STUDENT ENGAGEMENT IN AN ONLINE GRADUATE BUSINESS
PROGRAM AND ACADEMIC ACHIEVEMENT

A Dissertation
Submitted to
the Temple University Graduate Board

In Partial Fulfillment
of the Requirements for the Degree
DOCTOR OF EDUCATION

by
Barry R. Griffiths
August 2020

Examining Committee Members:

Dr. Joseph DuCette, Advisory Chair, Department of Organizational, and Leadership Studies
Dr. James Earl Davis, Department of Policy, Organizational, and Leadership Studies
Dr. John McClendon, Department of Human Resources Management
Dr. Judith Stull, Department of Policy, Organizational, and Leadership Studies

ABSTRACT

This study reports on the Community of Inquiry (CoI) studend engagement model concerning online courses and programs. The model seeks to have teaching, social and cognitive presences interact with each other thus creating an educational experience for online learners. The research is guided by the following research questions: (1) Does student engagement associate academic achievement as defined by cumulative grade point average in the Online MBA program? (2) Do student demographics correlate to academic achievement in an online graduate business program? Data consists of rankings from the CoI 36-item engagement survey on a five point scale of strongly agree to strongly disagree regarding students' view of their engagement level in the OMBA program as a whole. The findings of this study indicate that there is not a significant correlation between level of student engagement in the OMBA program and academic achievement. Predictor variables such as age years of professional work experience correlated to a lower GPA while gender and previously attaining a post-bachelor's degree was not a factor for GPA. The results of this research do indicate that design and organization of a course and content is the most important aspect of engaging an online learner.

DEDICATION

This is dedicated to my family and their unwavering support throughout the process. This culminating research is in memory of my father, Dr. Gilbert Griffiths, and in honor of my mother, Janie Griffiths. They were both lifelong educators who understand the value of education and continuing to learn throughout one's lifetime. This would not have been accomplished without them motivating me and being curious about my research. I will forever cherish their love. I would also like to thank my wife Lindsay and daughter Morgan for their patience and push for me to finish. This project took many hours away from family time and Morgan always wondering why adults have to do homework. The homework might be done for now but learning will continue. I hope that seeing me accomplish this will instill that in Morgan.

ACKNOWLEDGMENTS

TABLE OF CONTENTS

LIST OF TABLES

CHAPTER 1

INTRODUCTION

The Integrated Postsecondary Education Data System (IPEDS) defines distance education as "education that uses one or more technologies to deliver instruction to students who are separated from the instructor and to support regular and substantive interaction between the students and the instructor synchronously or asynchronously." A 2016 report from the National Center for Educational Statistics (NCES) found that over 5.95M students took at least one online course in the fall 2015 semester at the undergraduate or post baccalaureate level with a majority being at public higher education institutions. As universities seek to increase revenue and utilize physical space more efficiently, this number will certainly rise in the next decade. Similarly, the Higher Learning Commission (HLC) indicates that a distance education course "is one in which 75% or more of the instruction is offered by distance education." HLC goes on to explain the formula for universities to determine if a program is distance education if more than 50% of the courses are offered via distance learning.

As more universities are offering courses and entirely online programs, there are obvious increases in enrollment for them. Allen and Seaman (2017) reported that in fall of 2015 there were over 6M students taking a distance learning course. Their report found trends that resonate through the higher education community including increases in enrollment at public and small non-profit institutions and the largest drops in enrollment from for-profit universities. This could be due to a number of factors including changes in financial aid policies, marketing efforts, and new courses and programs being offered

online at long established colleges and universities. Bradford and Wyatt (2010) suggest that the increase is from greater access to an institution's course offerings and the ability to increase revenue while cutting costs.

The market for distance learning courses has shifted as technology has advanced and students do not need to be geographically located near a university. Means, Toyama, Murphy, Bakia and Jones (2009) found that online learning is becoming more prevalent in higher education institutions due to rising costs of education and a cost effective alternative to traditional classroom settings where students attend courses in-person and large, physical space is required. Leadership at universities must look beyond the numbers to insure that the courses and online programs have the same quality as the traditional face-to-face setting. Driscoll, Jicha, Hunt, Tichavsky, and Thompson (2012) state that "if designed properly, in a way that stresses interaction, clear structure, and strong content, online courses can offer a learning environment that is as equally effective and enjoyable as the traditional classroom" (p. 326).

Despite its growing enrollment and increasing course and program choices in online education, there needs to be a focus on engaging the student. Historical research indicates that numerous authors have found that involvement in the classroom is important for student success and persistence (Mallette & Cabrera, 1991; Nora, 1987; Pascarella & Terenzini, 1980; Terenzini & Pascarelli, 1977). Engagement in online courses can be in many forms including emails, discussion boards, or synchronous sessions just to name a few. Bigatel and Williams (2015) defined engagement for their study on a large Bachelor of Science in Business online program as "the student's efforts to study a subject, to practice, to obtain feedback, to analyze, and to solve problems"

(p. 1). This definition encompasses all activities relating to fully engaging in the online classroom and can be used interchangeably with interactions. This definition was refined from earlier, more broad, definitions including Kuh's (2003) "the time and physical energy that students expend on activities in their academic experience" (p. 25).

Engagement in online courses will be a key focus in the future for universities as enrollment continues to increase. Administrators face challenges in creating a sense of community in these courses because of a lack of personal contact, technology deficiencies, and poor course design. These are all factors that could lead to higher attrition in online courses (Atchley, Wingebach, & Akers, 2013). This, in turn, cuts into revenue by utilizing university resources on students who are not completing courses or programs. Online course faculty must create a sense of community and a positive learning environment for student success (Liu, Magjuka, Bonk and Lee, 2007; Mandernach, 2009). Students need to feel that the online course environment is safe, interactive, social, cognitive and of equal quality to face-to-face courses. This drives the quality of the course and student achievement.

Mgutshini (2013) points out that there should be a focus on overall student experience as the current research tends to examine attrition and student academic performance. Institutions that look at the entire lifecycle of an online student are positioned better in the marketplace. The focus is on customer experience from the admissions process to becoming an alumnus/a. By engaging students in the online classroom during the middle part of the lifecycle, they are less likely to leave the course or program. This lowered attrition, therefore, will increase enrollment and revenue.

Statement of the Problem

The purpose of this study was to determine if there is a relationship between student engagement and student achievement (GPA) among graduate business students in an online Master of Business Administration (OMBA) program. Additional research questions focused on student demographics to see if age, gender, race, veteran status, education level beyond a bachelor's degree, and years of professional work experience had an impact on both engagement and achievement in the online program.

The courses within the 48 credit OMBA program are delivered synchronously with students attending live class sessions via Zoom videoconferencing technology. Current research regarding student engagement in online courses either focuses only on one course or a small set of courses, or entirely on asynchronous courses or programs. This study intended to fill a gap in the research by measuring student engagement perception via a survey in fall 2019 to OMBA students at a large research university. Student achievement was self-reported by the survey respondents.

Community of Inquiry Theoretical Framework

The theoretical basis for this study is The Community of Inquiry (CoI) model by Garrison, Anderson and Archer (2000). This theory is based on the belief that interaction among participants, specifically students and faculty members, must be maintained as higher education moves more towards computer-mediated communication and online courses. These researchers assume that the educational process is enhanced with these interactions which increases learning in the students.

Garrison et al.'s (2000) CoI theoretical framework is based on three overlapping elements of the educational experience. The first is social presence and can be described

as a student's personal characteristics interacting with the classroom community via emotions, open communication, and the attempt to establish group cohesion. Social presence is the way in which an individual develops relationships with others in the course and becomes part of the course community. The second element in the CoI model is teaching presence. This element is increased by appropriately designing instructional materials, moderating thoughtful discussions, and creating online interaction opportunities to meet learning goals. Cognitive presence is the third element. This involves the ability of students to construct meaning through sustained communication throughout the course (Garrison et al. 2000). The idea of building and maintaining a successful course community by utilizing engaging technologies is based on interactions of: 1) the learner and content, 2) the instructor and student, and 3) the learners themselves (Cochran-Smith & Lylte, 1999, Garrett & Benson, 2016, Reiser, 2001).

The notion is that achieving learning outcomes in the CoI framework is attained through appropriate and continuous interactions amongst faculty and students. Multiple studies (Garrison & Arbaugh, 2007, Shea & Bidjerano, 2009; Shea, Hayes, Vickers, Gozza-Cohen, Uzener, Mehta, Valchova & Rangan, 2010) have found that learners need to be part of group-based interactions that create common goals, values and language to build a community that promotes effective learning. The CoI framework and additional studies based on it stress the importance of all three presences interacting that lead to the achievement of student learning outcomes.

<center>Importance of the Research</center>

A July 2012 report from Aslanian Market Research and The Learning House, Inc. (2012) issued findings from a survey of 1,500 individuals who were recently, currently or

<center>5</center>

planned to enroll in fully online academic programs. The report found that these online students were typically older than traditional aged college students and had multiple personal and professional life responsibilities that made online learning a perfect fit. These reports argued, therefore, that online education is an attractive option for students of all backgrounds and locales. Li and Irby (2008) stated there are four reasons that online delivery appeals to students. The first is that the student's professional and personal obligations may limit where and when he or she can attend class. The second is the reality that the online delivery model can reach rural locations as well as offer an alternative to those who live and work in big cities where commuting to campus can be cumbersome. The third reason is the variety of options since the students are not limited to higher education institutions in their geographic area. The fourth reason is that students have the possibility to interact on a global level if courses or programs are open to students around the globe. This allows online programs to be globally accessible and encourages students with diverse academic and professional backgrounds to not be bound by geography or convenience factors.

In an online classroom environment student engagement is, therefore, essential to student achievement and success. Student engagement is defined by active participation in activities that promote learning (Coates, 2006) both inside and outside of the classroom. These activities can include, but not be limited to, discussion boards, meetings with faculty, student-to-student interactions, live-time webinars, texting, and phone calls. Holzweiss, Joyner, Fuller, Hendeson and Young (2014) found that five major engagement themes immerge from their study of a fully online Master of Arts program that were key to student success. They include faculty engagement,

6

instructional technology, critical thinking assignments, team work, and personal
responsibility to other class members and faculty.

Most research regarding engagement in online learning (Dennen, Aubtee, Darabi
& Smith, 2007; Dixson, 2015) focuses on asynchronous courses. However, there is gap
in the literature that pertains to courses or programs focused on synchronous instruction.
It is this gap that increases the importance of this study. It should be noted that some
student engagement activities are the same in both synchronous and asynchronous
courses. These include such activities as discussion board posts, virtual office hours,
email communication and phone calls. However, the main differences that seem to give
synchronous courses a student engagement advantage are opportunities to interact via
webcam and microphone with the instructor and other students, group breakouts, live
discussion and the need to be socially and cognitively present for student success.

Online courses provide a pathway for students to enhance their education without
having to commit to physically attending a class session on a college campus. The
structure of courses, depending on the university or department, can pose challenges and
students need to understand the tradeoff of enrolling in those specific courses.
Asynchronous is by nature less interactive and engagement falls to the responsibility of
the student and faculty member. Synchronous, on the other hand, has a forced
engagement mechanism in attending the online course itself on a specific date and time.
This deeper personal involvement is one of the major reasons that this study sought to
correlate student engagement levels with academic success and investigated the possible
impact of variables such as years of work experience, age, gender, military status,
cumulative number of credits when survey is taken, and race.

Research Questions

This study addressed several questions relating to student engagement in an online, synchronous graduate program. First, it sought to correlate student engagement levels in the Online MBA program with academic success. Utilizing Garrison et al.'s (2000) Community of Inquiry theoretical framework survey, this study was interested in correlations between high levels of student engagement with academic course content, faculty members, and peer students with an emphasis on cumulative GPA.

The second research question investigated if there was a correlation between academic achievement and student demographics. For the purpose of this study, students enrolled in the OMBA program were invited to voluntarily participate in this study confidentially. Students self-reported demographic information at the beginning of the survey. This included age, gender, race, military status, cumulative grade point average, and cumulative credits earned. To complete the demographic profile questions pertaining to years of professional work experience and previous post-bachelor's degree education were asked in the beginning of the survey to evaluate any differences in student engagement among specific groups. Questions 1A and 1B (below) are designed to gather data regarding engagement factors and methods that students have found to lead to their success in the OMBA program. Research question 2 focused on correlations between demographic predictor variables and levels of engagement.

Assessing Student Engagement

This study sought to assess levels of student engagement in an online Master of Business Administration program. Garrison et al.'s (2000) Community of Inquiry (CoI) framework survey contains questions that will ask study participants about teaching,

cognitive, and social engagement levels in the form of answers that explain their behaviors and actions within the graduate program.

Question 1A: Does student engagement associate academic achievement as defined by cumulative GPA in the OMBA program?

Question 1B: What methods have OMBA student used to remain engaged with instructional material and deliverables?

Assessing Student Demographics

This study also sought to find if specific student demographics correlate to academic achievement. More specifically, the following variables were focused on: age, gender, race, military status, years of professional work experience and level of education already attained, especially post-bachelor's degree. Harper and Quaye (2009) place importance on better engagement among various student populations which might face unique challenges but their focus is more on the traditional campus setting than online learning. Meyer (2014) feels that engagement should not be limited to certain subgroups or focused on traditional brick and mortar campuses but as an institutional norm that includes all students, especially online learners who might not feel as connected to a physical campus or academic program.

Question 2A: Do student demographics correlate to academic achievement in an online graduate business program?

<div align="center">Operational Definitions</div>

Academic Achievement: For the purpose of this study, academic achievement was referred to as cumulative grade point average of the student in the online graduate program at the point of administering the survey.

Academic Standing: For the purpose of this study, academic standing was referred to the amount of cumulative credits earned in the online graduate program at the time of administering the survey.

Asynchronous Learning: For the purpose of this study, asynchronous learning referred to courses where students accessed academic material any time without the need to participate in live-time class sessions, instructors, or peers.

Engagement/Interaction: For the purpose of this study, engagement and interaction were used synonymously and refers to a student's interactions with academic material, the instructor, and peers.

Learning Management Systems (LMS): The Encyclopedia of Distributed Learning (DiStefano, Rudestam, & Silverman, 2003) defines LMS as integrated software that organizes course materials and supports all aspects of online learning. The Encyclopedia of Distributed Learning's definitions also include:

> These systems usually provide content uploading and distribution, class administration, and discussion facilities. Some offer additional functionality such as assessment tools for online quizzing and testing; homework submission tools for managing the collection, grading, and redistribution of homework assignments to students in an online class; and student profiling to track the progress and performance of individual students using the system. LMSs are generally obtained in the form of a comprehensive software package that presents a unified graphical

user interface (GUI) and a consistent method of navigation to guide the user

through the system.

Online Learning: The Online Learning Consortium (Sener, 2015) (OLC) referred to

online learning as the access to taking courses without the limit of geography or the need

to attend in-person class sessions on campus. OLC further states that because the courses

are delivered entirely online, attention must be paid to three critical student interaction

factors: with academic material, the instructor, and peer students.

Synchronous Learning: For the purpose of this study, synchronous learning was referred

to as the use of live-time online course sessions in which faculty and students interacted

with each other including lectures, live discussions, group collaboration and participant

interaction.

<p style="text-align:center">Introduction Summary</p>

The increased demand for online courses and programs has placed the

responsibility of engaging students on a social level while delivering interactive

curriculum on higher education administrators (Driscoll, Jicha, Hunt, Tichavski &

Thompson, 2012). This was relevant to the University's Online MBA program because

the intention is for continued enrollment growth to meet market demand. This planned

enrollment increase will have direct faculty and student services infrastructure

implications in that current instructors will possibly need to deal with larger classes and

new faculty hired will have to insure that student engagement is a pedagogical lens in

which they develop their courses. The student services professionals will be impacted by

<p style="text-align:center">11</p>

a larger number of students to academically advise and also create meaningful touch points and events with the students, regardless of geographic location.

A stigma still exists surrounding online learning and completing degree programs online. Prospective students and employers often view online learning as less rigorous than the traditional face-to-face classroom environment and believe that students in online courses and programs do not get as much content out of the coursework. Multiple studies have shown that online learning can have all of the components on in-person courses without the need for students to be on campus. Common themes for student engagement from these studies include building a classroom community based on faculty engagement, student-to-student interaction, synchronous sessions, and student interacting with academic content (Cochran-Smith & Lylte, 1999; Garrett & Benson, 2017; Holzweiss et al., 2014; Reiser, 2001).

The OMBA at the School of Business has allowed students from around the world to receive their graduate degree regardless of location. Students in the program, therefore, need to engage throughout the entirety of the 48 credits to help insure persistence and academic success. Due to enhancements and innovations in online learning technology, it is now much more convenient and easier for faculty and students to interact with each other as well as access course materials and academic support services. A study by Cochran, Baker, Benson and Rhea (2016) found that engagement in the online classroom and program-related activities allowed learners to master knowledge as effectively as a traditional class. The University must also keep in mind the number of students allowed to register for an online course and give ample opportunity for engagement. This is important so that the OMBA does not feel like a transactional degree

program void of community building and encourages the student to build a professional and personal network.

This study is in response to the need for more research into synchronous online graduate degree programs with the expectation of quality interactions and discussions among faculty and students within the courses. This study attempted to correlate teaching, social and cognitive engagement levels in students to specific student demographics and student achievement by utilizing Garrison et al.'s (2000) Community of Inquiry survey. This introduction provides a justification for this study and a brief synopsis of relevant literature, both foundational and current, and proposed research questions.

CHAPTER 2

REVIEW OF THE LITERATURE

The Case for Online Learning

In the higher education realm, online learning has become more mainstream over the past decade. Marketing and media campaigns that used to be limited to for-profit institutions can now be seen regularly as the number of online programs and students continues to grow. A 2017 report by Allen and Seaman indicates that between fall 2002 and fall 2015 the number of students taking at least one online course rose from 9.6% to 29.7% of total college students. That means for fall of 2015 there were over six million students in the United States enrolled in at least one online course. At a time when overall enrollment has decreased nationwide, from fall 2012 to fall 2015 there was an increase of over 600,000 students enrolling in at least one online course. Administrators are creating opportunities for this demand and assessing how to deliver quality programming and be cost effective.

As mentioned earlier, the Higher Learning Commission (HLC) defines a distance education course as "…one in which 75% or more of the instruction is offered by distance education." HLC defines a program as distance education if more than 50% of the courses are offered via distance learning (www.hlcommission.org). This definition seems simple enough but offers the opportunity for interpretation or debate. According to Oblinger and Hawkins (2005) there is no common definition of online learning since such learning can incorporate various methods of teaching pedagogy, technology and processes (Rossi, 2009). Many definitions focus on the channels of delivery and the

technology driving that delivery (Liu & Wang, 2009). Arkorful and Abaidoo (2015) add that students can still progress academically while taking care of personal obligations with online learning. Liaw, Huang, and Chen (2007) state that there are four main points for successful courses or programs: service, cost, quality and speed.

Despite the increase in online enrollment, overall post-secondary enrollment continues to decrease. This decrease is challenging university administrators to seek ways to improve efficiency, save money, and increase revenues. Administrators not only need to understand how to deliver online programming due to the increased demand (Driscoll, Jicha, Hunt, Tichavski & Thompson, 2012), they need to seek out this revenue from those who would not normally attend their institutions. The students who will represent the most revenue to their universities are those with professional and personal obligations and geographic challenges to attending on-campus programs (Ortagus, 2017). Bowen (2013) mentions that since costs in higher education are outpacing costs in the overall economy, higher education leaders are finding a response in online education. Deming, Goldin, Katz, and Yuchtman (2015) point out that higher education is a labor intensive industry. Even with an entirely online course or program there are student services staff and faculty required at a minimum to deliver online content, not to mention technology costs and the resources expended to create the curriculum (Vignare, Geith & Schiffman, 2006). Offering larger course sizes and limiting interaction with students can reduce those costs (Bowen, 2012) and increase revenues. However, engaging students that are in these online courses is challenging and this lack of engagement will clearly be detrimental to maintaining student persistence. This problem with persistence will have a negative effect on producing a predictable revenue flow.

Technology is a mainstay on college campuses and the drive behind online learning. Distance learning in the 1970s and 1980s was driven by the use of correspondence packages and videotaped lectures. Now, learning management systems (LMS) such as Canvas and Blackboard appear in both traditional in-person and online courses allowing students to focus on learning and not navigating the systems (Green & Denton, 2012). LMSs offer the focal point for content, grading, and interaction within a course and other technologies such as Zoom, Cisco's WebEx, and Citrix's GoToMeeting are the delivery platform for synchronous online learning sessions. This same technology is of dual importance because it is not only used at the university level, but also in companies and organizations worldwide, so students may already be or will become familiar with utilizing these in their professional positions. Regardless of an online course being delivered asynchronously or synchronously, technology extends beyond just relaying knowledge to students. It includes interactions in discussion boards, video lecturettes, workshops, virtual office hours held by the instructor, and collaborative group projects. Some universities have started to use social media platforms to create more effective teams for courses (Cardon & Marshall, 2015). In fact, the University utilizes Workplace by Facebook for all graduate students enrolled in the School of Business. This platform allows for communication within a course if a faculty member chooses to, as well as program-wide and school-wide interaction and communications.

The advances in technology have certainly helped with the experience of online learning but research indicates that convenience and flexibility are key factors in choosing an online course (Aslanian & Clinefelter, 2013; Farris, Haskins & Yemen, 2003; Noel-Levitz, 2006). For asynchronous courses, there is no time constraint of

classroom attendance and even synchronous courses are not bound by geography (Ortagus, 2017). Learning schedules are more flexible and students save time commuting to campus and can overcome professional and personal obstacles that might preclude them from attending traditional face-to-face class sessions (Sener, 2012). Deming et al. (2015) also found evidence that online coursework is offered at a lower cost in comparison to in-person courses at universities. Institutions vary in their delivery models but Liaw et al. (2007) found that service, cost, quality and speed are key factors in making online learning successful. Gaps in the literature exist in differentiating between asynchronous and synchronous online learning which is important in regards to course design, student engagement, and academic success, and can have an impact of why students in the future choose to enroll in online courses.

Community of Inquiry

Online learning enrollment continues to grow in higher education institutions throughout the world and focus needs to be on quality and learning outcomes of students. Garrison, Anderson and Archer (2000) introduced a theoretical framework for online learning that focuses on three distinct features for an optimal design for online learning environment. The Community of Inquiry framework (CoI) includes social presence, cognitive presence and teaching presence. This framework is central to literature on student engagement and communication in online learning and is cited in more recent studies and critiques of the framework (Maddrell, Morison, & Watson, 2017).

The original Garrison et al. (2000) study was qualitative in nature and focused on asynchronous graduate level coursework. Social, cognitive and teaching presence

17

elements were broken down into categories and then indicator words from the transcripts were placed into the categories. Gonyea (2005) saw the students' self-reporting these indicators as a potential research limitation as the data were not observed directly by the researchers. Garrison et al. (2000) illustrated their framework with three overlapping circles for each element and the common overlap indicating "educational experience" (p. 88). This educational experience was meant to be a guide moving forward for using online technology in designing courses for optimal learning outcomes.

Garrison et al.'s (2000) definition of social presence is the "ability of participants in the Community of Inquiry to project their personal characteristics into the community, thereby presenting themselves to the other participants as real people" (p. 89). Social presence in learning, both in-person and online, has been extensively studied (Richardson & Swan, 2003; Rourke, Anderson, Garrison, & Archer, 2001; Short, Williams, & Christie, 1976). Social presence and learning outcomes do interact and research indicates group cohesiveness in an online course setting affects this (Arbaugh & Hwang, 2006; Williams, Duray, & Reddy, 2006). Garrison and Arbaugh (2007) found that students understand the importance of social presence and being part of a great community in online learning and learning activities. Effective technology use and stressing collaboration is most beneficial for the creation of such a community. Maddrell et al. (2017) found that in their study that CoI was good for students self-reporting engagement and attitude towards a course.

The second core feature of the CoI model is cognitive presence which is a basic principle of both in-person or online learning for students. Garrison et al. (2000) define cognitive presence in the CoI model as bringing meaning to academic content and

interaction by sustained communication. Since the release of this research, technology

has advanced from email, phone and video communication to learning platforms that can

host interactive discussion boards, videoconferencing, and collaborative group work for

students geographically located anywhere in the world. In a study conducted by Shea

and Bidgerano (2009), the authors found that cognitive presence in the CoI model is

important for student success and is also important for instructional designers in

understanding elements of social and teaching presence in designing courses. The results

of a study by Maddrell et al. (2017) indicate that interactions with faculty and other

students are positively correlated to course satisfaction more than student success. In

light of the research, cognitive presence in the context of the original CoI model

(Garrison et al., 2000) should be defined as the goal for students to think, reflect and act

critically; moving from inquiry to resolution with sustained communications in online

learning.

The third element in the CoI framework is teaching presence. Garrison et al.

(2000), in their seminal work, mention that teaching presence is an interactive support

function of social and cognitive presences. They mention two distinct primary functions

of teaching presence. The first is how the faculty member designs the course experience

and the second is the focus on facilitation of interaction among students and the faculty

member. High functioning learning communities will have successful social, cognitive

and teaching CoI elements but facilitation and course design will fully engage online

learners with collaborative projects, intentional discourse, thought provocation and

learner support (Shea, Li and Pickett, 2006). Garrison, Anderson and Archer (2010)

found in their study that the three CoI presences were all interconnected but teaching

presence was the "core to establishing and maintaining social and cognitive presence" (Tik, 2016, p.25) supporting earlier research by Shea and Bidjerano (2009) on integration of all three elements. A study by Maddrell et al. (2017) found that social, cognitive and teaching presences were significantly positively correlated. This supports the overall idea that Garrison et al. (2000) stated in their original work, "teaching presence is a means to an end – to support and enhance social and cognitive presence for the purpose of realizing educational outcomes" (p. 90).

Critics challenge the importance of social presence in the CoI and its framework and usefulness in learning outcomes and connection to a community. Garrison (2000) argued that research was shifting towards seeking more data about the actual educational transaction with a student. This includes how the students view group interaction, team assignments, course design, and exchanges with the faculty member. Richardson and Swan (2003) found that although online learning students felt they learned throughout their courses, they were associating that with written assignments. Annand (2011) found in his research that social presence is overstated, supporting Rourke and Kanuka's (2009) research that found that students judge their interactions more as surface such as completing a project and less as exchanging ideas with peers in the class. A more recent study by Maddrell et al. (2017) found that social presence does not have instructional value in the online learning environment.

Some critiques have found that cognitive presence in CoI is not necessarily characterized by deep and meaningful learning but students engaging in lower levels of the practical inquiry process such as triggering events and exploration (Rourke & Kanuka, 2009). Annand (2011) stated in his CoI critique that cognitive presence is not

being achieved even though it is being applied in classroom settings. Arbaugh et al. (2010) took this a step further and argued that cognitive presence might be better suited for "soft" (p. 42) disciplines because "hard" (p. 42) disciplines are more content based and knowledge is directly delivered versus reflective and discussion based learning in "soft" (p. 42) disciplines. In a follow-up retrospective review of the original CoI research and accompanying article (Garrison et al. 2000), Garrison et al. (2010) stated that they placed more emphasis on cognitive presence and its association with critical thinking than they should have. In the review, they clarified that in reviewing the CoI framework, social, cognitive and teaching presences should be seen as interacting with each other regardless of learning outcomes, course subject matter and type of communication. This clarification by the authors actually critiques their seminal paper on the Community of Inquiry and shifts to a broader perspective on online learning. Garrison et al. (2010) realize that continued research, advanced technology and refinements to the 2000 article will be needed in future studies to further scholarship on this framework.

The focus of most critics of the CoI framework is social presence because teaching presence can be hard to quantify due to variances in course design, technology and delivery. Previous research also cannot agree if there are two primary elements (Shea et al., 2006) or three (Arbaugh & Wang, 2006) leading to contradictory statements on the interaction and value of teaching presence. Rourke and Kanuka (2009) mention that issues pertaining to all three presences must be resolved and that specifically the role of the teacher needs to be more defined. The need for a more defined teaching role in online learning indicates discourse in current and historical research. Further, Annand

(2011) found that learning outcomes can be achieved outside of the formal classroom and direct instruction with students engaging in mutual support and communal interactions.

Student Engagement

The popularity and enrollment in online courses has continued to grow in colleges and universities across the United States over the past decade (Allen & Seaman, 2017). The increased numbers of students choosing this delivery model for courses or entire academic programs also produces new challenges for university administrators. One of the most important issues they are facing is how to keep online learners engaged both in the classroom and with the institution (Rovai, 2002). Although not specific to online courses, Tinto (2004) found that universities that encourage student engagement have a positive impact on student success and progress towards meeting graduation requirements. It is important to note that Kuh (2003) defines student engagement as resources spent completing activities such as studying, analyzing, solving problems and practicing in the academic experience. Literature pertaining to the topic of student engagement also tends to use interaction interchangeably.

Students in online courses do not have the same experience that others do when physically attending a face-to-face class session and the social and emotional interactions that accompany it. Therefore, it is important for higher education institutions and more specifically faculty members, to encourage or require engagement between students (Mgutshini, 2013). Dixson (2010) found that students feel more engaged in the course if they are interacting with each other collaborating on projects, giving feedback on assignments and utilizing discussion boards. Peer-to-peer interactions can be accomplished in multiple ways including, but not limited to: group projects, interactive

discussion postings, emails, peer reviewed assignments and Facebook's WorkPlace, which has multiple functions including personal and group messenger. As technology has advanced, so has the opportunity for more student-to-student engagement in the online learning environment. Students might feel more comfortable with one technology or another but offering multiple options will allow a community to form.

Baxter (2012) found that meaningful peer-to-peer interactions among students helped promote their progression towards graduation. In qualitative comments from study participants, they indicated that they should have engaged with others sooner in their academic careers. This supported Zembylas, Theodorous, and Pavlakis' (2008) qualitative study where one student stated, "It's paradoxical, but I feel that I have managed to create stronger relationships in the context of this online program than I ever did in my face-to-face classes" (p. 113). This directly leads to online learners becoming more involved and invested in the course content. Cassel (2003) has found that in the courses she teaches student-to-student interactions such as threaded discussions, online chat, and email are higher than the traditional face-to-face courses. In general, peer-to-peer engagement needs to be required at a minimum and continuously encouraged throughout an online course or program. The community it forms will lead to students that are more successful and ultimately increase academic quality. A qualitative research synthesis by Blackmon and Major (2012) investigating student experiences in online courses found studies that placed emphasis on students interacting amongst each other (Motteram, 2005; Zembylas et al., 2008) and the positive aspect of these interactions. Blackmon and Major (2012) conclude by mentioning that administrators and faculty need

to create an environment for this engagement to flourish. They also assert that the students themselves have a responsibility to participate in these interactions.

Student engagement with course content is also important in the online classroom. Ellis, Ginns, and Piggott (2009) list learner-content as one of the four main aspects of successful online learning environments with the others being learner-instructor, learner-learner and learner-interface. Past studies indicate that students found interactions with course readings and discussion board assignments to be better in an online course because it gave them more time to analyze the material, reflect on it, and construct a thoughtful response (Petrides, 2002). Even before the advances in technology and learning management systems being more common today, Chizmar and Walbert (1999) found that students' engagement with the course content and subsequent discussion board postings should be carefully thought out with students knowing that the entire class would be viewing the material.

Since this study focused on a graduate business program it should be noted the importance of learner-content interactions of the adult learner for context. In the National Adult Learners Satisfaction-Priorities Report (2013) students ranked having course content that related to their professional and personal lives as highly important. This supports the Cercone (2008) study that found students bring their life experiences into the classroom and implies learner-content engagement goes beyond strictly academic material. To motivate the students and connect their experiences to content, Dail (Faculty Focus, 2012) suggests practical, structured, consistent and frequent assignments that students will find useful and encapsulate their academic material with external experiences. Students engaging with the course material is a key aspect of their success in

the course and is different than a traditional face-to-face classroom in some ways. Key differences in online education is the increased use of videoconferencing technology to host live class sessions, pre-recorded lectures, virtual office hours, online discussion threads, and topic-specific tutorials as part of an online catalog of academic resources. It is imperative that administrators and faculty recognize this as they produce online courses and programs.

Student engagement in courses today is enhanced by the use of technology to promote and require participation and interaction in the online classroom setting among students, faculty and the academic material itself. This technology also allows for synchronous and asynchronous learning to occur regardless of geography and space limitations as obstacles (Kaymak & Horzum, 2013). Higher education institutions have been, and are continuing to adopt course management systems (CMS) as a way to organize material and act as a platform for engaging throughout the course (Wei, Peng & Chou, 2015). As mentioned earlier, Blackboard, Moodle and Canvas are popular CMSs that allow students to collaborate with others on group projects, participate in discussion boards and send messages to other students or faculty members (Sivo, Ku & Acharya, 2018). These systems are relatively easy to use and often offer customer service help features that are supported by the university or the technology company itself.

Utilizing technology in education is not new but combining it with delivering classes that are delivered entirely online is becoming more popular (Wei & Chou, 2014). Technology also lends to the perception that academic content and learning are on demand. Paechter and Maier (2010) found in their study that students prefer fast, online interactions with other students or faculty. The authors felt this is probably the result of

the e-learning structure itself in that it is meant to be quick and convenient to them. Dixson (2010) found that to enhance student engagement, both faculty and students needed to exchange ideas and communication in multiple ways including chats, online lectures, email, CMS messaging systems, and discussion forums. This allows students to absorb content in different ways and encourages them to feel connected to the course, its participants and the academic material. Technology is a useful and important tool in the online learning environment and currently has the capability to make online courses more efficient with a wide variety of engagement opportunities that faculty can utilize.

Course Design

In over two decades of research on student engagement, Pascarella and Terenzini (2005) have consistently found that when faculty and students forge meaningful relationships with faculty and peers in a class, they are better suited to be successful learners. The authors focused their research on traditional face-to-face settings, but the same can be applied to the online classroom. Online courses need a high degree of engagement and faculty and administrators must insure that they are supporting this when online degree program and courses are created (Lee & Choi, 2011; Sun & Rueda, 2012). The engagement thought process must start early so that by the time a student starts an online course, he or she feels challenged and motivated for academic success. Anderson (2004) and Serwatka (2005) agreed that educators should take a learner-centered approach to online course design that focuses on engaging the student continuously throughout, not just in the beginning of course. There are many factors that do need to be addressed in designing a course for online learners; however, research over the past ten years demonstrates two common themes for online course design. The two most

common are faculty communication and responsiveness (Britto & Rush, 2013; Shea et al., 2006) and faculty structuring courses appropriately with learning goals stated clearly (Merrill, 2002).

Yang, Tsai, Kim, Cho, and Laffey (2006) found that the more connected students feel they are with instructors, the more engaged they are in the online course by placing more value on the material and overall online learning experience. Faculty must be present and communicative because students start to feel the quality of the course declines when they are not fully engaged (Armstrong, 2011). The course must be designed in a way that gives every opportunity for the learner to interact with the instructor. This could be timely feedback on performance (Britto & Rush, 2013) or performing administrative tasks such as answering emails within a target timeframe or responding to discussion posts consistently. Durrington, Berryhill, and Swafford (2006) state that,

> Timeliness in responding to students' questions will contribute to a learning environment that is supportive and encourages interactivity. At the beginning of a course, it is beneficial to inform students of an average response time (such as 48 hours) to their questions. Even if an instructor is unable to answer students' questions within the specified time, it is a good idea to let them know that their emails have been received and a complete response is forthcoming. (p.191)

Multiple past studies have confirmed that delays in communication and responses from online course instructors are a perceived weakness and disadvantage for the learner (Hara & Kling, 1999; Petrides, 2002; Vonderwell, 2003). Therefore, it is vital that online courses need to be designed so that instructors are present and proactive throughout the entirety of the course and not just at certain stages (McBrien, Cheng, and Jones, 2009).

The second theme that emerges from research on course design is that educators must design online courses with a set structure to meet the course goals. McBrien et al. (2009) found that students, "responded well to clear, tight, and transparent structures of organization, but some struggled when the virtual classroom features were employed in a less structured way" (p.13). Graduate students in the College of Education at Michigan State University had the opportunity to take a course in online course design alongside six tenured faculty that would lead teams (Koehler, Mishra, Hershey, and Peruski, 2004). The purpose of the course was for the students to learn how to design an online course including the content and technology, and to work with tenured faculty in the course to dissect best practices for both the learner and the instructor of future online courses. Because there was representation on each team from students and faculty, they worked together on structural needs for online course design that can be used as an example for any online course. The first is determining goals and roles for all participants; the second is focusing on the course content; the third is integration and application to a problem. This is supported by Lehman and Conceicao (2013) who state that during the course planning process, instructors need to create clear expectations of students and faculty that include continuous feedback throughout the course to insure students feel engaged. Previous studies have also found that faculty should provide clear guidelines regarding the quantity and quality of student engagement activities such as discussion boards (Kuboni & Martin, 2004; Matusov, Hayes & Pluta, 2005). All of this research indicates that when educators are designing courses for online learners there needs to be a focus on goals and expectations for both instructors and students. This includes feedback and

timely responses from the faculty member as well as academic course content, quantity and quality of student work, and expected participation from the student.

Timely communication or feedback and goal setting within a structured online course are common themes in research regarding course design. The idea of how the course is going to be delivered also must play a role in its creation. Faculty and administrators developing online courses and programs are often debating the utilization of asynchronous versus synchronous academic content transmission. Hrastinski (2008) defines asynchronous online learning as, "commonly facilitated by media such as email and discussion boards, supports work relations among learners and with teachers, even when participants cannot be online at the same time" (p. 51). Hrastinski (2008) goes one to define synchronous online as, "commonly supported by media such as videoconferencing and chat, has the potential to support e-learners in the development of learning communities" (p. 52). The debate is likely to continue as research on both points to a mix of both methods that is situational and within the context of the course (Aken, 2004; Carlsson, 2007; Keys, 2007).

Research so far has focused on asynchronous online learning such as email and discussion boards that dominate this delivery mode (Hrastinski & Keller, 2007; Romiszowski & Mason, 2004). Johnson (2006) mentions that instruction occurring in delayed time allows students to achieve learning outcomes at various times and not simultaneously. Research has pointed to advantages of asynchronous course delivery in deep reflection and complex idea creation by allowing more time for thought (Davidson-Shivers, Muilenburg, & Tanner, 2001) as well as having the time to put more thought into producing quality course deliverables (Cavana, 2009). Robert and Dennis (2005)

theorize that because an immediate response in asynchronous courses is not required, it increases a student's ability to absorb and process information. Other highlights to asynchronous course design include instructors threading topical discussions together (Hewitt, 2005) and the opportunity for all students to participate which might not happen in a synchronous course (Meyer, 2003).

Synchronous learning has not been studied as much as asynchronous but there has been historical research that discusses interactive videoconferencing (Carville & Mitchell, 2000; Knox, 1997). Technology has advanced since then and now synchronous videoconferencing is complete with live chat, all participants equipped with a camera, ability to break into groups for collaborative work, and incorporating media. More recent studies have found common advantages to synchronous course delivery in that students tend to stay focused and accomplish tasks, utilize a consistent and reliable means of communication with instructors and peers, and feel part of a learning community by participating (Chen & You, 2007; Mabrito, 2006; Hrastinski, 2010). A study by Oztok, Zingaro, Brett, and Hewitt (2013) found that by adding a synchronous component (live messaging) to an asynchronous course had a positive effect on student participation. The authors found that students were engaging outside of the asynchronous course content and using private messages that also helped build a sense of community that otherwise would not have been there. In a qualitative study of a course, using blended delivery methods (asynchronous and synchronous) done by Yamagata-Lynch (2014), the author found that the course content and goals must have a rigid structure for organizational purposes. He concluded that the synchronous larger class sessions and smaller group

breakout sessions allowed for community building, spontaneity, and a strong sense of connection.

Persistence and Academic Achievement

Rapid growth in an online courses and programs has outpaced traditional face-to-face higher education for over a decade (Allen & Seaman, 2014, 2015, 2017). Persistence is a key indicator for the quality of online programs and can be a complex phenomenon (Haydarov, Moxley & Anderson, 2013; Park, Perry & Edwards, 2011). Hart (2012, p. 29) defines persistence as "a multi-faceted phenomenon that leads to completion of an online program of study." Leaders and administrators in universities have always tracked persistence rates but with the introduction of online courses, there is a greater focus to exam if these rates are worse. Online courses are believed to have higher attritions rates than face-to-face courses and struggle to retain students (Cochran, Campbell, Baker & Leeds, 2014; Hart, 2012). Multiple studies (Carr, 2000; Chen & Jang, 2010; Rochester & Pradel, 2008) found that persistence in online courses is much lower than traditional, face-to-face courses. The lower retention rate of those students failing to complete an online course ranges from 10% to 80% for learners (Rochester & Pradel, 2008; Cochran et al., 2014; Pittenger & Doering, 2010). If left unchecked, the lack of persistence in online learning environments will become more costly for university administrators, faculty and student services staff (Liu, Gomez, Khan, and Yen, 2007).

Over the past decade, varying strategies have been deployed to assist the online learner (Fetzner, 2013; Roby, Ashe, Singh, & Clark, 2013). Persistence remains an issue in online courses due to external often beyond the control of the most well designed online courses or programs. They include balancing personal and professional

31

obligations as well as time constraints and finances (Haydarov et al., 2013; Park & Choi, 2009; Rovai & Downey, 2010). Past studies have attempted to identify persistence trends and predict traits in students who dropout (Hachey, Wladis, & Conway, 2012; Ice, 2012) but external factors are hard to account for and may or may not affect a particular student. Croxton (2014) believes that higher education institutions that offer online courses need to start focusing on the online learning environment and Allen and Seaman (2015) feel that lower retention rates will hinder future growth in this field. Persistence issues in online courses and programs plaguing universities can be costly in both money and time spent supporting the students.

Student persistence in online courses and academic programs have common traits. Instructor interactivity including moderating the course and offering guidance and orientation to the medium (Budash & Shaw, 2017; Croxton, 2014; Fetzner, 2013). O'Brien and Renner (2002) found that students who did not feel a sense of being connected to the faculty member is a significant variable on completing the course. This is further supported by recent research that points to the role of instructor in the online learning environment as critical to reduce or eliminate attrition (Bonnel & Boehm, 2011; Hart, 2012; Lee & Choi, 2011). The interactions with instructors also include feedback and responsiveness. Online learners expect appropriate and timely responses and maintain this as an attribute to completing a course (Bunn, 2004; Carr, 2000; Frankola, 2001). These timely responses are only part of the instructor's role in the online classroom and that communication needs to be consistent and clear (Bonnel & Boehm, 2011; Casey & Croth, 2013; Hart, 2012; He, 2014). Instructors who teach an online course need to play the role of chief executive officer overseeing content, engagement,

instruction and activities to encourage persistence (Casey & Kroth, 2013; Conceicao & Lehman, 2013).

Technological advances in higher education are evident in traditional face-to-face and online learning environments. It is imperative for students taking online courses to be comfortable with online learning platforms and self-aware of their own computer skills (Van Patten & Chen, 2002). Traditionally, orientation is thought of as time to get acquainted with other students and services provided by a university. In the case on online learning, orientation and training on the technology that will be used in the courses or program is critical because the needs of these students differ than other learners (Heyman, 2010; Stevenson, 2013). In a study conducted by Fetzner (2013), the author found that over 14% of students who did not complete an online course found technical difficulties and not liking the online format to be issues. Therefore, online learners should receive instruction on the use of university systems, the course management systems, and information about the overall curriculum and logistics of how courses will run at orientation (Tyler-Smith, 2006). This orientation to online learning technology can be taken a step further and include pre-assessment activities to gauge a baseline for computer skills (He, 2014; Gaytan, 2013). Although this might not be feasible for a single course, it would be beneficial in an entirely online degree program.

Student engagement in online learning is a key factor in satisfaction and more importantly, academic success (Martin & Bollinger, 2018). Past studies have indicated that learner engagement in online courses leads to a higher level of student success (Meyer, 2014; Banna, Lin, Stewart, & Fialkowski, 2015; Pratt-Phillips, 2011). Online courses are often characterized as being inferior to their face-to-face counterparts. Past

research has indicated that students perform as well or better in online courses compared to face-to-face courses (Russell, 1999; Tucker, 2001). A more recent study by Driscoll et al. (2012) found that online students performed as well as face-to-face learners and further supports past research that found online learners outperforming their counterparts (Allen, Mabry, Mattrey, Bourhis, Titsworth, & Burrell, 2004; Jangh, Krug, & Zhang, 2007; Sitzmann, Kraiger, Steward, & Wisher, 2006). A study conducted at the University of Florida found that 84%-88% of students taking online courses were academically successful which the authors classified as attaining a grade of A, B or C (Moskal, Dziuban, Upchurch, Hartman, & Truman, 2006). These studies have all found that interaction with and among the students is a key component for their success.

Martin and Bollinger (2018) found that there are three areas of interactions needed for online learners to be successful. They are learner-to-learner, learner-to-instructor, and learner-to-content. The authors based their research on a foundational framework from Moore (1989) that stresses all three are critical for meaningful learning. Learner-to-learner engagement is important in online courses to avoid isolation and the possibility to disengage from the content and course altogether. Shea, Fredericksen, Pickett, Pelz, and Swan (2001) found one way to encourage student-to-student interactions was placing a higher percentage of the course grade on these activities. Banna et al. (2015) also found that online tools and designed interactions such as peer assessments, online discussion boards, and group projects were valuable in the online learning environment for a student to be successful. Instructors acting as collaborators who encourage interaction, offer consistent and timely feedback, and generally are present in the online course has been found to result in student academic success (Dixson,

2010; Gayton & McEwan, 2007). Timely feedback from instructors also allows students to improve their performance during the course (King, 2014). Regarding learner-to-content engagement, Miller (2015) found that students' interaction with the course content to have the greatest impact on their achievement. Instructors should put careful thought into academic material and assessments in an online course to allow for student engagement (Martin & Bollinger, 2018). Researching and investing time into instruction materials along with utilizing real-world examples will promote student-content interaction and ultimately success (Abrami, Bernard, Bures, Borokhovski, & Tamim, 2011; Banna, et al., 2015; Britt, Goon, & Timmerman, 2015). These three areas of student engagement drive interactions that lead to academic achievement in the online classroom.

Questions To Be Resolved

Higher education institutions will continue to seek revenue-producing opportunities in online learning by offering more courses and programs online. Allen and Seamen's 2017 report indicated that the number of students taking an online course between fall 2012 and fall 2015 rose from 9.6% to 29.7%. This is an area that university leaders cannot ignore or risk producing an inferior product. To meet the needs of students, administrators and faculty members must create an interactive, engaging online learning environment to be successful. Ally (2008) mentions that for the students to acquire knowledge that is meaningful, there must be engaging activities as part of the course experience.

There are multiple topical areas for future research but the two that seem to be the most beneficial in short and long range strategic planning are the role of technology in

the Community of Inquiry (CoI) theoretical framework and the decision to create asynchronous or synchronous online courses. Garrison et al.'s (2000) foundational theory regarding the Community of Inquire framework for engagement in online courses is comprised of three components. The authors' framework of social, cognitive and teaching presence is represented by overlapping processes and transactions that interact with each other. Garrison et al. (2000) indicated this overlap as the "element of educational experiences" (p. 41). Although there has been extensive research on the CoI framework as a whole and its' application to the online classroom, further research needs to be conducted on each presence within the framework in relation to advances in technology and meeting the demand of online education. Even critics of the CoI framework do not focus on technological innovation in the online learning experience or increasing demand but more on CoI not meeting expectations for meaningful learning and actual social interaction (Nagel & Kotze, 2010; Rourke and Kanuka, 2009; Shea, Hayes, Vickers, Gozza-Cohen, Uzuner, Mehta, Valchova, & Rangan, 2010).

The second topic that I found in my research was the lingering questions regarding synchronous and asynchronous learning methods and which is considered better. Hrastinski (2008) stated that "many organizations and educational institutions are interested in using and developing asynchronous and synchronous e-learning, but have a limited understanding of the benefits and limitations of the two" (p. 51). Past studies do indicate researchers' attempt to understand the effects of utilizing both methods in an online course environment, but there remains opportunities for future studies on how universities make the decision to create and produce asynchronous, synchronous or blended courses. Is it based on market research of student needs? Are there academic

department pedagogical influences? Does the budget influence the delivery and engagement method?

The future of higher education is meeting the long history of knowledge sharing pitting the online learning environment against traditional face-to-face class sessions. Engaging students is not as simple as calling on them in class or soliciting volunteers. The complexity of online learning regarding geography, computer skills, instructional design and social interaction has created the need for resources to be expended on engaging and retaining online learners. University officials who rely on traditional face-to-face classroom techniques transferred to the online classroom are setting their institutions up for failure by their ignorance for an ever-changing educations landscape.

CHAPTER 3

METHODOLOGY

Research Setting and Population

The sample for this quantitative study included graduate students completing the

Online Master of Business Administration (OMBA) degree. The university where the

study took place is a public, urban institution in the northeast section of the United States

that is accredited by the Middle States Commission on Higher Education and the School

of Business is accredited by the Association to Advance Collegiate Schools of Business.

In fall 2017 the population of the University was over 40,000 total students including

over 11,000 graduate students. The School of Business within the university represents

the most students with a total of slightly more than 9,000 students including over 1,900

being graduate students (University factsheet, 2017).

The OMBA program had over 400 students in the program at various stages of

degree progress. The courses within this 48-credit OMBA program are delivered

synchronously with students attending live class sessions via Zoom videoconferencing

technology. Each course is organized and supported by Canvas, a learning management

platform, containing all course information, academic content and discussion boards.

Current research regarding student engagement in online courses focuses either only one

course or a small set of courses, or entirely on asynchronous courses or programs.

Courses in the OMBA program are five weeks in length including four, two hour

synchronous class sessions. All courses are offered on Thursday nights from 8PM to

10PM Eastern Standard Time because the program is designed for working professionals

and marketed to prospective students throughout the United States.

Canvas web sites for each course were accessible one week before the first synchronous Zoom session so students prepared and completed any preliminary assignments. Canvas access then closes one week after the fourth synchronous class session in which time any last deliverables or assessments are completed. Academic advising was required initially when a student entered the OMBA and advisors are available throughout via phone, email, Zoom and in-person appointments. Advisors track each student's progress, enforce university policies, and communicate regularly regarding events and services for the students. A final required advising session is scheduled for those students who are eligible for the OMBA capstone course. Students must pass a comprehensive quantitative assessment with a 70% or higher score and have completed all core courses to register for the capstone course. A graduation requirement beyond the 48 credits for OMBA students is attending six professional development workshops. This is exclusive of one-on-one appointments with career management staff. These workshops are delivered in a variety of formats and topics and engage students outside of the online classroom. In an effort to answer the research questions this study intends to fill a gap in the research by measuring student engagement perception via survey in fall 2019 to OMBA students at a large research university. This quantitative survey was launched to all active OMBA students. Student achievement was attained by survey respondents self-reporting their cumulative GPAs.

One point to keep in mind is that current research in the field focuses on asynchronous courses that provide additional engagement challenges because there are not synchronous class sessions. Synchronous courses typically have an attendance requirement that encourages interaction during a specific time period, even if minimal.

Synchronous courses allow organic interaction to take place between faculty and students during the class sessions by engaging in live discussions and team activities. Specifically, the School of Business' OMBA is a synchronously-delivered, 48 credit program that is delivered entirely online except for a one week residency in the beginning of the program. Student engagement is imperative in a large-scale program such as this that has ramifications on the student experience and ultimately rankings. Cochran, Baker, Benson and Rhea (2016) found that the reasons students take online courses is because they perceived that they learned course material as effectively as in a face-to-face course. The importance of insuring that students engage both in the classroom and with other program-related activities relate to their academic success and mastery of knowledge.

Demographic profiles of students participating in this survey will be constructed based on the respondent's self-reported data that included age, race (choices populated with university labels), gender, military status, cumulative credits earned at the end of the summer 2019 semester, and accompanying cumulative grade point average. The student profile for each participant helped determine if there are correlations between student engagement and academic success as defined by cumulative GPA.

Variables

In an online course or entire academic program such as the OMBA, student engagement is often encouraged without evidence of its effect on academic success. This study was cross-sectional in nature that sought to gauge engagement behavior of students at a specific time according to the cohort they are in defined by cumulative credits they have completed. For this study, the predictor or independent variable was student engagement in the whole program, not just a specific course. The dependent variable in

this case was academic success as indicated by a student's cumulative GPA. The cumulative GPA used in this study was from the previous semester before the survey is launched.

There are other variables in this study that were considered when researching relationships between student engagement and academic success. Age is a key variable because there are students in the OMBA that are in their mid-twenties with limited professional work experience and students that are much older with decades or experience and they might engage much differently with courses. Age of the student is part of the student profile and in the analysis was grouped within a range if appropriate. Gender is another variable and was self-reported by the survey respondents. Students also self-identified as female or male at time of program application. Race is a variable that will be labeled by the University categories (Asian, Black or African American, American Indian or Alaska Native, Native Hawaiian/Other Pacific Islander, or White). Those variables are key demographics but with master's students there are additional predictor variables that were investigated that sought correlations between student engagement and academic success. Other predictor variables for this study included military or veteran status, level of education beyond an undergraduate degree including masters or terminal degrees, and years of professional work experience. Due to OMBA students' diverse professional and personal backgrounds, years of work experience and traditional age of attending college often do not correspond. Therefore, it was imperative in this study to ask number of years of professional work experience for a more complete demographic profile that was analyzed further.

Community of Inquiry Survey

The Community of Inquiry model (CoI) is a theoretical framework that produced three elements of the online educational experience: social, cognitive and teaching presence (Garrison et al., 2000). Social presence is the way in which a student develops relationships with others in the course and becomes part of the course community. Cognitive presence is the ability of students to construct meaning through sustained communication throughout the course. Teaching presence is designing a course that meets both desired outcomes while integrating social and cognitive presences. The CoI framework, derived from foundational research relating to online education, will guide data analyzation in this study seeking to correlate relationships among the dependent and independent variables.

The CoI survey was deployed in the fall 2019 academic term to all OMBA students regardless of cumulative credits earned at that point. The survey was administered by the University's School of Business Qualtrics platform, a survey and analytical tool utilized by the faculty and staff withing the School of Business. The CoI survey is a Likert-type survey with a 1-5 scale breaking down questions into categories for teaching, social, and cognitive presence regarding student engagement, specifically in online courses. Garrison et al. (2000) have given open permission to utilize and customize the survey as long as appropriate citation is made.

Garrison et al. (2000) stated that their CoI survey is an open resource tool that can be adapted and utilized as long as appropriate credit is given under Creative Commons license. Their focus for the survey when it was created was meant to be for one online course. For this study questions were edited to reflect asking about instructors, behaviors

and actions relative to engagement that participants encountered in the OMBA. The CoI survey is divided into three engagement elements: teaching presence, social presence, and cognitive presence. Teaching presence has three subsections: design and orientation (5 questions); facilitation (6 questions); and direct instruction (3 questions). Social presence has two subsections: affective expression (4 questions) and open communication (6 questions). The third element, cognitive presence, has four subsections: triggering events (3 questions); exploration (3 questions); integration (3 questions); and resolution (3 questions).

In any study, quantitative or otherwise, there is always concern about validity and the trustworthiness of data collection. For this study it was important to look at conclusion validity and external validity. Conclusion validity looks at whether there is a relationship between the variables and the outcome. In this study, the independent variables (age, gender, race, military status, years of professional work experience, and level of education beyond bachelor's degree) were all self-reported by the study participants. A student profile for each person in the sample can be built from these data. Because of the diverse range of occupations and academic backgrounds of OMBA students, findings should be able to be generalized to other populations of online graduate students. External validity issues were neutralized because the OMBA sample in this survey covered a large student age range as well as other independent variables and dependent variables such as grade point average, which is fairly universal in graduate education.

Pilot testing for this study was not conducted due to a number of factors. This is a study that was sensitive to time and cost and feasible to conduct within the structure of

the University's School of Business Graduate Division with no additional resources that need to be purchased. During the study there were no adverse events or obstacles that altered or changed the launch of the CoI survey and data collection. The survey itself could have been reviewed and edited to reflect the needs of the researcher at any time before launching it to the sample keeping in mind ethical considerations.

Data Collection

Once the confidential student profiles were built, the survey was loaded into Qualtrics and deployed. Each student who was identified and invited to voluntarily participate was emailed the survey from the Fox School of Business Graduate Division (FSBGD). The FSBGD deployed the survey and owns the data collected. Surveys were confidential but not anonymous because the participant's university email address was pulled the INB Banner by the CRM Manager. The email containing the survey was sent to the student's official University email account to verify it was the actual OMBA student receiving the communication. The questionnaire was designed to gauge an individual student's engagement level in the OMBA program. Hopefully, data collected will lead to enhanced efforts in the future for student engagement in the classroom, increased social and networking interactions, and innovations in student services for OMBA students if needed.

The Qualtrics survey tool provided the confidential response mechanisms to help mitigate potential ethical considerations. Student information was previously de-identified by the CRM Manager. This eliminated the possibility of student identification at the time of data analysis.

Role of the Researcher and Ethical Considerations

At the time of the study, the author was the Associate Director of Graduate Enrollment for Part-Time MBA programs in the School of Business' Graduate Enrollment Division (GED). GED staff is divided by master's programs and I oversee Part-Time MBA recruiting strategy, goals, events, and scholarship awards for both the University's urban campus as well as a cohort-style, suburban location that opened in fall 2018. Although I do not teach online courses, I am an active member of the admissions committee that reviews applicants for the Online MBA program and submits feedback on candidates. For clarity, I do not vote on a prospective student's application for acceptance into the OMBA or have contact with them.

The CRM Manager within FSBGD was responsible for creating and executing the query that identified the OMBA students invited to participate in this study. Participants self-reported the following information: age, gender, race, military status, cumulative credits earned, cumulative GPA, years of professional work experience, and level of education beyond a bachelor's degree. The researcher did not have access to any identifying information of any students that the survey was emailed to. The raw data used by the researcher is therefore anonymous in nature.

CHAPTER 4
RESULTS

This study compared the participant's cumulative grade point average (GPA) in the Online MBA (OMBA) to their levels of student engagement in threes areas: teaching, social and cognitive presence (Garrison et al., 2000). When reviewing the data and the results of the study, it is important to remember that the OMBA courses are delivered synchronously and require students to log in on a specific date and time and participate in the class session just as they would have to in a physical classroom setting. This chapter presents the results of the quantitative survey and analysis research methods that were described in Chapter 3. This chapter is comprised of four sections. The first includes a series of decisions that were made about the data set along with the reasons for these decisions. The second presents the descriptive characteristics of the study participants including demographic information. The third section addresses the results of a reliability analysis conducted and the final section addresses research questions one and two.

Considerations of the Data Set

The population of interest in this study were all students in the Business School's OMBA. The data analyzed in the current study included demographic, academic, and student engagement information collected as part of the survey specifically for this study. The data collected from the OMBA sample were participant submitted/reported data. This limits the ability to verify the authenticity of the data provided.

Characteristics of the Sample: Students

This study's population was all OMBA students that were current students in the academic program. Those excluded from being invited to participate were students on a leave of absence from the OMBA, alumni, and students taking non-matriculated course in the program. This specific program does require students to have at least one year of professional work experience post-bachelor's degree and is open to domestic and international applicants. The students in this program are all working professionals and the overall active enrollment is 414 students.

Characteristics of the Sample: Program

The OMBA program is comprised of courses delivered synchronously from 8:00 p.m. to 10:00 p.m. Eastern Standard Time (EST) on Thursday evenings. The Zoom videoconferencing platform allows for faculty to host virtual office hours and opportunities for students to interact with each other. Students in a time zone different than EST might be at a disadvantage engaging with faculty and staff during the program. The learning management system used by OMBA students is Canvas. On this platform faculty can post course documents, videos, and announcements. Students can utilize Canvas to interact with faculty and other students via discussion boards, chats, and collaborations.

Decisions Made

The following decisions were made after the survey data had been collected:

- The first decision was to exclude students who completed less than 75% of the survey. This resulted in eliminating 24 students who had started the survey but did not progress through far enough to reach 75% completion. There were three

respondents that completed between 75% and 99%. All three answered the demographic questions and the questions located within the teaching and social presence subscales, but not the cognitive subscale. These three account for 2.75% of the data set utilizes in this survey. Therefore, there should be little effect on findings from the data. Peng et al. (2006) found quantitative surveys published from 1998 to 2004 in 11 education and psychology journals found that 48% had missing data and Enders (2003) stated that a 15% to 20% missing data rate was common in education and psychological studies.

- The second decision was to organize results from the survey questions into smaller subgroups.

    o Teaching presence engagement question data were placed into subgroups design and organization, facilitation, and direct instruction.

    o Social presence engagement question data were placed into subgroups effective expression and open communication.

    o Cognitive presence engagement question data were placed into subgroups triggering event, exploration, integration, and resolution.

    The decision to analyze each presence separately is based on the originals creators of the Community of Inquiry (Garison et al., 2000) as well as more recent research replicating a similar approach (Finch & Jefferson, 2013; Rapchak, 2017; Shea, Sau Li, & Pickett, 2006).

- The decision was made to include all OMBA students and not just those that have completed six or more cumulative credits. The rationale for this is that it increased the size of the eligible population of students.

Descriptive Statistics

Tables 4.1, 4.2, and 4.3 include descriptive statistics on the demographic, advanced academic and professional experience, and OMBA academic history characteristics of the participants in this study. The population eligible to participate in this study was 414 OMBA students with 109 completing 75% or more of the survey. As such the effective response rate was 26.3%. Crawford, Couper & Lamias (2001) conducted a web-based study at the University of Michigan with a 24.4% completed survey response rate and found that acceptable. Van Mols' (2017) study of over 15,000 college students resulted in a 24.96% response rate but the completed response rate was not reported which would make that percentage lower. Participants identified as 49.5% female and 50.5% male. Self-reported ethnicities of all participants were 14.7% Asian, 18.3% Black or African American, 64.2% White, and 2.8% Other. Table 4.1 presents the demographic data on the respondents as well as comparison data on the potential population to which the survey was sent.

Table 4.1:

Demographic Characteristics of Study Participants

	N=109		N=414		
Demographic Variable	Frequency	Percentage	Frequency	Percentage	
Gender					
Female	54	49.5	169	40.82	
Male	55	50.5	245	59.18	
Race					
Asian	16	14.7	54	13.04	
Black or African American	20	18.3	49	11.84	
White	70	64.2	234	56.52	
Other	3	2.8	77	18.60	
Age					
23 – 30	22	20.2	109	26.33	
31 - 35	28	25.7	123	29.71	
36 - 40	31	28.4	99	23.91	
41 – 45	17	15.7	46	11.11	
46+	11	9.9	37	8.94	
Military					
Current/Vet	10	9.2	47	11.35	
Neither	99	90.8	367	88.65	

The sample in most cases is representative of the population surveyed. The target

market for the OMBA program is working professionals with progressive responsibility

in their career. The mean age of all OMBA students 35.34 years old and the mean of the

sample was 36.56 and reflects the population almost exactly. There is a noted difference

in gender in regards to the sample versus the population. Males and females almost

equally responded to the survey (50.5% male and 49.5% female) and the population is

comprised of more males (59.18%). As of 2018 women in MBA programs made up

37.8% enrollment (http://www.fortefoundation.org). The OMBA population sampled is

slightly more representative of the overall number of female MBA students. The

descriptive statistics also revealed that regarding race, the sample was representative of

the race except for the category "other." Slightly over 18.6% of the overall population

(N = 414) is categorized as other for race. Only 2.8% of the sample (N = 109) is

categorized as other.

Table 4.2 contains data collected pertaining to a student's previous post-

bachelor's degree education if applicable. Participants were asked if they attained a

master's and/or terminal degree prior to matriculating into the OMBA along with the

number of years of professional work experience they have post-bachelor's.

Table 4.2:

Advanced Academic and Professional Experience Characteristics

N=109

Demographic Variable	Frequency	Percentage
Master's Degree		
Yes	20	18.3
No	89	81.7
Terminal Degree		
Yes	16	14.7
No	93	85.3
Professional Experience		
1.5 – 9	30	27.5
10 – 15.5	42	38.5
16 - 20	24	22.0
21+	13	12

The mean average years of professional work experience is 13.3 years. Of note in the survey results is that those participants with ten to 20 years of work experience make up 66.6% of the responses. The range for professional work experience is 1.5 to 31.0 years which is large.

Table 4.3 represents data collected from participants regarding their cumulative OMBA program GPA and number of cumulative credits at the time of survey completion.

Table 4.3 OMBA Academic History Characteristics

	N=109	
Demographic Variable	Frequency	Percentage
Cumulative GPA		
2.75 – 3.50	17	15.6
3.51 – 3.75	26	23.9
3.76 – 4.00	66	60.5
Cumulative Credits		
3 – 15	32	29.4
16 – 30	29	26.6
31 – 48	48	44.0

The mean for cumulative GPA of survey participants is 3.76 out of a 4.00 scale (population GPA was 3.73) and the mean number of cumulative credits is 27.25. Of note in the survey results is that 84.4% of respondents have a GPA in the OMBA program of 3.50 or higher. This could limit the amount of variation in the survey results. Also, a student must maintain a GPA of 3.00 or higher. There was one participant who self-reported a GPA below that. It could be the case that this student is on academic probation or has just been reinstated to the OMBA.

Reliability

All 9 subscales have a relatively high internal consistency. A reliability coefficient of .70 or higher is acceptable (Cronbach, 1951). The Community of Inquiry teaching presence questions were divided into three groups: design and organization, facilitation, and direct instruction. The internal reliability of each subgroup of questions was investigated using Cronbach's alpha. Results indicated that design and organization ($\alpha = .85$), facilitation ($\alpha = .93$), and direct instruction ($\alpha = .84$) were all internally consistent.

The Community of Inquiry social presence questions were divided into subgroups effective expression and open communication respectively. The internal reliability of each was investigated using Cronbach's alpha. The effective expression subscale consisted of 4 items ($\alpha = .86$) and the open communication subscale consisted of 6 items ($\alpha = .89$) were found to be internally consistent.

The Community of Inquiry cognitive presence questions were divided into the following four subgroups: triggering event, exploration, integration, and resolution. The internal reliability of each was investigated using Cronbach's alpha. The triggering event subscale consisted of 3 items ($\alpha = .85$), the exploration subscale consisted of 3 items ($\alpha = .81$), the integration subscale consisted of 3 items ($\alpha = .85$), and the resolution subscale consisted of 3 items ($\alpha = .91$) were found to be internally consistent.

Table 4.4

Alpha Coefficients

Teaching Presence Scale	N	Cronbach's Alpha	N of items
Design and Organization	106	.850	5
Facilitation	107	.932	6
Direct Instruction	107	.841	3

Social Presence Scale			
Affective Expression	108	.861	4
Open Communication	108	.891	6

Cognitive Presence Scale			
Triggering Event	102	.855	3
Exploration	103	.816	3
Integration	102	.855	3
Resolution	100	.912	3

Research Question 1

Research Question One is as follows: Does student engagement associate academic achievement as defined by cumulative GPA in the OMBA program? Table 4.5 presents Pearson product-moment correlation coefficients that were computed to investigate whether teaching, social, or cognitive presence engagement by the OMBA students is a significant predictor of student achievement as measured by cumulative GPA. This table considered the sample as a whole and other predictor variables were not included such as age or race. This is consistent with the decision to use the various subscales.

Table 4.5:
Correlations between Student Engagement and Cumulative GPA

Predictor Variable	N	Cumulative OMBA Grade Point Average
TP: Design and Organization	106	.028
TP: Facilitation	107	-.013
TP: Direct Instruction	107	-.109
Total Teaching Presence		
SP: Affective Expression	108	.051
SP: Open Communication	108	.090
Total Social Presence		
CP: Triggering Event	102	-.030
CP: Exploration	103	.081
CP: Integration	102	-.072
CP: Resolution	100	-.011
Total Cognitive Presence		

The results of the analysis revealed that there is no relationship between student engagement and cumulative GPA in the OMBA program. The results indicate that there is no statistical significance in any of the three groups (teaching, social, and cognitive presence) or their subgoups.

Research Question 1B

Research question 1B is as follows: What methods have OMBA students used to remain engaged with instructional material and deliverables? To address this question the student engagement question subscales were analyzed. Table 4.6 presents the means and standard deviations from the Community of Inquiry (CoI) survey specifically addressing this question. Since the subscales have different numbers of questions, the total score was divided by the number of questions to produce a per-item mean. As mentioned above, a higher mean equals a higher level of student engagement. The means in Table 4.6 are arranged in descending order.

Table 4.6
Means and Standard Deviations from the CoI Survey

Item	N	Mean	Std. Deviation
TP: Design and Organization	108	4.48	.557
CP: Integration	103	4.21	.788
CP: Exploration	103	4.17	.788
SP: Open Communication	108	4.16	.735
CP: Resolution	100	4.14	.813
CP: Triggering Event	102	4.10	.885
TP: Facilitation	109	4.02	.852
TP: Direct Instruction	109	4.02	.945
SP: Affective Expression	108	3.91	.870

Results indicate that OMBA students value how faculty design and organize their courses and how it related to engaging them (mean = 4.48). 92.7% of respondents either strongly agreed or agreed that instructors provide instruction of how to participate in course learning activities. The following are anonymous reflective responses to the optional open-ended question at the end of the CoI survey.

What have you found to be most successful in engaging with other students, faculty, and course materials? For the purpose of the teaching presence design and organization subscale:

> "Discussion boards have been really great in providing other perspectives as well as providing current relevant information to others students. I like when the professor goes over conversations brought up in the discussion board because it's rare a student will read through them on their own."

"Group activities, breakout sessions and discussion boards."

"Amazed at how useful collaborating though Google docs or using Zoom/WebEx meetings."

"Stay engaged. Participate. Make your ideas known. Ask questions."

The second highest subscale mean (mean = 4.21) was the cognitive presence subscale. In this subscale, 88.2% strongly agree or agree that learning activities help them construct explanations/solutions. The following are anonymous reflective responses to the optional open-ended question at the end of the CoI survey.

What have you found to be most successful in engaging with other students, faculty, and course materials? For the purpose of the cognitive presence integration subscale:

"High engagement in course activities has been extremely helpful in leveraging the professional experience of the student body in relation to academic concepts. This increased knowledge has allowed me to identify best practices or lack thereof in my professional life."

"The breakout groups and group projects help me to engage with other students."

"Course materials in most cases were up-to-date covering material from different perspectives."

One other subscale that had a high mean (mean = 4.16) is social presence open communication. Communication is important in an online graduate program between the students and faculty members. Results indicate that 92.6% of respondents either strongly agree or agree that they feel comfortable interacting with other OMBA students.

What have you found to be most successful in engaging with other students, faculty, and course materials? For the purpose of the social presence integration subscale:

59

"Class breakouts have been the best way to connecting with my fellow students. Being in smaller groups and having a chance to discuss is the most beneficial."

"Group text messages with other members in groups within class as well as other members of the program."

"I've devoted band with to research fellow students and school faculty in my learning environment. I'm part of the Dean's Graduate Advisory Council and I connect more naturally with students and faculty throughout the organization."

The subscale with the lowest mean (mean = 3.91) of all nine was social presence affective expression. Since students are completing the program online, connecting and forming relationships with peers is key. Results indicate that only 22.2% of respondents strongly agree that they were able to connect and form relationships with other students. The percentage only increase to 61.1% strongly agree and agree. *What have you found to be the most successful in engaging with other students, faculty, and course materials?* The response to this question for the purpose of social presence affective expression subscale were mixed:

"I wish I could've had better interactions with classmates but that has been a challenge."

"About engaging other students: Eliminating communication and cross-cultural barriers, encouraging diplomacy and respecting diversity and inclusiveness."

"WebEx/Zoom meetings have made meeting and engaging relatively easy given everyone's time constraints."

"High engagement in course activities has been extremely helpful in leveraging the professional experience of the student body in relation to academic concepts."

Research question 2 is as follows: Do student demographics correlate to academic achievement in an online graduate business program? Table 4.7 presents Pearson product-moment correlation coefficients that were computed to investigate whether certain specific demographics of the OMBA population correlate to student achievement as measured by cumulative GPA.

Table 4.7
Correlations between Demographic Variables and GPA

Predictor Variable	N	Cumulative OMBA Grade Point Average
Age (i.e. 35 years old)	109	-.277**
Years of professional work experience (i.e. 10 years)	109	-.207*
Gender	109	.148
Cumulative credits completed in the OMBA program	109	.126
Previous master's degree attained	109	-.044
Previous terminal degree attained	109	.132

Results indicate that there is a significant negative correlation between the age of the OMBA student (mean = 35.34) and cumulative GPA. The findings suggest that the older the student is, the lower their GPA in the program. This could be attributed to a variety of factors including family commitments or professional work obligations. Years

of professional work experience also had a significant negative correlation to GPA. This also indicates that the older and more experienced a student is, the lower their GPA in the OMBA. Gender, progression in the program as defined by number of cumulative credits completed, and having a attained a master's or terminal degree before entering the OMBA are not significantly correlated with cumulative GPA.

Although some of the sample sizes for the four racial groups as well s military status were too small for an adequate analysis, these variables were analyzed so that all data were included. None of the comparisons were significant.

CHAPTER 5

CONCLUSIONS AND RECOMMENDATIONS

FOR FUTURE RESEARCH

This study was an attempt to correlate levels of student engagement with student achievement as defined by cumulative GPA in an online graduate business program. The Community of Inquiry (CoI) foundational research and accompanying survey (Garrison et al., 2000) was a lens to help gain a better perspective on how OMBA students engaged throughout the program with the instructors (teaching presence), peer students (social presence), and academic material (cognitive presence). In addition to gauging levels of student engagement based on the CoI survey, demographic predictor variables were investigated to help understand if there were significant differences in relation to academic success. Furthermore, the findings of the current study seek to fill a gap in research as most student engagement literature deals with either single online courses or asynchronous online programs while the OMBA programs at the center of this study is synchronous in nature. As more universities expand their online course and program offerings, this information will help shape engagement efforts and identify sub-populations of students that need increased academic support.

This chapter summarizes the main findings of the current study including implications of the findings, limitations of this study, and provides recommendations to guide future research. The following discussion is an attempt to answer the two research questions found in Chapter 1.

The findings in this research have several implications for the future examination of student engagement in online academic programs. As more students take online

courses, and higher education institutions expand online offerings at both the course and program level, it will continue to be a challenge to engage them in all three CoI elements mentioned throughout this research. University administrators must balance academic competencies and learning goals with relevant and substantial engagement with, and among students.

Summary of Findings

The original proposal for this study included sets of research questions (1A – 1E and 2A – 2B) that, after launching the CoI survey to all OMBA students (N = 414), seemed redundant. Therefore, the current study sought to determine a correlation between levels of student engagement and cumulative GPA and as a follow-up to determine if there was a significant relationship between demographic variables and cumulative GPA. The CoI survey is divided into three categories of questions to gauge teaching, social, and cognitive engagement; each with subscales of questions for a total of nine subscales. The current study revealed that there is not a strong correlation between levels of student engagement and academic success in any of the subscales. These findings seem to go against the logic that more student involvement in course(s) would lead to higher grades. The questions in the CoI survey were scored one through five with one being strongly disagree and five being strongly agree. Despite these findings, the lowest subscale mean ($m = 3.82$) was social presence affective expression. This indicated that the OMBA sample is engaged in courses at a relatively high level but that does not correlate to cumulative GPA in the program. The highest subscale mean ($m = 4.48$) was teaching presence design and organization. This study found that students prefer a well-organized course(s) with clear expectations regarding deliverables and important dates.

The current study also intended to determine if specific demographic subgroups correlated to having a higher cumulative GPA. One of the concerns initially was with having a limited age range of OMBA students since the program itself is marketed towards working adults with a minimum of two years of professional work experience. This ended up not being a concern as the range was 23 - 54 years old with the sample mean (m = 36.56) being representative of the population mean (m = 35.34). Age and professional years of work experience were both significantly negatively correlated (r = -.277, -.207 respectively) with GPA. This indicated that younger OMBA students have a higher GPA than those older students who have been out of their undergraduate degrees for a longer period of time and might have more family and professional obligations. The current study also found that gender was not a significant factor in cumulative GPA in the OMBA program. Given the length of the 48-credit program, a purpose of the survey was to investigate if students starting out in the program struggled more academically than those who progresses further through and there was no significant relationship to GPA regarding credit completion.

The current study also intended to determine if already having attained a master's degree or terminal degree correlated with a higher GPA. This is based on the notion that an OMBA student who has already completed graduate level research and deliverables is better prepared for the demands of the OMBA program. Students who have completed a master's degree (r = -.044) or a terminal degree (r = .132) had no significant correlation to their OMBA GPA. This could have implications for the admissions office that previous graduate degree might not predict an OMBA student's academic success in the program.

Table 5.1

Demographic Variable	N=109 Percentage	Mean	N=414 Percentage	Mean	
Gender					
Female	49.5		40.8		
Male	50.5		59.2		
Race					
Asian	14.7		13.0		
Black or African American	18.3		11.8		
White	64.2		56.5		
Other	2.8		18.6		
Age					
		36.6		35.3	
Cumulative GPA					
		3.76		3.73	
Cumulative Credits					
		27.3		27.8	

In most cases, the profile of a respondent is similar to the overall profile of the population of OMBA students that were sent the CoI survey. The findings of the study can therefore be generalized to the overall OMBA population at the University.

Relationship of the Study to the Literature

The results of this study seem to support the Community of Inquiry (Garrison et al., 2000) that three distinct features are present for an optimal design in an online learning environment. In their study of over 28,000 undergraduate students, Boston, Diaz, Gibson, Ice, Richardson, and Swan (2009) found that the means for all 36 CoI survey questions indicated a high level of agreement or satisfaction with the statements. The mean in their study ($m = 4.02$) was lower than this study but still translates to recognizing a high level of engagement. Teaching, social, and cognitive presence are distinct elements per the authors but overlap indicating "educational experience" (p. 88). Although Table (Table 4.5) does not indicate any significant relationship between any subscales and cumulative GPA, the mean ($m = 4.11$) of all subscale data on a one to five scoring system indicates a high level of OMBA student engagement but it does not correlate to GPA in this sample.

The literature suggests that social presence and learning outcomes do interact and group cohesiveness in online courses does affect this (Arbaugh & Huang, 2006; Williams, Duray, & Reddy, 2006). This study indicates there is not a significant correlation between social presence (affective expression and open communication subscales) and cumulative GPA, but at a granular level, students do feel they can openly communicate with peers. Also, a theme emerged in the open-ended question at the end of the CoI survey indicating that group work and collaboration was important to a student's

learning and experience in the OMBA program. Group cohesion is convenient with the Canvas learning management system, as well as increased use of text messaging, various forms of social media, and Facebook's Workplace platform utilized by OMBA students.

For this study, cognitive presence in the context of Garrison et al.'s (2000) original CoI model should be thought of as a way for OMBA students to think, reflect, and act critically. This integration of knowledge into a student's professional or personal life was a subscale of questions within the cognitive presence section of the CoI survey in this study. Although there was not a significant correlation between integrating learned material and academic success, the subscale had the highest mean ($m = 4.21$) out of the four cognitive presence subscales and the second highest out of all nine subscales. The results indicate that survey participants rated integration high and therefore important in the OMBA, just not significant in relation to cumulative GPA.

Shea, Li and Pickett (2006) found that course design and organization is successful if students are fully engaged with collaborative projects, thought provocation, and discussion in regard to CoI's teaching presence element. The sample in this study found elements of course design and organization including instructors clearly communicating course topics and goals, clear instruction for learning activity expectations, and affectively utilizing the learning management system important and scored it accordingly. The teaching presence design and organization subscale had the highest mean ($m = 4.48$) indicating students found this to the most important for engagement in the OMBA, but this did not correlate ($p = .028$) to cumulative GPA. The issue then becomes this: are students engaged with their courses throughout the duration of the academic program and find that teaching, social, and cognitive engagement are

important regardless of GPA? Garrison, Anderson, and Archer (2010) found in their study that all three CoI elements were all interconnected and a later study by Madrell et al. (2017) found that teaching, social, and cognitive presences were all positively correlated to each other. As shown in Chapter 4, while there is not a significant correlation between any of the subscales and cumulative GPA, the sample scored all subscales high indicting that engagement is important in the OMBA program.

Garrison et al.'s (2000) original work stated that, "teaching presence is a means to an end – to support and enhance social and cognitive presence for the purpose of realizing educational outcomes" (p. 90). This study as well as previous literature bring this into question. Rourke and Kanuka (2009) argue that the role of the teacher and therefore teaching presence, must be more defined. Critics point out that quantifying teaching presence is challenging due to variances in course design, shifting technology, and delivery methods. Richardson and Swan (2003) found that students associated learning with assignments which is less about engagement and more transactional. Rourke and Kanuka (2009) found students judging their interactions not necessarily as social, but as a surface transaction of completing assignments and not exchanging ideas or forming relationships. This was later supported by Annand's (2011) research finding social presence to be overrated and more recently by Maddrell et al. (2017) concluding that social presence does not have instructional value in regards to online learning. In a follow-up retrospective review and article, Garrison et al. (2010) clarified that they originally placed too much emphasis on cognitive presence and that teaching, social, and cognitive presences should be interacting with each other regardless of learning outcomes, subject matter, or types of communication. This further critiques their own

theory and seminal work that focused on teaching presence enhancing and supporting social and cognitive presences. For this study, this starts to call into question if the CoI theory and model is the correct way to view engagement in the OMBA program.

The lack of significant correlation between student engagement and achievement in this study can possibly be the CoI survey design and application to this population. As noted earlier in Chapter 2, most literature regarding student engagement in online courses or programs were asynchronous in nature. The CoI survey was originally used by Garrison et al. (2000) in a qualitative study and the answers to the questions were recorded and coded by placing keywords into categories. More studies and further research has shifted this survey to be utilized quantitatively (Arbaugh, 2007; Garrison, 2007; Ho & Swan, 2007). Arbaugh et al. (2008) found that survey items were often not distinct or dissimilar to each other. The authors of that study recommended refining questions and discussed the risk of merging three different constructs (teaching, social, and cognitive presences) into one survey. The construct of the CoI survey in this study of OMBA students might not fully capture the multidimensional aspect of the three presences and level of engagement in each. Rourke and Kanuka (2009) found that phrasing of questions in the CoI survey to be ambiguous and that "these items do not appear to be designed to elicit information about deep and meaningful learning" (p. 35). In this study these issues listed above might have affected the lack of finding correlations between student engagement and academic achievement.

Limitations

This study has several limitations that must be considered. Firstly, the demographic information of the participants was self-reported. This included race,

gender, age, military status, as well as the indication of other post-bachelor's degrees, cumulative GPA, and cumulative credits earned. It could be the case in this study that participants might have misreported their GPA or credits earned. Survey respondents might not have understood cumulative GPA versus current term GPA or cumulative credits completed versus credits completed with grades plus current term registration. This in itself might not affect a participant's engagement level but could have a minor affect on the summary findings.

Secondly, the OMBA is an academic program that is open for applications from all professional and academic backgrounds. The admissions committee generally looks for applicants to have three or more years of professional work experience and above a 3.0 GPA on a 4.0 scale in a bachelor's degree. Students in this program have self-selected to apply for admission and if accepted, join an MBA that is delivered entirely in an online format. They willingly understand that courses are not offered in-person and there is not a physical location where they would be sitting with others learning, discussing, and collaborating. Without having a reference point of student engagement in hybrid or entirely in-person graduate business programs, this can limit how teaching, social, and cognitive engagement is viewed in light of the findings contained in this study.

Another limitation in the study was not addressing the overlapping elements of asynchronous and synchronous online learning. Throughout the study, aspects of each delivery model was mentioned but not how they are shared and how survey repsondents might view them. Both asynchronous and synchronous delivery models interact or angage with online students via email, phone, and discussion boards to name a few. The synchronous courses by nature required at the very minimum that an OMBA student log

into live class sessions for each course therefore forcing a minimum level of student engagement of all three CoI elements. The population for this study has a higher base level of engagement by design and WorkPlace is a platform to organically grow social and professional connections not linked to the classroom.

The final limitation is the range of cumulative GPAs in the OMBA program and therefore possibly affecting student achievement outcomes. Students need above a 3.0 GPA to continue progressing with the exception that if it falls below for one semester and the student raises it above by the end they can remain in the program. Essentially this limits this study to students who have between a 3.0 and 4.0 GPA. In this study 60.6% of the sample had a 3.75 GPA or higher. A sample of students with GPAs lower than 3.0 could have had an impact on the student engagement findings.

Recommendations for Future Research

Recommendations for further research include:

1. *Increased awareness and research regarding synchronous online programs*

    In completing a review of student engagement literature specific to online courses and programs, there is an abundance of studies that include asynchronous courses or programs. The types of engagement are different for each in that synchronous requires logging into and participating in a live class session delivered virtually. The asynchronous course design allows for students to have limited, if any, interaction with others taking the course or faculty members.

2. *Expand research to include students from varying graduate programs.*

Levels of student engagement in online graduate programs should be studied across all disciplines. For example, a master's student completing an online degree in mathematics might be significantly more or less engaged than an OMBA student. A question that could be asked is whether the nature of the degree affects the relationship between engagement and academic achievement. It will be important to understand differences in populations if it does indeed exist.

3. *Longitudinal analysis of existing OMBA students*

This study captured a participant's self-reported levels of engagement at a specific time regardless of how far they have progressed through the OMBA program. Further research should include gauging levels of student engagement using the same CoI survey measure at multiple intervals throughout the program. This would indicate if and by how much engagement levels varied as more courses are completed.

4. *Engaging the student after program completion*

Since the amount of students completing online programs has increased dramatically over the last decade (Allen &Seaman, 2017), it is logical to now understand there are more alumni of universities who do not have a physical (and possibly emotional) connection to campus. Just as important as it is to understand how to engage them during the completion of their academic program, it is just as imperative to keep and grow the connection to online alumni. This area of research will separate away from

academic achievement but might drive event and fundraising programming.

Conclusion

After completing this study, the greater question remains: *Do students in online courses or programs need to be engaged with faculty, peer students, or cognitively to successful academically?* The answer to this question might be that it depends on the student, specific learning style, and the definition of academic success. Online learners can be more or less engaged than those attending in-person courses. This will be specific to each student, their motivations, and intended outcomes they are seeking.

Online learning will continue to grow in popularity as higher education institutions seek to increase revenue, geographic footprint, and brand awareness globally. It will be up to administrators to drive innovation, continuous online program evolution, and review the online student lifecycle from matriculation to alumnus as a way of understanding needs to engage, support, and aid achievement. Challenges will always remain in engaging online students because of ever-evolving technology, meeting their needs remotely, and attempting to establish a connection to the institution, not just the academic program.

REFERENCES

Abrami, P. C., Bernard, R. M., Bures, E. M., Borokhovski, E., & Tamim, R. M. (2011). Interaction in distance education and online learning: Using evidence and theory to improve practice. *Journal of Computing in Higher Education*, *23*(2-3), 82-103.

Aken, J. E. V. (2004). Management research based on the paradigm of the design sciences: the quest for field☐tested and grounded technological rules. *Journal of management studies*, *41*(2), 219-246.

Allen, M., Mabry, E., Mattrey, M., Bourhis, J., Titsworth, S., & Burrell, N. (2004). Evaluating the effectiveness of distance learning: A comparison using meta-analysis. *Journal of communication*, *54*(3), 402-420.

Allen, I. E., & Seaman, J. (2014). Grade change. *Tracking Online Education in the United States. Babson Survey Research Group and Quahog Research Group, LLC*.

Allen, I. E., & Seaman, J. (2015). Grade Level: Tracking Online Education in the United States. *Babson Survey Research Group*.

Allen, I. E., & Seaman, J. (2017). Digital learning compass: Distance education enrollment report 2017. *Online Learning Consortium, May*.

Ally, M. (2008). Foundations of educational theory for online learning. In *The Theory and Practice of Online Learning* (2nd ed., pp. 15-44).

Anderson, T. (2004). Towards a theory of online learning. *Theory and practice of online learning*, *2*, 109-119.

Annand, D. (2011). Social presence within the community of inquiry framework. *The International Review of Research in Open and Distributed Learning*, *12*(5), 40-56.

Arbaugh, J. B., Bangert, A., & Cleveland-Innes, M. (2010). Subject matter effects and the community of inquiry (CoI) framework: An exploratory study. *The Internet and Higher Education*, *13*(1-2), 37-44.

Arbaugh, J. B., & Hwang, A. (2006). Does "teaching presence" exist in online MBA courses?. *The Internet and Higher Education*, *9*(1), 9-21.

Arkorful, V., & Abaidoo, N. (2015). The role of e-learning, advantages and disadvantages of its adoption in higher education. *International Journal of Instructional Technology and Distance Learning*, *12*(1), 29-42.

Armstrong, D. A. (2011). Students' perceptions of online learning and instructional tools: A qualitative study of undergraduate students use of online tools. *TOJET: The Turkish Online Journal of Educational Technology*, *10*(3).

Aslanian, C. B., & Clinefelter, D. L. (2012). *Online college students 2012: Comprehensive data on demands and preferences*. Learning House, Incorporated.

Aslanian, C. B. and Clinefelter, D. L. 2013. "Comprehensive data on demands and preferences". In *Online college students*, Louisville, KY: The Learning House, Inc. 2013

Atchley, T. W., Wingenbach, G., & Akers, C. (2013). Comparison of course completion and student performance through online and traditional courses. *The International Review of Research in Open and Distributed Learning*, *14*(4).

Bart, M. (2012). Online student engagement tools and strategies. *Retrieved March*, *29*, 2018.

Baxter, J. A. (2012). Who am I and what keeps me going? Profiling the distance learning student in higher education. *The International Review of Research in Open and Distributed Learning*, *13*(4), 107-129.

Banna, J., Lin, M. F. G., Stewart, M., & Fialkowski, M. K. (2015). Interaction matters: Strategies to promote engaged learning in an online introductory nutrition course. *Journal of online learning and teaching/MERLOT*, *11*(2), 249.

Bigatel, P., & Williams, V. (2015). Measuring student engagement in an online program. *Online Journal of Distance Learning Administration*, *18*(2).

Blackmon, S. J., & Major, C. (2012). Student experiences in online courses: A qualitative research synthesis. *Quarterly Review of Distance Education*, *13*(2), 77.

Bonnel, W., & Boehm, H. (2011). Improving feedback to students online: Teaching tips from experienced faculty. *The Journal of Continuing Education in Nursing*, *42*(11), 503-509.

Bowen, W. G. (2012). The 'cost disease' in higher education: is technology the answer?. *The Tanner Lectures Stanford University*.

Bowen, W.G. (2013). Higher Education in the Digital Age.

Bradford, G., & Wyatt, S. (2010). Online learning and student satisfaction: Academic standing, ethnicity and their influence on facilitated learning, engagement, and information fluency. *The Internet and Higher Education*, *13*(3), 108-114.

Britt, M., Goon, D., & Timmerman, M. (2015). How to better engage online students with online strategies. *College Student Journal*, *49*(3), 399-404.

Britto, M., & Rush, S. (2013). Developing and implementing comprehensive student

    support services for online students. *Journal of Asynchronous Learning*

    Networks, *17*(1), 29-42.

Budash, D., & Shaw, M. (2017). Persistence in an Online Master's Degree Program:

    Perceptions of Students and Faculty. *Online Journal of Distance Learning*

    Administration, *20*(3), n3.

Bunn, J. (2004). Student persistence in a LIS distance education program. *Australian*

    Academic & Research Libraries, *35*(3), 253-269.

Cardon, P. W., & Marshall, B. (2015). The hype and reality of social media use for work

    collaboration and team communication. *International Journal of Business*

    Communication, *52*(3), 273-293.

Carlsson, S. A. (2007). Developing knowledge through IS design science

    research. *Scandinavian Journal of Information Systems*, *19*(2), 2.

Carr, S. (2000). As distance education comes of age, the challenge is keeping the

    students. *Chronicle of higher education*, *46*(23).

Carville, S., & Mitchell, D. R. (2000). 'It's a bit like Star Trek': The effectiveness of video

    conferencing. *Innovations in education and training international*, *37*(1), 42-49.

Cassel, E. (2003). Teaching and learning law online. *Modern Practice*.

Casey, R. L., & Kroth, M. (2013). Learning to develop presence online: Experienced

    faculty perspectives. *Journal of Adult Education*, *42*(2), 104.

Cavana, M. L. P. (2009). Closing the circle: From Dewey to web 2.0. In *Information*

    technology and constructivism in higher education: Progressive learning

    frameworks (pp. 1-13). IGI Global.

Cercone, K. (2008). Characteristics of adult learners with implications for online learning

    design. *AACE journal*, *16*(2), 137-159.

Chen, K. C., & Jang, S. J. (2010). Motivation in online learning: Testing a model of self-

    determination theory. *Computers in Human Behavior*, *26*(4), 741-752.

Chen, W., & You, M. (2007, July). The differences between the influences of

    synchronous and asynchronous modes on collaborative learning project of

    industrial design. In *International Conference on Online Communities and Social

    Computing* (pp. 275-283). Springer, Berlin, Heidelberg.

Chizmar, J. F., & Walbert, M. S. (1999). Web-based learning environments guided by

    principles of good teaching practice. *The Journal of Economic Education*, *30*(3),

    248-259.

Coates, H. (2006). *Student engagement in campus-based and online education:

    University connections*. Routledge.

Cochran, J. D., Campbell, S. M., Baker, H. M., & Leeds, E. M. (2014). The role of

    student characteristics in predicting retention in online courses. *Research in Higher

    Education*, *55*(1), 27-48.

Cochran-Smith, M., & Lytle, S. L. (1999). Chapter 8: Relationships of knowledge and

    practice: Teacher learning in communities. *Review of research in education*, *24*(1),

    249-305.

Conceicao, S., & Lehman, R. (2013, June). Persistence model for online student

    retention. In *EdMedia: World Conference on Educational Media and

    Technology* (pp. 1913-1922). Association for the Advancement of Computing in

    Education (AACE).

Cronbach, L. J. (1951). Coefficient alpha and the internal structure of tests. *Psychometrika*, 16, 297–334.

Croxton, R. A. (2014). The role of interactivity in student satisfaction and persistence in online learning. *Journal of Online Learning and Teaching*, *10*(2), 314.

Dail, T.K. (2012). *Online student engagement tools and strategies.* Retrieved from Faculty Focus Website: https://www.facultyfocus.com/wp-content/uploads/2012/01/FF-Online-Student-Engagement-Report.pdf

Davidson-Shivers, G. V., Muilenburg, L. Y., & Tanner, E. J. (2001). How do students participate in synchronous and asynchronous online discussions?. *Journal of Educational Computing Research*, *25*(4), 351-366.

Deming, D. J., Goldin, C., Katz, L. F., & Yuchtman, N. (2015). Can online learning bend the higher education cost curve?. *American Economic Review*, *105*(5), 496-501.

Dennen, V. P., Aubteen Darabi, A., & Smith, L. J. (2007). Instructor–learner interaction in online courses: The relative perceived importance of particular instructor actions on performance and satisfaction. *Distance education*, *28*(1), 65-79.

DiStefano, A., Rudestam, K. E., & Silverman, R. (Eds.). (2003). *Encyclopedia of distributed learning*. Sage Publications.

Dixson, M. D. (2010). Creating effective student engagement in online courses: What do students find engaging?. *Journal of the Scholarship of Teaching and Learning*, 1-13.

Dixson, M. D. (2012). Creating effective student engagement in online courses: What do students find engaging?. *Journal of the Scholarship of Teaching and Learning*, *10*(2), 1-13.

Dixson, M. D. (2015). Measuring Student Engagement in the Online Course: The Online Student Engagement Scale (OSE). *Online Learning*, *19*(4), n4.

Driscoll, A., Jicha, K., Hunt, A. N., Tichavsky, L., & Thompson, G. (2012). Can online courses deliver in-class results? A comparison of student performance and satisfaction in an online versus a face-to-face introductory sociology course. *Teaching Sociology*, *40*(4), 312-331.

Durrington, V. A., Berryhill, A., & Swafford, J. (2006). Strategies for enhancing student interactivity in an online environment. *College teaching*, *54*(1), 190-193.

Ellis, R. A., Ginns, P., & Piggott, L. (2009). E□learning in higher education: some key aspects and their relationship to approaches to study. *Higher Education Research & Development*, *28*(3), 303-318.

Enders, C. K. (2003). Using the expectation maximization algorithm to estimate coefficient alpha for scales with item-level missing data. *Psychological methods*, *8*(3), 322.

Farris, P. W., Haskins, M. E., & Yemen, G. (2003). Executive education programs go back to school. *Journal of Management Development*, *22*(9), 784-795.

Fetzner, M. (2013). What Do Unsuccessful Online Students Want Us to Know?. *Journal of Asynchronous Learning Networks*, *17*(1), 13-27.

Frankola, K. (2001). Why online learners drop out. *http://www. workforce. com/feature/00/07/29*.

Garrett, K. N., & Benson, A. D. (2016, June). Evaluation of Instructional Design Capabilities of Asynchronous and Synchronous Instruction. In *ANNUAL* (p. 69).

Garrison, R. (2000). Theoretical challenges for distance education in the 21st century: A shift from structural to transactional issues. *The International Review of Research in Open and Distributed Learning*, *1*(1).

Garrison, D. R., Anderson, T., & Archer, W. (2000). Critical inquiry in a text-based environment: Computer conferencing in higher education. *The internet and higher education*, *2*(2-3), 87-105.

Garrison, D. R., Anderson, T., & Archer, W. (2010). The first decade of the community of inquiry framework: A retrospective. *The internet and higher education*, *13*(1-2), 5-9.

Garrison, D. R., & Arbaugh, J. B. (2007). Researching the community of inquiry framework: Review, issues, and future directions. *The Internet and Higher Education*, *10*(3), 157-172.

Gaytan, J. (2013). Factors affecting student retention in online courses: Overcoming this critical problem. *Career and Technical Education Research*, *38*(2), 145-155.

Gaytan, J., & McEwen, B. C. (2007). Effective online instructional and assessment strategies. *The American Journal of Distance Education*, *21*(3), 117-132.

Gonyea, R. M. (2005). Self☐reported data in institutional research: Review and recommendations. *New directions for institutional research*, *2005*(127), 73-89.

Green, L. S., & Denton, B. (2012). Examination of factors impacting student satisfaction with a new learning management system. *Turkish Online Journal of Distance Education*, *13*(3).

Hachey, A. C., Wladis, C. W., & Conway, K. M. (2012). Is the Second Time the Charm? Investigating Trends in Online Re-Enrollment, Retention and Success. *Journal of Educators Online*, *9*(1), n1.

Hara, N. & Kling, R. (1999). Student's frustration with a web~ based distance education course: A taboo topic in the discourse.

Harper, S. R., & Quaye, S. J. (2009). Beyond sameness, with engagement and outcomes for all. *Student engagement in higher education*, 1-15.

Hart, C. (2012). Factors associated with student persistence in an online program of study: A review of the literature. *Journal of Interactive Online Learning*, *11*(1).

Haydarov, R., Moxley, V., & Anderson, D. (2013). Counting chickens before they are hatched: An examination of student retention, graduation, attrition, and dropout measurement validity in an online master's environment. *Journal of College Student Retention: Research, Theory & Practice*, *14*(4), 429-449.

He, Y. (2014). Universal design for learning in an online teacher education course: Enhancing learners' confidence to teach online. *Journal of Online Learning and Teaching*, *10*(2), 283.

Hewitt, J. (2005). Toward an understanding of how threads die in asynchronous computer conferences. *The journal of the learning sciences*, *14*(4), 567-589.

Heyman, E. (2010). Overcoming student retention issues in higher education online programs. *Online Journal of Distance Learning Administration*, *13*(4), n4.

Holzweiss, P. C., Joyner, S. A., Fuller, M. B., Henderson, S., & Young, R. (2014). Online graduate students' perceptions of best learning experiences. *Distance Education*, *35*(3), 311-323.

Hrastinski, S. (2008). The potential of synchronous communication to enhance participation in online discussions: A case study of two e-learning courses. *Information & Management*, *45*(7), 499-506.

Hrastinski, S. (2008). Asynchronous and synchronous e-learning. *Educause quarterly*, *31*(4), 51-55.

Hrastinski, S., & Keller, C. (2007). Computer mediated Communication in Education: A review of recent research. *Educational Media International*, *44*(1), 61-77.

Hrastinski, S. (2010). How do e-learners participate in synchronous online discussions? Evolutionary and social psychological perspectives. In *Evolutionary psychology and information systems research* (pp. 119-147). Springer, Boston, MA.

83

Ice, P. (2012, July). Assessing student retention and progression: a multi-modal approach. In *The International Scientific Conference eLearning and Software for Education*(Vol. 2, p. 170). " Carol I" National Defence University.

Jahng, N., Krug, D., & Zhang, Z. (2007). Student achievement in online distance education compared to face-to-face education. *European Journal of Open, Distance and E-Learning*, *10*(1).

Johnson, G. M. (2006). Synchronous and asynchronous text-based CMC in educational contexts: A review of recent research. *TechTrends*, *50*(4), 46.

Kaymak, Z. D., & Horzum, M. B. (2013). Relationship between online learning readiness and structure and interaction of online learning students. *Educational Sciences: Theory and Practice*, *13*(3), 1792-1797.

Keys, P. (2007). Knowledge work, design science and problem structuring methodologies. *Systems Research and Behavioral Science*, *24*(5), 523-535.

King, S. B. (2014). Graduate student perceptions of the use of online course tools to support engagement. *International Journal for the Scholarship of Teaching and Learning*, *8*(1), 5.

Koehler, M. J., Mishra, P., Hershey, K., & Peruski, L. (2004). With a little help from your students: A new model for faculty development and online course design. *Journal of Technology and Teacher Education*, *12*(1), 25.

Knox, D. M. (1997). A review of the use of video￼conferencing for actuarial education—a three￼year case study. *Distance education*, *18*(2), 225-235.

Kuboni, O., & Martin, A. (2004). An assessment of support strategies used to facilitate distance students' participation in a web￼based learning environment in the University of the West Indies. *Distance Education*, *25*(1), 7-29.

Kuh, G. D. (2003). What we're learning about student engagement from NSSE: Benchmarks for effective educational practices. *Change: The Magazine of Higher Learning*, *35*(2), 24-32.

Lee, Y., & Choi, J. (2011). A review of online course dropout research: Implications for practice and future research. *Educational Technology Research and Development*, *59*(5), 593-618.

Lehman, R. M., & Conceição, S. C. (2013). *Motivating and retaining online students: Research-based strategies that work.* John Wiley & Sons.

Liaw, S. S., Huang, H. M., & Chen, G. D. (2007). Surveying instructor and learner attitudes toward e-learning. *Computers & Education*, *49*(4), 1066-1080.

Li, C. S., & Irby, B. (2008). An overview of online education: Attractiveness, benefits, challenges, concerns and recommendations. *College Student Journal*, *42*(2).

Liu, S., Gomez, J., Khan, B., & Yen, C. J. (2007). Toward a learner-oriented community college online course dropout framework. *International Journal on ELearning*, *6*(4), 519.

Liu, X., Magjuka, R. J., Bonk, C. J., & Lee, S. H. (2007). Does sense of community matter? An examination of participants' perceptions of building learning communities in online courses. *Quarterly Review of Distance Education*, *8*(1), 9.

Liu, X., & Wang, Y. (2009). Thoughts on Improving the Quality of Teaching in Modern Distance Education [J]. *Open Education Research*, *4*, 007.

Levitz, R. N. (2006). National student satisfaction and priorities report.

Mabrito, M. (2006). A study of synchronous versus asynchronous collaboration in an

    online business writing class. *The American Journal of Distance Education*, *20*(2),

    93-107.

Maddrell, J. A., Morrison, G. R., & Watson, G. S. (2017). Presence and learning in a

    community of inquiry. *Distance Education*, *38*(2), 245-258.

Mallette, B. I., & Cabrera, A. F. (1991). Determinants of withdrawal behavior: An

    exploratory study. *Research in Higher Education*, *32*(2), 179-194.

Martin, F., & Bolliger, D. U. (2018). Engagement Matters: Student Perceptions on the

    Importance of Engagement Strategies in the Online Learning Environment. *Online

    Learning*, *22*(1).

Matusov, E., Hayes, R., & Pluta, M. J. (2005). Using discussion webs to develop an

    academic community of learners. *Journal of Educational Technology &

    Society*, *8*(2).

McBrien, J. L., Cheng, R., & Jones, P. (2009). Virtual spaces: Employing a synchronous

    online classroom to facilitate student engagement in online learning. *The

    International Review of Research in Open and Distributed Learning*, *10*(3).

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.

Merrill, M. D. (2002). First principles of instruction. *Educational technology research

    and development*, *50*(3), 43-59.

Meyer, K. A. (2003). Face-to-face versus threaded discussions: The role of time and

    higher-order thinking. *Journal of Asynchronous Learning Networks*, *7*(3), 55-65.

Meyer, K. A. (2014). Student engagement in online learning: What works and

    why. *ASHE Higher Education Report*, *40*(6), 1-114.

Mgutshini, T. (2013). Online or not? A comparison of students' experiences of an online

    and an on-campus class. *Curationis*, *36*(1), 1-7.

Miller, G. (2015). Associations between Learner Interaction and Achievement in an

    Online Course: A Longitudinal Study 1. *NACTA Journal*, *59*(3), 197.

Moore, M. G. (1989). Three types of interaction.

Moskal, P., Dziuban, C., Upchurch, R., Hartman, J., & Truman, B. (2006). Assessing

    online learning: What one university learned about student success, persistence, and

    satisfaction. *Peer Review*, *8*(4), 26.

Motteram, G., & Forrester, G. (2005). Becoming an online distance learner: What can be

    learned from students' experiences of induction to distance programmes?. *Distance*

    education, *26*(3), 281-298.

Nagel, L., & Kotzé, T. G. (2010). Supersizing e-learning: What a CoI survey reveals

    about teaching presence in a large online class. *The Internet and Higher*

    Education, *13*(1-2), 45-51.

Noel-Levitz (Firm) Council for Adult and Experiential Learning (US)(CAEL). (2013).

    National adult learners satisfaction-priorities report.

Nora, A. (1987). Determinants of retention among Chicano college students: A structural

    model. *Research in higher education*, *26*(1), 31-59.

Oblinger, D. G., & Hawkins, B. L. (2005). IT Myths The Myth about E-
Learning. *Educause review*, *40*(4), 14.

O'Brien, B. S., & Renner, A. L. (2002). Online Student Retention: Can It Be Done?.

Ortagus, J. C. (2017). From the periphery to prominence: An examination of the
changing profile of online students in American higher education. *The Internet
and Higher Education*, *32*, 47-57.

Oztok, M., Zingaro, D., Brett, C., & Hewitt, J. (2013). Exploring asynchronous and
synchronous tool use in online courses. *Computers & Education*, *60*(1), 87-94.

Park, J. H., & Choi, H. J. (2009). Factors influencing adult learners' decision to drop out
or persist in online learning. *Journal of Educational Technology & Society*, *12*(4).

Park, C. L., Perry, B., & Edwards, M. (2011). Minimising attrition: Strategies for
assisting students who are at risk of withdrawal. *Innovations in Education and
Teaching International*, *48*(1), 37-47.

Pascarella, E. T., & Terenzini, P. T. (1980). Predicting freshman persistence and
voluntary dropout decisions from a theoretical model. *The journal of higher
education*, *51*(1), 60-75.

Pascarella, E. T., & Terenzini, P. T. (2005). How college affects students: A third decade
of research (Vol. 2).

Paechter, M., Maier, B., & Macher, D. (2010). Students' expectations of, and experiences
in e-learning: Their relation to learning achievements and course
satisfaction. *Computers & education*, *54*(1), 222-229.

Peng, C.Y.J., Harwell, M., Liou, S.M., & Ehman, L.H. (2006). Advances in in missing
data methods and implications for educational research. In: Sawilowsky SS,
editor. Real data analysis. Charlotte, North Carolina: Information Age Pub; 2006.
pp. 31-78.

Petrides, L. A. (2002). Web-based technologies for distributed (or distance) learning:

    Creating learning-centered educational experiences in the higher education

    classroom. *International journal of instructional media*, *29*(1), 69.

Pittenger, A., & Doering, A. (2010). Influence of motivational design on completion rates

    in online self☐study pharmacy☐content courses. *Distance Education*, *31*(3), 275-

    293.

Pratt-Phillips, S. (2011). Comparison between online activity and performance in a

    distance education equine science course. *NACTA Journal*, *55*(1), 21-25.

Reiser, R. A. (2001). A history of instructional design and technology: Part I: A history

    of instructional media. *Educational technology research and development*, *49*(1),

    53.

Richardson, J., & Swan, K. (2003). Examing social presence in online courses in relation

    to students' perceived learning and satisfaction.

Robert, L. P., & Dennis, A. R. (2005). Paradox of richness: A cognitive model of media

    choice. *IEEE transactions on professional communication*, *48*(1), 10-21.

Roby, T., Ashe, S., Singh, N., & Clark, C. (2013). Shaping the online experience: How

    administrators can influence student and instructor perceptions through policy and

    practice. *The Internet and Higher Education*, *17*, 29-37.

Rochester, C. D., & Pradel, F. (2008). Students' perceptions and satisfaction with a web-

    based human nutrition course. *American Journal of Pharmaceutical

    Education*, *72*(4), 91.

Romiszowski, A., & Mason, R. (2004). Computer-mediated communication. In D. H.
Jonassen (Ed.), *Handbook of research for educational communications and
technology* (pp. 397-431). Mahwah, NJ: Lawrence Erlbaum Associates.

Rossi, D. (2009). Relationships with peers enable 1st year students to negotiate and
surmount social and educational challenges within online learning
communities. *Studies in Learning, Evaluation, Innovation and Development*, *6*(1),
98-111.

Rourke, L., Anderson, T., Garrison, D. R., & Archer, W. (2001). Methodological issues
in the content analysis of computer conference transcripts. *International journal of
artificial intelligence in education (IJAIED)*, *12*, 8-22.

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

Rovai, A. P. (2002). Sense of community, perceived cognitive learning, and persistence
in asynchronous learning networks. *The Internet and Higher Education*, *5*(4), 319-
332.

Rovai, A. P., & Downey, J. R. (2010). Why some distance education programs fail while
others succeed in a global environment. *The Internet and Higher Education*, *13*(3),
141-147.

Russell, T. (1999). The" No Significant Difference Phenomenon. *Educational
Technology & Society*, *2*(3), 142-143.

Sener, J. (2012). *The seven futures of American education: Improving learning and
teaching in a screen-captured world*(pp. 165-166). North Charleston, SC:
CreateSpace.

Sener, J. (2015). Updated e-learning definitions. *Online Learning Consortium*.

Serwatka, J. A. (2005). Improving retention in distance learning classes. *International Journal of Instructional Technology and Distance Learning*, *2*(1), 59-64.

Shea, P., & Bidjerano, T. (2009). Cognitive presence and online learner engagement: A cluster analysis of the community of inquiry framework. *Journal of Computing in Higher Education*, *21*(3), 199.

Shea, P., Fredericksen, E., Pickett, A., Pelz, W., & Swan, K. (2001). Measures of learning effectiveness in the SUNY Learning Network. *Online education*, *2*, 31-54.

Shea, P., Hayes, S., Vickers, J., Gozza-Cohen, M., Uzuner, S., Mehta, R., & Rangan, P. (2010). A re-examination of the community of inquiry framework: Social network and content analysis. *The Internet and Higher Education*, *13*(1-2), 10-21.

Shea, P., Li, C. S., & Pickett, A. (2006). A study of teaching presence and student sense of learning community in fully online and web-enhanced college courses. *The Internet and Higher Education*, *9*(3), 175-190.

Short, J., Williams, E., & Christie, B. (1976). The social psychology of telecommunications.

Sitzmann, T., Kraiger, K., Stewart, D., & Wisher, R. (2006). The comparative effectiveness of web□based and classroom instruction: A meta□analysis. *Personnel psychology*, *59*(3), 623-664.

Sivo, S., Ku, C., & Acharya, P. (2018). Understanding how university student perceptions of resources affect technology acceptance in online learning courses. *Australasian Journal of Educational Technology*, *34*(4), 72-91.

Stevenson, T. (2013). Online student persistence: What matters is outside the classroom. *Journal of Applied Learning Technology*, *3*(1).

Sun, J. C. Y., & Rueda, R. (2012). Situational interest, computer self☐efficacy and

    self☐regulation: Their impact on student engagement in distance education. *British*

    Journal of Educational Technology, *43*(2), 191-204.

Supiano, B. (2012). College enrollment dropped last year, preliminary data show. *The*

    Chronicle of Higher Education.

Temple University. (2017). *Temple University Factbook.* Retrieved from

    http://www.temple.edu/ira/documents/data-analysis/Fact-

    Book/TU_Fact_Book_2017-2018.pdf

Terenzini, P. T., & Pascarella, E. T. (1977). Voluntary freshman attrition and patterns of

    social and academic integration in a university: A test of a conceptual

    model. *Research in Higher Education*, *6*(1), 25-43.

Tik, C. C. (2016). Community of Inquiry for Graduate Certificate in Higher

    Education. *Psychology Research*, *6*(1), 24-31.

Tinto, V. (2004). Student Retention and Graduation: Facing the Truth, Living with the

    Consequences. Occasional Paper 1. *Pell Institute for the Study of Opportunity in*

    Higher Education.

Tucker, S. (2001). Distance Education: Better, Worse, or As Good As Traditional

    Education?.*Online journal of distance learning administration*, *4*(4), n4.

Tyler-Smith, K. (2006). Early attrition among first time eLearners: A review of factors

    that contribute to drop-out, withdrawal and non-completion rates of adult learners

    undertaking eLearning programmes. *Journal of Online learning and Teaching*, *2*(2),

    73-85.

U.S. Department aof Education, National Center for Education Statistics. (2018). *Digest of Educational Statistics, 2016.* (NCES 2017-094). Retrieved from National Center for Educational Statistics web site: https://nces.ed.gov/programs/digest/d16/tables/dt16_311.15.asp?current=yes

Van Mol, C. (2017). Improving web survey efficiency: the impact of an extra reminder and reminder content on web survey response. *International Journal of Social Research Methodology*, *20*(4), 317-327.

Van Patten, J. J., & Chen, G. (2002). The Internet Culture, Student Learning and Student Retention.

Vignare, K., Geith, C., and Schiffman, S. (2006). Business Models for Online Learning: An Exploratory Study. *Journal of Asynchronous Learning Networks*, *10*(2), 53-67.

Vonderwell, S. (2003). An examination of asynchronous communication experiences and perspectives of students in an online course: A case study. *The Internet and higher education*, *6*(1), 77-90.

Williams, E. A., Duray, R., & Reddy, V. (2006). Teamwork orientation, group cohesiveness, and student learning: A study of the use of teams in online distance education. *Journal of Management Education*, *30*(4), 592-616.

Wei, H. C., & Chou, C. (2014, April). The relationships among college students' online learning perception, readiness, course satisfaction, and their learning performance. Paper presented at the 2014 American Educational Research Association (AERA) Annual Meeting, Philadelphia, PA.

Wei, H. C., Peng, H., & Chou, C. (2015). Can more interactivity improve learning achievement in an online course? Effects of college students' perception and actual use of a course-management system on their learning achievement. *Computers & Education*, *83*, 10-21.

Yamagata-Lynch, L. C. (2014). Blending online asynchronous and synchronous learning. *The International Review of Research in Open and Distributed Learning*, *15*(2).

Yang, C. C., Tsai, I. C., Kim, B., Cho, M. H., & Laffey, J. M. (2006). Exploring the relationships between students' academic motivation and social ability in online learning environments. *The Internet and Higher Education*, *9*(4), 277-286.

Zembylas, M., Theodorou, M., & Pavlakis, A. (2008). The role of emotions in the experience of online learning: Challenges and opportunities. *Educational Media International*, *45*(2), 107-117.

APPENDIX A. COMMUNITY OF INQUIRY SURVEY

<u>5 point Likert-type scale</u>

1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, 5 = strongly agree

Teaching Presence

Design & Organization

1. The instructors clearly communicate important course topics.

2. The instructors clearly communicate important course goals.

3. The instructors provide clear instructions on how to participate in course learning activities.

4. The instructors clearly communicate important due dates/time frames for learning activities.

5. The instructors utilize the learning management system (Canvas) effectively.

Facilitation

6. The instructors are helpful in identifying areas of agreement and disagreement on course topics that help me to learn.

7. The instructors are helpful in guiding the class towards understanding course topics in a way that helps me clarify my thinking.

8. The instructors help keep course participants engaged and participating in productive dialogue.

9. The instructors help keep the course participants on task in a way that helps me learn.

10. The instructors encourage course participants to explore new concepts in their course.

11. Instructors actions reinforce the development of a sense of community among course participants.

Direct Instruction

12. The instructors help focus discussion on relevant issues in a way that helps me learn.

13. The instructors provide feedback that help me understand my strengths and weaknesses relative to a course's goals and objectives.

14. The instructors provide feedback in a timely fashion.

Social Presence

Affective expression

15. Getting to know other OMBA students gives me a sense of belonging in the program.

16. I was able to form distinct impressions of some peer students.

17. Online or web-based communication is an excellent medium for social interaction.

18. I was able to connect and form professional relationships with other students.

Open communication

19. I feel comfortable conversing through the online medium.

20. I feel comfortable participating in course discussions.

21. I feel comfortable interacting with OMBA students.

22. In my courses, I feel comfortable disagreeing with other students while still maintaining a sense of trust.

23. In my courses, I feel that my point of view is acknowledged by other course participants.

24. Online discussions help me develop a sense of collaboration.

Cognitive Presence

Triggering event

25. Problems/cases posed increase my interest in course issues and topical areas.

26. Throughout the OMBA program, course activities pique my curiosity.

27. I feel motivated to explore content related questions in more depth.

Exploration

28. I utilize a variety of information sources to explore problems posed in my courses.

29. Brainstorming and finding relevant information helps me resolve content related questions.

30. Online discussions are valuable in helping me appreciate different perspectives.

Integration

31. Combining new information helps me answer questions raised in course activities.

32. Learning activities helps me construct explanations/solutions.

33. Reflection on course content and discussions help me understand fundamental concepts in this class.

Resolution

34. I can describe ways to apply the knowledge I developed in the OMBA program.

35. I develop(ed) solutions to course problems that can be applied in practice.

36. I can apply the knowledge created throughout the OMBA to my work or other non-class related activities.