill (2009) found that attrition rates were 10% to 20% higher in online learning programs.

While online course formats offer convenient methods of instruction, poor course development often leads to high attrition rates (Terry, 2001; Nash, 2005; Hara & Kling, 2001). Many instructors take traditional learning strategies, transfer them online, and rely completely on asynchronous communication technologies (e.g., recorded lectures, lecture slides, discussion boards) in order to facilitate learning objectives. Unfortunately, traditional in-class course design does not always apply seamlessly to online learning.

As online learning continues to become a more prevalent part of higher education, institutions and faculty members must better understand online learners' needs, such as addressing isolation, dropout percentages, dissatisfaction with teaching methodologies, and other influences that impact student satisfaction and retention (Joyce & Brown, 2009). Finding ways to decrease attrition in distance education is critical, both from an economical and quality viewpoint, as high attrition rates have a negative economic impact on universities (Angelino et al., 2007). Shaik (2009) reported that low retention rates represented significant losses of revenue for the institutions and could have a negative impact on their financial health. Herbert (2006) stated ". . . a key issue for postsecondary institutions is that of trying to find ways in which student retention in online courses can be improved" (p. 2).

Research shows that one of the biggest factors impacting student dissatisfaction in an online learning environment is the lack of a sense of community (Carr, 2000). Physical separation tends to decrease the sense of community, giving augmentation to the feelings of disconnection, isolation, distraction, and lack of personal attention (Besser & Donahue, 1996; Hardy & Boaz, 1997; Kerka, 1996; Twigg, 1997). In face-to-face communication, students are able to experience the verbal and nonverbal cues that provide instant feedback. Students participating in online courses, however, experience a sense of remoteness that can negatively impact a distance learner's success and satisfaction with the program, resulting in rising program attrition rates (Arbaugh, 2000; McInnerney & Roberts, 2004). Tsai et al., (2008) "recognized community as an important factor for fostering interactivity or interaction among participation in an online learning environment" (p. 119). To help combat isolation and create a greater sense of community among learners, McInnerney and Roberts (2004) suggested a "greater use of synchronous communication facilities, the deliberate design and inclusion of a 'forming stage,' and a greater emphasis on the provision of guidelines for successful online communication" (p. 80).

The purpose of this case study is to determine if the use of online social communities and richer media technologies, specifically Media Richness Theory (MRT) and Social Presence Theory, could increase retention. These theories were implemented in the online Master of Science in Recreation and Sport Administration program (RSA) at Western Kentucky University. The online graduate program in RSA, launched Spring 2009, was designed to meet the needs of nontraditional students across the globe. With several concentration options (Interscholastic Athletic Administration and Coaching, Facility and Event Management, and Sport Media and Branding), students are afforded the opportunity to focus their educational program on their professional fields of interest. These online programs are based upon the cohort model, admitting students to a group that progresses through the coursework together in systematic fashion. Courses were designed around an asynchronous communication model, with email and discussion boards being the primary sources of community and communication between student/student and student/instructor.

While the RSA program saw rapid growth for over five years, a large percentage of students never completed their degree programs. Attrition is a major issue throughout higher education distance learning programs, and as budget shortfalls and reductions continue to plague growth and new program development, each student enrolled matters for the success of the program (Angelino et al., 2007). From Spring 2009 through Fall 2013, attrition rates for the RSA cohort programs varied from 28% to 40% among the various concentrations. Through analysis of retention data, interviews with former students, and course evaluations of prior courses, RSA instructors designed courses using

a more proactive theoretical approach for the Fall 2014 launch of the new 100% online Intercollegiate Athletic Administration (IAA) concentration. Each course is built around Media Rich Theory and Social Presence Theory as a means to engage students, promote retention, foster social interaction between instructor and student, and create a sense of realness for the learners.

Given the high attrition rates in the prior online graduate programs, it is imperative for online course designers to examine how the use of different technologies impact the quality of communications among people. Prior research illustrates that different technologies have distinctive impacts or effects on the messages conveyed and the way that individuals perceive each other as they communicate (Newberry, 2001). It is important to understand the potential effects when undertaking communication activities in an online setting (Joyce & Brown, 2009).

Understanding different media types, the impacts they can have on the message, and the impressions of the individuals involved in the communication can assist instructional designers as they develop activities or select communication technologies for use in an online learning environment (Newberry, 2001).

LITERATURE REVIEW

Media Richness Theory

Media Richness Theory (MRT) is a widely accepted Computer Media Communication (CMC) theory that fundamentally examines the methods in which certain mediums are selected for communication. Organizational scientists Daft and Lengel (1984) found that effective communication requires mediums of communication that will reduce ambiguity and distortion of the message being received. MRT advances the concept that communication richness is dependent upon the media used and, when coupled with the time interval between sending the message and receipt, affects message quality and receiver satisfaction (Sun & Cheng, 2007). Communication channels that adapt to the time intervals and reduce uncertainty are considered rich. Alternatively, those that require extended periods of time for understanding, or contain long lapses between communication concerning the message sender and receiver, are considered low in richness.

While ambiguity through the existence of multiple interpretations is inherent with information sent to various individuals (Daft & Lengel, 1986), uncertainty increases when the mode of communication is incorrect for the message. Daft, Lengel, and Trevino (1987) developed the four criteria in which to rank their capacity for processing ambiguous information:

1. *Immediacy of feedback*—the ability of the medium used to reduce uncertainty and increase a common understanding of the message to be received.
2. *Capability to broadcast using multiple cues*—a diverse collection of cues, including nonverbal modes of communication (body language, voice inflection, etc.), written words, and symbols, are necessary for the transmission and interpretation of the communication sent and received.
3. *Variety of language*—while numbers can provide a greater meaning, natural language provides a better understanding and less ambiguity of concepts and ideas.
4. *Personal focus of media*—personal feeling and emotional infusion provide a richer conveyance of the message.

Based on these criteria, Daft et al. (1987) found that synchronous communication media (face-to-face, video conferencing, etc.) provide high levels of richness, minimal uncertainty in the messages contained, and multiple cues. Alternately, asynchronous communication (discussion boards, email, etc.) provides higher levels of ambiguity, are lean in quality, and limit the use of multiple cues.

Volery and Lord's (2000) research further expands upon the necessity of rich media in online learning environments in order to provide effective content delivery. Based on their study, the keys to successful online learning can be divided into three variables:

1. *Technology.* For student engagement to be enhanced, the technology used must match the message being sent in order to reduce ambiguity and foster learning.
2. *Instructor characteristics.* Instructors must be well-versed and positive in the communication media being used and must implement an interactive learning environment that fosters interaction.
3. *Student characteristics.* Students must feel

Table 1: Media Criteria and MRT Rating

	High	Medium	Low
Feedback	Face-to-Face Video Conferencing Audio Chats Text Based Chat		Email Discussion Boards Asynchronous Audio
Multiple Cues	Face-to-Face	Video Conferencing	Synchronous & Asynchronous Audio Text-Based Chat Email Discussion Boards
Message Tailoring	Face-to-Face	Video Conferencing Synchronous Audio E-mail	Text-Based Chats Asynchronous Audio Discussion Boards
Emotions	Face-to-Face	Video Conferencing Synchronous & Asynchronous Audio Asynchronous Video	Text-Based Chats Email Discussion Boards

comfortable, be well-versed in the media used for communication, and have easy access to the technology used.

They also found that, for students in a media-rich, online environment, when coupled with the three keys above, the keys serve as a catalyst allowing students to become crucial players in their learning satisfaction.

MRT has gained wide acceptance in analyzing the effectiveness of communication channel selection for online learning effectiveness. Newberry's (2001) research, for example, examined various forms of communication in online courses and constructed the following analysis based on their respective MRT ratings. Table 1 identifies seven different types of communications media in a three-position matrix (high, medium, and low) expressing the media's performance or its ability to carry feedback, multiple cues such as body language, message tailoring, and emotions.

Using MRT to evaluate and examine media in educational settings can play a significant role in implementing and developing online programs. Kehrwald (2010) found that determining the appropriate tools to reduce uncertainty and increase understanding of messages being sent can help offset the practical problems experienced by distance learners and instructors while creating realism and social support. In essence, using more media rich modes of communication and tailoring messages to recipients makes it more likely that ambiguity and equivocality can be avoided, thus enhancing the overall online learning environment.

Social Presence Theory

Short, Williams, and Christie (1976) originally developed Social Presence Theory (SPT) as a means to explain how telecommunication mediums can affect communication. They defined social presence as "the degree of salience of the other person in the interaction and the consequent salience of the interpersonal relationships" (Short et al., 1976, p. 65). In other words, social presence gauges the degree to which a "person is perceived to be as a real person in mediated communication" (Gunawardena, 1995, p.151). Individuals with a higher level of social presence allow for a higher likelihood of understanding both the communicator and the message being sent and received.

Short et al. (1976) viewed social presence as a quality of the communication medium itself and hypothesized that "communications media vary in their degree of social presence, and these variations are important in determining the way individuals interact" (p. 65). They also posited that people will perceive some media as being high (face-to-face) in social presence and others low (computer mediated communication) based on the levels of "intimacy" and "immediacy" afforded by the channels. The level of intimacy provided was dependent upon factors such as the physical distance between the communicators, topics of conversation, and the use of verbal and nonverbal communication cues. Immediacy was defined as the level of psychological distance between the communicators. Thus, social

presence is a combination of communication barriers in verbal and nonverbal form, the form of medium used, and the perceived physical and psychological closeness of those involved in the interaction.

Walther (1992) further expanded upon the concept of social presence media perception and argued that it is not one dimensional. Instead, he reasoned that social presence was interactive and that even communication media with low social presence can become richer as communicators become more familiar and accustomed to the channel being used and to each other. Russo (2000) defines social presence as the degree to which a person is perceived to be real in a mediated environment. In the context of educational activities, salience occurs when the communicators recognize that they are communicating with another human being and not with the connecting technology.

Social presence has been identified as a key to the level of learner participation and success of online collaboration (Lakin, 2005) as well as satisfaction with online courses. According to Homer, Plass, & Blake (2008), when information is presented in a way that increases social presence, it is better remembered by learners, and the learning process is considered more engaging. Highly immediate behaviors have been associated with attitudinal changes, such as increases in student motivation to study and student satisfaction (Berge & Collins, 1995). A lack of social presence may lead to a high level of frustration, a critical attitude toward the instructor's effectiveness, and a lower level of affective learning (Hample & Dallinger, 1995; Rifkind, 1992).

As with MRT, Social Presence Theory has been widely researched in regard to the importance it plays in the online learning environment. As with MRT, face-to-face communication is considered to be high in social presence, while CMC is generally deemed to be exceptionally low (Huntley, 2010). Early researchers (Gunawardena, 1995; Tu, 2002) began using social presence to evaluate the sociability of online education.

Gunawardena (1995) found that, while CMC was perceived to be a low medium of social presence due to its low social context and nonverbal cues, participants were actually able to adapt to their online community and even project their own identities to that environment. Swan and Shih's (2005) research expanded upon that assertion by noting that learners can present themselves as "real" and connect intimately and with immediacy with others through telling stories, using humor, and using emoticons. This newer research reinvented the concept of social presence by concentrating less on the mode of communication and more on the communication among participants to explain how online learning environments can be very personal and provide a high level of social presence.

MRT and SPT Applied to Media Choices and Outcomes

While neither MRT nor SPT are new concepts, the adaptation of each to online programs can alter the way new technologies are chosen for instruction and aid in the design of instructional environments to achieve the desired degree of personal interchange and relationship building (Newberry, 2001).

Communication media choices in this case study were directed by the desired learning outcomes in IAA program course modules. By choosing the best medium for conveying course materials, instructors carefully incorporated different technologies into course designs as a means of reducing message ambiguity and distortion. Table 2 shows program mediums used, desired outcomes, and perceived level of media richness as identified in Newberry's (2001) model.

Increasing Social Presence

Learning is a social process that relies on interaction and open communication, which can be influenced by the perceived social presence of each student (Kear, 2010). Asynchronous online communication can seem impersonal, leading to misunderstandings, poor relationships, or lack of participation, which can be characterized as a lack of social presence and lead to less-effective learning (Reio & Crim, 2006). If learners do not perceive online communication to be "real," there is less chance that they will learn from this communication. Social presence aspects should be incorporated in both the design and instruction of an online course (Richardson & Swan, 2003). The descriptions below outline a number of strategies the instructors for IAA courses implemented in course design and during the instruction of the course to increase social presence. Tables 3 and 4 present the strategies of the authors with regard to infusing social presence, as well as the rationale behind each choice, in the online learning environment

Table 2: Media Used, Desired Outcomes, and Levels of Media Richness

Media Used	Assignment/Desired Outcome	Level Of Media Richness
Video Conferencing (Adobe Connect, Skype)	Research on the role of an intercollegiate athletic administrators (Paper assignment). Students will be able to see and hear guest lectures from current administrators and ask questions or make comments in real time.	Medium/High Instantaneous feedback and reproduction of visual cues and emotions. Allows message tailoring.
Discussion Boards (Blackboard)	Discuss current events in intercollegiate athletics, governance, compliance, and student athlete development. Students will be able to post comments and reply to other's posts regarding material covered in class and current events.	Low Delayed or no feedback. No visual cues or emotions. Does not allow message tailoring.
Video Lectures (Tegrity, Mediasite)	Set up administration sites and create online posts. Students will be able to see/hear instructor covering new material and the use of technologies and to receive step-by-step instructions on each course module.	Medium No feedback. Allows for visual cues, reproduction of emotion and message tailoring.
Video Discussion Board Post	Student creates a recorded video of a current event. Students will be able to see/hear each other and create a better sense of face-to-face communication	Medium/High Instantaneous feedback and reproduction of visual cues and emotions. Allows message tailoring.
Video Grade Feedback	Instructor is able to point out specific examples in the assignments while providing verbal and nonverbal cues through the video.	Medium No feedback. Allows for visual cues, reproduction of emotion, and message tailoring

through course design and instructional methods. These strategies do not present an exhaustive list but are merely the techniques utilized for the IAA program. The IAA program started out with manageable course numbers through the first two cohorts. Larger programs may not have the flexibility to institute some of these social presence strategies without adding to already difficult workloads. Faculty should consider their course needs, outside resources available, and class sizes before implementing some techniques.

Social Presence Theory offers a way to better shape the online learning classroom to meet student needs in the virtual world. By promoting the degree of connection between participants in the online learning classroom, students perceived satisfaction and learning increase (Scollins-Mantha, 2008). When course instructors and designers build the course using an MRT and SPT framework, it creates opportunities for an environment cultivated in social presence and clear communication. This leaves students feeling as though they are learning and involved in the course, and that the instructor has a vested interest in every student.

PROGRAM IMPLICATIONS/RESULTS

In order to determine the success of MRT and SPT implementation in the IAA program courses, retention data from prior concentrations and the IAA program were compared and analyzed. Prior concentrations did not cognitively consider these theoretical concepts during course design or instruction. The programs in place prior to the creation of the IAA program were able to retain between 51% and 81% of students using traditional methods. Table 5 shows the average overall cohort

Table 3: Course Design Social Presence Strategies Used and Rationale for Each

Strategy	Rationale
Instructor Welcome Video Instructor sent a welcome video to the students on the first day of the course.	This fosters an immediate sense of online community between instructor and students and allows the instructor to establish his/her social presence at the beginning of the course. This affords students both verbal and nonverbal communication cues so they have the opportunity to become acquainted with instructor's personality and communication style. Instructors should open lines of communication with students as early as possible (Minich, 1996).
Student Introductory Profile Video Students record a 2- to 4-minute introductory video and post it to the course site vlog. They are required to respond to a minimum of 4 other videos in written format.	Creates an initial dialogue among students, thereby producing a learning community. Students need the opportunity to get to know each other and feel comfortable before learning can take place (Rovai, 2001; Tinto, 1993). "Any information provided, whether it is text or visual helps students create an awareness of each other to begin the process of connecting" (Aragon, 2003, p. 62).
Learning Styles Assessment Students complete and submit an assessment to the instructor the first week of class.	This allows students to understand their preferred learning style, and the instructor is able to use the results to determine the best method of communication for each facilitated learning objective. Hughes (2004) suggested that we should focus our efforts on meeting the needs of the learner, not on what is easy to deliver. Knowing the learner and the learner's needs is critical.
Initial Synchronous Communication Meeting Students set up a 15-minute synchronous communication meeting with the instructor within the first two weeks of the course through Skype, Facetime, Adobe Connect, or other form of video conferencing.	This allows both students and the instructor the opportunity to see each other physically, which affords each the chance to become familiar with the other's verbal and nonverbal cues, personality traits, and communication styles. It assists in relationship building as the student was provided the opportunity to view the instructor as "real." Immediacy is a critical element in social presence, and communication in real time often enhances social presence when handled well (Richardson & Swan, 2003). The personal call in the initial two weeks of the course helps students understand that the instructor is a real person and is interested in the student's success and development.
Module Orientation Video Prior to each module, students were sent a 2- to 5-minute module orientation video recorded by the instructor that briefly went over learning objective(s), course readings, and assignments for that unit.	Videos with high numbers of views usually have a direct connection to course assignments (or course assessments). If a video contains required content that a student must use for an assignment or discussion posting, it is correlated with higher view numbers. Research shows one of the benefits video can offer is creating faculty presence in an online environment (Jaggars, Edgecombe, & Stacey, 2013).
Instant Messaging Instructor allowed and encouraged instant messaging via iChat, Google chat, and text messaging.Instructor used IM for conducting synchronous chat sessions and to providing individual communication with students.	This maintains a sense of connection with others and gave a greater sense of shared context. Instant messaging helped students feel a greater sense of presence by enabling them to communicate in real-time and be aware of others who are online (Kear, 2010).
Online Office Hours Due to the fact that courses were 100% online, with a large number of adult learners who do the majority of their work at night and on the weekends, instructors made themselves available for online office hours for a minimum of four evening hours during the week as well as four hours on the weekends	Students who enroll in online courses might not live on campus and this provides an opportunity for online instructors to support these students by hosting virtual office hours (Edwards & Helvie-Mason, 2010). Virtual office hours provide opportunities for students to communicate with their professor without the constraints of traditional office hours.
Text Messaging In hopes to make communication more compatible with the mobile lifestyle of today's students, instructors decided to allow and encourage students to use SMS text messaging at their leisure, especially for things that needed be addressed immediately (quiz or an assignment submission needing to be reset).	IM increases the level of access that students have to the instructor. Research has shown that students participating in distance education courses indicated that text messaging is a technology they enjoy using to communicate and that SMS text messaging also provided a medium for communication and dialogue that engendered the "immediacy" sought by many online learners (DuVall, Powell, Hodge, & Ellis, 2007).

Table 5: RSA Concentration Retention Data

Concentration	Total Students That Started the Program (First and Second Cohorts)	Students Who Completed/ Still Enrolled	Overall Percentage Retained
Interscholastic Athletic Administration & Coaching	54	44	81.15%
Facility & Event Management	29	15	51.72%
Sport Media & Branding	28	22	78.57%
Intercollegiate Athletic Administration	35	32	91.45%

retention data for each of the concentrations in the Master of Science in Recreation and Sport Administration based on their first and second cohorts. Overall, program retention was highest in the IAA program. The implementation of MRT and SPT led to a 91% overall retention rate for the IAA program. While this number may account just for a few extra students, increased retention aids in overall long-term program and student success.

DISCUSSION

The purpose of this case study was to determine the impact of Media Richness Theory and Social Presence Theory in course design and instruction on attrition in the graduate Recreation and Sport Administration online program. In comparison to prior programs, there is a distinct correlation between using rich media technologies and enhancing social presence due to the positive impact it had on retention rates in the IAA program. Adding MRT and SPT to the IAA online courses was the most significant difference between this concentration and others within the RSA program. Before implementing these changes, concentrations within the RSA program averaged a 70.48% overall retention rate through the first and second cohorts. The IAA program saw an overall retention rate of 91.45%. That sense of community and interaction fostered through MRT and SPT improved student success through measurable retention rates.

These changes were not developed through technology alone because that cannot create a community of learning or a strong sense of salience in distance learning. IAA instructors provided methods for communication immediacy and reducing interpersonal distance through timely, constructive feedback that reinforced the instructor's social presence (Gunderson, Theiss, Wood, & Conti-O'Hare, 2014).

According to Northrup (2001), interaction must be intentionally designed into an online course, as the interaction does not happen simply because the materials and tasks are presented to students. Rather, online learning relies on well-planned instructional design, a learning management system supported by technology, and an instructor who transfers into a facilitator role. The instructor, as a facilitator, sets the expectation for participation and promotes a philosophy of social presence and teacher immediacy. This method helps transition the gap between online and face-to-face classrooms by providing the community necessary for student success.

No single CMC system is better than another. Instead, the IAA course designers and instructors found that by providing multiple CMC systems, and allowing students to select based on their personal preferences (Tu, 2002), students are empowered to decide what, how, and where they would like to learn. Through these systems, a wider range of learners can be accommodated, which is better than coercing everyone into a one-size-fits-all mode (Joyce & Brown, 2009).

An additional characteristic of online learning that may be advantageous to improving the overall student experience is the transformation of the student and instructor roles. The instructor role can be altered to become akin to a facilitator

rather than a lecturer, allowing students to become active learners (Harasim, Hiltz, Teles, & Turoff, 1995). Role transformation not only improves student learning but also helps develop the online learning community for the student. Each student becomes in charge of his or her learning while also utilizing the facilitation methods provided by the instructor to enhance the experience. This role transformation, however, is not the only solution for problems facing instructors involved in the delivery of online courses; there is also the issue of how teacher immediacy behaviors and social presence are affected by the environmental transformation (Simonson, Smaldino, Albright, & Zvacek, 2000).

It should be noted that the IAA program and the institution's Division of Extended Learning and Outreach (DELO) provides additional support for distance students to ease the environmental transformation and help establish the student's connection to the school and the program before they begin classes. Each student receives a welcome package of IAA program promotional items (a water bottle, program polo, padfolio, and handwritten note from the coordinator). Once students begin classes, the IAA coordinator provides online synchronous advising meetings throughout the program and career consultation in the final semester. Additional support services are offered through the university for students in distance learning programs to provide a sense of inclusion into the university culture and ownership of individual learning experiences. At the beginning of each semester, DELO sends an email with information regarding available resources to distance learning students. This includes access to the universities Online Student Resource Portal. Currently, the portal provides user-friendly links to academic calendars, degree requirements, online orientations, tutoring, the writing center, library services, and technology support. Step-by-step instructional videos assist with navigating online systems, Blackboard sites, email accounts, and personal portals. The Office of Information Technology (IT) maintains year-round support through the use of virtual and telephone helpdesk support and online training. The IT Helpdesk's online service request system allows students to report problems and seek assistance. These tools deliver accessible support to students ensuring that their learning environments and online experiences are reinforced regardless of their geographic locations.

CONCLUSION

The need to better understand the media richness of technology, and how its use can foster collaborative learning communities, is imperative due to the rapid development of fully online undergraduate and graduate degree programs and the high attrition rates within those programs. "Stakeholder satisfaction in higher education is becoming increasingly more important due to greater emphasis on assessment measures, vanishing resources, and competition amongst universities" (Popp, Weight, Dwyer, Morse, & Baker, 2015, p. 34). The ultimate challenge to increasing student satisfaction is to provide the most effective learning experiences by way of student/student and student/instructor interaction and engagement regardless of the medium utilized (Song & McNary, 2011). While the purpose of this study was to examine how MRT and SPT can be implemented in an online sport administration program, it is important to note that the IAA program is currently in the infancy stage. However, based on program inquiries and applications for future cohorts for the IAA program, projections for continued success and growth of the concentration are bright.

While the retention rates for IAA were definitively higher than prior concentrations, the rates alone do not distinctly explain how the phenomenon was attributed to the application of MRT and SPT in course design and instruction, and therefore, future research should focus on obtaining further quantitative and qualitative data regarding student MRT and SPT. Analysis of the differences in student engagement in identical face-to-face and online courses, instructor skills and philosophies, as well as synchronous communication issues, is needed. Further, the role of student learning styles on students' ability to adequately learn and adapt to emerging technologies and media appropriateness needs to be explored. Because social presence is a perception, it varies from individual to individual. It can also be situational and vary across time for the same individual, making it a very complex construct for study. Researchers and educators need to examine its nature to understand interaction and social presence in an online environment. Quantitative and qualitative methods should be

employed to assess students' learning styles, levels of interaction and engagement, retention of course content, student technology preferences, and course assignment design. As with any pedagogical strategy, various factors beyond the media used can either enhance or impede student learning.

The results from implementing MRT and SPT in the course design and instruction for the online IAA program clearly suggests that students are satisfied with the use of appropriate technology and creation of an online community. There is a positive relationship between academic satisfaction and student's intention to continue their degree (Carter & Yeo, 2016). Due to this success, other concentrations in the Master of Science in RSA program are currently undergoing revisions to implement similar strategies. Future empirical research should be conducted to determine the levels of MRT and SPT implementation and whether or not the course modifications impacted overall student satisfaction with the perceived online learning community and increased program retention.

REFERENCES

Angelino, L. M., Williams, F. K., & Natvig, D. (2007). Strategies to engage online students and reduce attrition rates. *Journal of Educators Online*, 4(2), n2.

Aragon, S. R. (2003). Creating social presence in online environments. *New Directions for Adult and Continuing Education*, 2003(100), 57–68. doi:10.1002/ace.119

Arbaugh, J. B. (2000). How classroom environment and student engagement affect learning in internet-based MBA courses. *Business Communication Quarterly*, 63 (4), 9–26. doi:10.1177/108056990006300402

Babson Survey Research Group. (2015). "Online report card: Tracking online education in the United States." Retrieved from http://onlinelearningconsortium.org/read/online-report-card-tracking-online-education-united-states-2015/

Berge, Z. L., & Collins, M. (1995). (Eds.) *Computer-mediated communication and the online classroom.* Cresskill, NJ: Hampton Press.

Besser, H., & Donahue, S. (1996). Introduction and overview: Perspective on distance independent education. *Journal of the American Society for Information Science*, 47, 801–804. doi:10.1002/(SICI)1097-4571(199611)47:11<801::AID-ASI1>3.0.CO;2-6

Borup, J., West, R. E., & Graham, C. R. (2012). Improving online social presence through asynchronous video. *The Internet and Higher Education*, 15(3), 195–203. doi:10.1016/j.iheduc.2011.11.001

Carr, A. (2000). As distance education comes of age, the challenge is keeping the students. *The Chronicle of Higher Education*, 46, A39–A42.

Carter, S., & Yeo, A. C. M. (2016). Students-as-customers' satisfaction, predictive retention with marketing implications: the case of Malaysian higher education business students. *International Journal of Educational Management, 30*(5), 635–652. doi:10.1108/IJEM-09-2014-0129.

Clark, R. C., & Mayer, R. E. (2016). *E-learning and the science of instruction: Proven guidelines for consumers and designers of multimedia learning.* John Wiley & Sons.

Daft, R. L., & Lengel, R. H. (1984). Information richness: A new approach to managerial behavior and organization design. In B. M. Staw & L. L. Cummings (Eds.), *Research in organizational behavior* (pp. 191–233). Greenwich, CT: JAI Press.

Daft, R. L., & Lengel, R. H. (1986). Organizational information requirements, media richness and structural design. *Management Science*, *32*, 554–571.

Daft, R. L., Lengel, R. H., & Trevino, L. K. (1987). Message equivocality, media selection, and manager performance: Implications for information systems. *MIS Quarterly*, 355–366.

DuVall, J. B., Powell, M. R., Hodge, E., & Ellis, M. (2007). Text messaging to improve social presence in online learning. *Educause Quarterly*, *30*(3), 24.

Edwards, J. T. & Helvie-Mason, L. (2010). Technology and instructional communication: Student usage and perceptions of Virtual Office Hours. *Journal of Online Teaching and Learning*, *6*(1), 174–186.

Gunderson, B. J., Theiss, M. A., Wood, L. K., & Conti-O'Hare, M. (2014). Using a telephone call to increase social presence in online classes. *Nursing Education Perspectives*, *35*(5), 338–339. doi:10.5480/11-569

Gunawardena, C. N. (1995). Social presence theory and implications for interaction and collaborative learning in computer conferences. *International Journal of Educational Telecommunications*, *1*(2), 147–166.

Hample, D., & Dallinger, J. M. (1995). A Lewinian perspective on taking conflict personally: Revision, refinement, and validation of the instrument. *Communication Quarterly*, *43*(3), 297–319. doi:10.1080/01463379509369978

Hara, N., & Kling, R. (2001). Student distress in web-based distance education. *Educause Quarterly*, *24*(3), 68-69.

Harasim, L. N., Hiltz, S. R., Teles, L., & Turoff, M. (1995). *Learning networks*: *A field guide to teaching and learning online*. Cambridge, MA: MIT Press.

Hardy, D. W., & Boaz, M. H. (1997). Learner development: Beyond the technology. In T. Cyrs (Ed.), *New directions for teaching and learning*, *71*, (pp. 41–48). San Francisco, CA: Jossey-Bass.

Herbert, M. (2006). Staying the course: A study in online student satisfaction and retention. *Online Journal of Distance Learning Administration*, *9*(4).

Heyman, E. (2010). Overcoming student retention issues in higher education online programs. *Online Journal of Distance Learning Administration*, *13*(4).

Hill, C. (Ed.). (2009). *Faculty focus special report: Strategies for increasing online student retention and satisfaction*. Madison, WI: Magna.

Homer, B. D., Plass, J. L., & Blake, L (2008). The effects of video on cognitive load and social presence in multimedia-learning. *Computers in Human Behavior*, *24*(3), 786–797. doi:10.1016/j.chb.2007.02.009

Horton, W. (2000). *Designing web-based training: How to teach anyone, anywhere, anytime.* New York, NY: Wiley Computer Publications.

Hughes, J. A. (2004). Supporting the online learner. In T. Anderson & F. Elloumi (Eds.), *Theory and practice of online learning* (pp.

367–384). Athabasca, AB: Athabasca University.

Huntley, B. (2010). Media richness, social presence, group cohesion and content of computer-mediated and face-to-face communication (Doctoral dissertation). Retrieved from http://wiredspace.wits.ac.za/bitstream/handle/10539/8139/Huntley%20MA%20Research%20Project.pdf?sequence=1&isAllowed=y

Ice, P., Curtis, R., Phillips, P., & Wells, J. (2007). Using asynchronous audio feedback to enhance teaching presence and student's sense of community. *Journal of Asynchronous Learning Networks*, *11*(2), 3–25.

Jaggars, S. S., Edgecombe, N., & Stacey, G. W. (2013). *Creating an effective online instructor presence*. New York, NY: Community College Research Center, Columbia University.

Joyce, K. M., & Brown, A. (2009). Enhancing social presence in online learning: Mediation strategies applied to social networking tools. *Online Journal of Distance Learning Administration*, *12*(4).

Kear, K. (2010). Social presence in online learning communities. In L. Dirckinck-Holmfeld, V. Hodgson, C. Jones, M. de Laat, D. McConnell, & T. Ryberg (Eds.), *Proceedings of the 7th International Conference on Networked Learning 2010* (pp. 541–548). Aalborg, Denmark: Aalborg University.

Kehrwald, B. A. (2010). Being online: social presence as subjectivity in online learning. *London Review of Education*, *8*(1), 39–50. doi:10.1080/14748460903557688

Keiper, P., & Kreider, R. (2014). Developing and sustaining online and distance education programs in health and kinesiology. *Kinesiology Review*, *3*(4), 217–220. doi:10.1123/kr.2014-0065

Kerka, S. (1996). Distance learning, the Internet, and the World Wide Web. ERIC Digest. (ERIC Document Reproduction Service No. ED 395–214).

Lakin, R. B. (2005). Social presence: The secret behind online collaboration. *American Council on Education*.

McInnerney, J. M., & Roberts, T. S. (2004). Online learning: Social interaction and the creation of a sense of community. *Educational Technology & Society*, *7* (3), 73–81.

Minich, E. (1996). *Using student feedback to improve distance education*. Jacksonville, FL: Florida Community College.

Moody, J. (2004). Distance education: Why are the attrition rates so high?. *Quarterly Review of Distance Education*, *5*(3), 205.

Nash, R. D. (2005). Course completion rates among distance learners: Identifying possible

methods to improve retention. *Online Journal of Distance Learning Administration*, *8*(4), 1-26.

Newberry, B. (2001). Media richness, social presence and technology supported communication activities in education. Retrieved from http://www.edtech.ku.edu/resources/aust1TET_norm1/3000/3100_8/3120/3121_2.html

Northrup, P. (2001). A framework for designing interactivity in Web-based instruction. *Educational Technology*, *4*(2), 31–39.

Oliver, R. (1999). Exploring strategies for online teaching and learning. *Distance Education*, *20*(2), 240–254. doi:10.1080/0158791990200205

Oomen-Early, J., Bold, M., Wiginton, K. L., Gallien, T. L., & Anderson, N. (2008). Using asynchronous audio communication (AAC) in the online classroom: A comparative study. *Journal of Online Learning and Teaching*, *4*(3), 267–276.

Palloff, R. M., & Pratt, K. (2001). *Lessons from the cyberspace classroom: The realities of online teaching.* San Francisco, CA: Jossey-Bass.

Popp, N., Weight, E. A., Dwyer, B., Morse, A. L., & Baker, A. (2015). Assessing student satisfaction within sport management master's degree programs. *Sport Management Education Journal* (*Human Kinetics*), *9*(1), 25–38. doi:10.1123/smej.2014-0007

Reio Jr, T. G., & Crim, S. J. (2006). The Emergence of Social Presence as an Overlooked Factor in Asynchronous Online Learning. Online Submission. Retrieved from http://files.eric.ed.gov/fulltext/ED492785.pdf

Richardson, J. C., & Swan, K. (2003). Examining social presence in online courses in relation to students' perceived learning and satisfaction. Retrieved from http://hdl.handle.net/2142/18713

Rifkind, L. J. (1992). Immediacy as a predictor of teacher effectiveness in the instructional television classroom. *Journal of Interactive Television*, *1*, 31–38.

Rovai, A. P. (2001). Building classroom community at a distance: A case study. *Educational Technology Research and Development 49*(4), 33–48. doi:10.1007/BF02504946

Russo, T. (2000). Social presence: Teaching and learning with invisible others. *Creating Effective Online Instruction, University of Kansas, Lawrence, KS*.

Scollins-Mantha, B. (2008). Cultivating social presence in the online learning classroom: A literature review with recommendations for practice. *International Journal of Instructional Technology & Distance Learning*, *5*(3), 1–15.

Shaik, N. (2009). Understanding the impact of attrition on your school. In C. Hill (Ed.). *Faculty focus special report: Strategies for increasing online student retention and satisfaction.* Madison, WI: Faculty Focus.

Short, J., Williams, E., & Christie, B. (1976). *The social psychology of telecommunications*. London, UK: John Wiley & Sons.

Simonson, M., Smaldino, S., Albright, M., & Zvacek, S. (2000). *Teaching and learning at a distance: Foundations of distance*

education. Upper Saddle River, NJ: Merrill.

Song, L., & McNary, S. W. (2011). Understanding students' online interaction: Analysis of discussion board postings. *Journal of Interactive Online Learning*, *10*(1), 1–14.

Sun, P., & Cheng, H. K. (2007). The design of instructional multimedia in e-Learning: A Media Richness Theory-based approach. *Computers & Education*, *49*(3), 662–676. doi:10.1016/j.compedu.2005.11.016

Swan, K., & Shih, L. F. (2005). On the nature and development of social presence in online course discussions. *Journal of Asynchronous Learning Networks*, *9*(3), 115–136.

Terry, N. (2001). Assessing enrollment and attrition rates for the online MBA. *THE Journal (Technological Horizons in Education)*, *28*(7), 64.

Tinto, V. (1993). *Leaving college: Rethinking the causes and cures of student attrition.* (2nd ed.) Chicago, IL: University of Chicago Press.

Tsai, I.-C., Kim, B., Liu, P.-J., Goggins, S. P., Kumalasari, C., & Laffey, J. M. (2008). Building a Model Explaining the Social Nature of Online Learning. *Educational Technology & Society*, *11*(3), 198–215.

Tu, C. H. (2002). The impacts of text-based CMC on online social presence. *The Journal of Interactive Online Learning*, *1*(2), 1–24.

Twigg, C. A. (1997). Is technology a silver bullet? *Educom Review, 31*(2), 28–29.

Volery, T., & Lord, D. (2000). Critical success factors in online education. *International Journal of Educational Management*, *14*(5), 216–223. doi:10.1108/09513540010344731

Walther, J. B. (1992). Interpersonal effects in computer-mediated interaction: A relational perspective. *Communication Research*, *19*(1), 52–90. doi:10.1177/009365092019001003

Weiss, R. E. (2000). Humanizing the online classroom. In R. E. Weiss, D. S. Knowlton, & B. W. Speck (Eds.), *Principles of effective teaching in the online classroom. New directions for teaching and learning: No. 84,* (pp. 47–51). San Francisco, CA: Jossey-Bass.