

ENGAGING COMMUNITY COLLEGE STUDENTS IN
ONLINE COURSES

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Title of Study: ENGAGING COMMUNITY COLLEGE STUDENTS IN ONLINE COURSES

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Abstract: The percentage of students enrolled in online courses is higher for community college students than it is for students attending four-year colleges and universities (National Center for Educational Statistics, 2017a). The trend is concerning as community college students who as a whole, are at risk for success are enrolling in courses that have low completion rates.

The Kuh et al., (2007) Framework for What Matters to Student Success postulates that student engagement is a crucial factor in success. Engagement occurs when students spend time and effort on academic pursuits (Kuh et al. 2007). High-Impact Practices are those that institutions commit to which are proven to engage students and improve student outcomes (Kuh, 2008). The purpose of this study was to investigate whether the final grade in an online course is higher when the institution implements a program to engage online students.

Participants in this study were divided into three experimental groups. One group received personalized emails from an experienced online faculty member with suggestions of study strategies and reminders of college services available to help students succeed. This group of participants was invited to contact the faculty member if they had any questions about online courses or the college. A second group received the same notes from the Online Learning Department, but the emails were generic, and the participants were advised to call the college help desk if they had any questions. The third group of students served as the control group. The final grades were analyzed to determine if there were differences between the groups as well as if a participant's age or prior GPA influenced the reaction to the increased engagement. The findings did not show any significant relationships. However, a pattern emerged for students who were new to college. Participants who received generic support earned higher grades than those who received no additional support, and the participants who received personalized support achieved at an even higher level. Further study on students new to college might provide strategies to supports students new to college who enroll in online courses, increasing their chances of success.

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CHAPTER I

INTRODUCTION

“Classes that Fit Your Schedule” (Oklahoma City Community College, n.d.). “Anytime, Anyplace” (Alfred P Sloan Foundation, n.d.). “Study from wherever you are and wherever you go” (Colorado State University, n.d.). These advertising slogans are examples of phrases higher education institutions use to entice students to take classes online. Online courses make it possible for colleges to market beyond their geographic boundaries and for students to go to college even when they cannot find time in their schedules to take a class in the classroom.

Over the past two decades taking an online course has gone from being rare to being part of the mainstream. In fact, it is unusual today for higher education institutions not to use online resources (Legon & Garrett, 2017). This electronic form of learning presents what Christianson and Horn (2013) call a “disruptive innovation” (para.1). Disruptive innovations are those that transform the way an industry operates (Christianson & Horn, 2013). In the case of higher education allowing students to attend college without having to be in a physical classroom at a particular time or place changes some of the fundamental ways colleges traditionally operate. Enrollment trends support that students find online classes appealing. At a time when the overall growth in higher education is flat or decreasing, online course enrollment is growing (Allen & Seaman, 2106). With approximately one-third of all students taking college courses online,

Legon and Garrett (2017) conclude “Online learning’s place in the mainstream of higher education is assured, but many questions remain about its long-term scope and direction” (p.6). As online instructional delivery options increase, so too may the constructs of student success. Identifying how institutions can support and engage online students is timely and valuable as they determine how to allocate scarce resources.

Background for the Study

An educated population is essential to the prosperity of the United States and provides a means for upward mobility for the student (Bailey, Jaggars & Jenkins, 2015; Buchanan, 2012). Having, or not having, an educated population has implications for the “nation’s economy, quality of life, and America’s place in the world” (Kuh et al., 2015 p.2). There is not much dispute that, on average, people who earn a college degree have a higher earning potential than those who do not. The earnings gap between college graduates and those without a degree reached an all-time high in 2013, with college graduates earning almost 100% more, on average, per hour than those without a degree (Leonhardt, 2014). Other benefits associated with having a college degree are better health, longer life expectancy, an increased likelihood to vote, and a greater likelihood of engagement in civic activities (Brock, 2010).

Community colleges play a significant role in providing access to higher education. Low costs, open admission policies and the convenient location of these schools help make college an option for many who would not otherwise be able to attend. The lower costs allow low-income students to pay for their entire associate’s degree using Pell Grants and still have money left over to contribute to other expenses such as books, transportation, and housing (Wyner, 2014). When low-income students attend

four-year residential colleges, they have to find an alternative funding source or take student loans to cover the costs. Completing the first two years of a four-year degree at no, or low, cost is an appealing option that has led to a climate where approximately half of the undergraduates and the majority of the freshman and sophomores in the United States enroll at a community college (Bailey, et al., 2015; Wyner, 2014).

Community colleges are open-access institutions serving nearly everyone who wants to go to college. Potential students do not need to compete for admission; all who meet the minimum requirements can enroll. The open-access nature leads to a student body that has more diverse characteristics than those who attend more selective four-year colleges and universities. Students who enroll at the community college are more likely than their counterparts at four-year institutions to be employed, with almost a third working full-time while taking classes (Community College Research Center, n.d.; Juskiewicz, 2014). Community college students are more likely to attend college part-time, less likely to be dependents of their parents and more likely to have children (Juskiewicz, 2014; Ma & Baum, 2016). These students are less likely to be traditional-aged, age 24 or below, and more likely delay college after graduating from high school (Juskiewicz, 2014). As a whole, community college students are less academically prepared and have a greater likelihood of testing into development level courses (Bailey, et al., 2015; Wyner, 2014). The option to enroll in college without having to move, change employment, meet stringent admission requirements, and, in many cases, meet dependent care obligations makes going to school possible to many who would not otherwise be able to attend (AACC, n.d.-a; Bailey et al., 2015; Bailey & Morest, 2006).

Community colleges are succeeding in getting more people to enroll in college (Wyner, 2014). However, while these schools are meeting their core mission of access, it is apparent that these students are not succeeding at the same rate as students in more selective colleges and universities (Carnevale & Strohl, 2013). At two-year degree-granting institutions, less than a third of first time, full-time undergraduate students who intended to seek a certificate or associate's degree in the fall of 2012 attained it within 150% of the normal time required for these programs (National Center for Educational Statistics, 2017b). The rate of degree completion for community college students is well below the degree completion rate of bachelor seeking students, where twice as many students complete a degree within the 150 percent period (National Center for Educational Statistics, 2017b).

Open-access institutions face unique challenges with student success rates as their students' characteristics make them more at-risk to succeed (Ma & Baum, 2016). Over the last two decades, community colleges have taken the lead in making college even more accessible by offering online courses (National Center for Educational Statistics, 2017a). As success in these courses is critical to meeting the national goal of having an educated population as well as essential to the individual student, examining how well online courses are serving students and how to optimize supports is worthwhile.

Problem Statement

Online courses present a means of increasing access to higher education by offering students' flexible and convenient courses that do not require attendance at a particular time and place. Between 2012 and 2014, the overall rate of enrollment in higher education fell by two percent while distance education enrollment increased by

seven percent. During this same period, the number of students who opted to take all of their courses at a distance increased by nine percent (Poulin & Straut, 2016).

While online courses seem to be helping students access higher education, the course completion rates are lower than other types of instructional delivery by as much as 10 to 15% (Allen & Seaman, 2015; Jaggars, Edgecombe, & Stacey, 2013a; Johnson & Mejia, 2014). Community college students who present with more at-risk characteristics than undergraduate students who attend four-year colleges and universities are finding the online delivery appealing. In the fall of 2013, enrollment rates in online courses were higher for community college students than for those enrolled at four-year schools (National Center for Educational Statistics, 2017a). Those with a stake in student success might find it concerning that the community college students, who are at-risk regarding successful course completion, are choosing online instruction where completion rates are lower than other delivery types. Particularly concerning is the performance gap for subgroups of at-risk students who elect to take classes online compared to those who take courses in a traditional format. Students who enter online courses with risk factors achieve worse than they perform in face-to-face course (Jaggars, Edgecombe, & Stacey, 2013b).

Potentially, there are many ways to increase success in online courses. Conventional measures include addressing the student preparation that occurs before the student begins the course. Examples of these efforts are orientations to online courses, readiness assessments, and student advisement (Fetzner, 2013; Jaggars et al., 2013a; Wladis, Conway & Hachey, 2017; Wladis, Wladis & Hachey, 2014). Another means of improving success is to focus on the student experience in the course through efforts to

improve course design (Bonk & Khoo, 2014). A third approach is to provide support to online students who do not come on campus. This might include online tutoring, technical support, early warning systems and intrusive advisement (Jaggars, et al., 2013a; Wolff, Wood-Kustanowitz, & Ashkenazi, 2014).

In the Framework for *What Matters to Student Success*, Kuh et al. (2007) suggest that engagement is the foundation for success. Engagement is the time and effort a student puts into his or her academic activities. The institution's commitment to create a climate that promotes student engagement influences the likelihood of student engagement (Kuh et al., 2007). The campus environment, teaching and learning experiences and academic supports are factors that promote engagement and, thereby, lead to a greater chance of success. The nature of online courses with no face-to-face meetings presents unique challenges for engaging students.

Purpose of the Study

The purpose of this study is to investigate whether the final grade in an online course is higher when a student has an opportunity for increased engagement. Engagement in this study comes from adding opportunities for interaction with an experienced online faculty member and the promotion of study strategies and college services.

Guiding Frameworks for the Study

This study is grounded in Kuh et al.'s (2007) Framework for *What Matters to Student Success*, Kuh's (2008) work on High-Impact Practices (HIPs) and the Center for Community College Student Engagement (2014) work on HIPs in the community college. According to Kuh, et al.'s (2007) Framework, the student's pre-college

experiences influence the likelihood of success but engagement, while the student is in school can make-up for being under-prepared and help increase the chances of a successful outcome. As mentioned in the problem statement, engagement is the time and effort the student invests in his or her academic activities, and the institutional conditions can create the conditions that increase the likelihood that students will engage (Kuh et al., 2007).

Following his work on *What Matters to Student Success*, Kuh (2008) went on to coin the phrase High-Impact Practices (HIPs), which represent a means for institutions to create the conditions that promote engagement. In his work on HIPs, Kuh (2008) describes research supported practices that elevate engagement and outcomes such as persistence. HIPs require schools to make a commitment of time and money as well as professional development to implement such practices. Examples of HIPs include first-year seminars and experiences, common intellectual experiences, learning communities, writing-intensive courses, internships, collaborative assignments and projects, undergraduate research, service learning, and capstone courses and projects (Kuh, 2008). Each of these practices requires widespread commitment and collaboration within the institution as well as time and effort from the student.

Students who engage in a HIP are more likely to have a deep learning experience that promotes engagement. Deep learning emphasizes both acquiring information and understanding the underlying meaning of the information (Kuh et al., 2007). Kuh (personal communication, November 25, 2015) explains the features of HIPs by describing what students do when participating in high-impact activities as; striving to reach expectations set at appropriately high levels, investing considerable time and effort

over an extended period of time, interacting with faculty and peers about substantive matters, experiencing diversity, getting frequent feedback, reflecting and integrating learning, discovering the relevance of learning through real-world applications and demonstrating competence publically.

The Center for Community College Student Engagement (CCCSE) conducted a multiyear study on the effectiveness of HIPs for community college students. The rationale for the study is described this way; “It is time for colleges to step up from small-scale, discrete practices to rethinking how they use their resources—and to making high-impact practices inescapable for all students. It is time to redesign the college experience” (CCCSE, 2014, p. 3). The design principles include: ensuring students get an effective start, integrating student support with coursework, setting high expectations and providing strong support, intensifying student engagement, designing for scale, and incorporating professional development into new initiatives (CCCSE, 2012). The HIPs in the study were: mandatory academic goal setting and planning, required orientation, accelerated or fast-track developmental education, participation in first-year experience programs, student success courses, learning communities, experiential learning beyond the classroom, tutoring, supplemental instruction, assessment and placement, registration before classes begin, attendance policies, and alert and intervention technologies (CCCSE, 2014).

The work of the CCCSE (2014) is congruent with Kuh’s (2008) seminal work as the emphasis is on research-based practices that show an improvement in student success. However, some of the practices the CCCSE (2014) describe as HIPs differ from Kuh’s (2008) HIPs as they do not require an investment of time and effort from the student and

are not as likely to result in deep learning experiences or resulting in the benefits. For example, the CCCSE model includes a mandatory attendance policy that entices students to attend class, which facilitates engagement, but by itself, the policy does not require time and effort from the student beyond what they should normally do. Registration before classes begin, alert systems, and mandatory advising are other CCCSE HIPs that do not fully align with Kuh's (2008) framework; these practices help students plan and orient. An alerts system allows for intervention, perhaps while there is time to rectify the problem, but these practices do not directly lead to the deep learning experiences that Kuh (2008) describes. Both Kuh (2008) and the CCCSE (2014) describe participation in multiple HIPs as being more beneficial than participation in a single HIP, and that evidence from the literature suggests building HIPs intentionally into every student's educational experience is a means of increasing student success (CCCSE, 2014), Kuh (2008).

Research Questions

This study proposes an initiative that examines the effects of increasing engagement by providing both personalized support to online students and generic support above what students typically receive. The overarching question that will inform this research study is:

Do academic supports embedded into an online program leader to higher course grades? The null hypotheses was the test of significance for this study.

H₀: There will be no significant relationship between the final grade in an online course and the level of support the student receives.

In addition to determining if the level of support made a difference to the participant's final grade the study sought to determine if subgroups of students were more responsive to the interventions. Sub-hypothesis that address the moderating variables were as follows:

H₀: The age of the student will not moderate the effect of the type of support the student receives.

H₀: The student's prior GPA will not moderate the effect of the type of support the student receives.

The support provided to participants in this study occurs within the context of the online environment, was designed to give the student a strong start, and encouraged progress toward completion of the course. This study aligns most closely with the CCCSE description of a HIP as the emphasis is a departmental approach toward adding support for the online students with the opportunity for a mentoring relationship. As is true for many of the CCCSE HIPs, the time commitment from the student is not likely to be high.

As HIPs are supposed to be especially beneficial for students who are underprepared or at risk (CCCSE, 2014; Kuh, 2008) sub-groups were examined to determine if G.P.A or age moderate the effect of the intervention. Students who are underprepared often have low G.P.A.s. The analysis will determine if students with high or low GPAs respond differently to the intervention. Age may also moderate the effects of the intervention. Kuh et al., (2007) describe non-traditional students as more likely to take a break. This implies that traditional-aged students might be more apt to be successful. The online learning literature contradicts this assumption, showing that older

students outperform younger students in online courses (Jaggars et al., 2013b, Johnson & Mejia, 2014; Vella, Turesky, & Hebert, 2016).

Methodology

In this quantitative experimental study, participants were assigned to one of three groups. One group received success tips from a faculty member with online teaching experience. The tips were sent from the faculty member throughout the semester. The faculty member invited the participant to contact him or her if s/he needed any advice about being successful in an online course. The second group of participants received the same success tips from the Online Learning Department. These participants did not have an individual point of contact, and the notes advised the participants to call the college help desk if they needed assistance. The third group of participants served as the control group and did not have any support beyond the supports the College typically provides.

Operational Definitions

- The dependent variable in this study was the grade the participant earned in the online course.
- The independent variable for the main research question was the type of support the online student received.

Delimitations and Limitations

1. Courses selected for this study spanned the full length of the 16-week semester.
2. The faculty sending success tips in this study are full-time faculty members with experience teaching online.

3. The intervention relies on faculty following the protocol. Monitoring the notes faculty members send is not a part of the protocol and thus there is not a definitive means of ensuring the success tips were sent and were personalized.
4. Success in this study is equated with the grade the participant earns in the online course.
5. Successful completion rates and achievement in online courses at County Community College have been lower for online students than for other types of instructional delivery.
6. The courses selected for this study fulfill general education requirements for an Associate degree. The courses are likely to be taken early in the academic career
7. The participant's experience with online courses cannot be verified as transcripts do not include the instructional type.
8. The intervention is limited in scope, including only participants in 16-week sections of three courses, and only in sections where the instructor gave permission to include students in the study.

Significance of the Study

Despite Kuh et al.'s (2007) call for increasing engagement, faculty do not typically choose to redesign their existing online courses to include what Kuh et al. (2007) call deep-learning experiences. In an environment where administrators place many demands on instructors' time outside of the classroom, faculty must be strategic about how they manage their time and may not have the time to go beyond the essentials in online courses. This study explores the value of increasing engagement by providing success tips to online students with an opportunity to form a mentoring relationship with

a faculty member who is not the student's instructor. As coordinating faculty to send success tips and then mentor students who seek such a relationship takes time, the study also examined an alternative approach involving success tips emailed to students by an administrative staff member. As institutions make decisions about how to invest time and resources the findings from this study have the potential to produce information which will be useful in determining a means for supporting online students.

Summary and Direction of the Study

This experimental study seeks to determine if increasing student engagement by providing additional supports to students in an online course increases the likelihood that the student will be successful. The type and the strength of the relationship will be measured by hierarchical multiple regression analysis. Chapter Two of this report provides an examination of the literature and research studies about student success in online courses as well as a further description of the Kuh et al., (2007) framework for *What Matters to Student Success* and how institutions create conditions that cultivate a culture of success. Chapter Three provides an in-depth discussion of the methodology for this study. A summary of the findings will be reported in Chapter Four. In Chapter Five, main conclusions are summarized followed by a detailed discussion and recommendation for future research.

CHAPTER II

REVIEW OF LITERATURE

While college enrollment rates have increased over the last 40 years, “student success in college – as measured by persistence and degree attainment has not improved at all” (Brock, 2010, p.109). As described in Chapter One, attaining a college degree is significant to both the United States’ place in the world and the individual’s quality of life (Duncan, 2015). Individuals with college degrees are likely to make more money, have better health, be politically aware, vote, and volunteer in the community (Baum, Ma, & Payea, 2013).

Community colleges have proven to be a vital link to increasing access to higher education. The recognition of the need for a skilled and educated workforce is not new. In the early 20th century only 25% of high school graduates sought additional education (American Association of Community Colleges [AACC], n.d.-c). To address the need for a more educated citizenry, communities began constructing schools close to home. In 1901 Joliet Junior College, the first community college, opened its doors in Illinois. By 1921 there were enough community colleges that the American Association of Junior Colleges, now called the American Association of Community Colleges, formed to promote and support these schools. (AACC, n.d.-b). Comprehensive

community colleges met the needs of the community during the early 20th century and continue to do so now by providing low cost access to higher education close to home (Bailey et al., 2015). These schools seem to be helping with access as they are the fastest growing segment of higher education in the United States. Today, nearly half of all undergraduates in the United States enroll at a community college (Bailey et al., 2015; Boggs, 2010; Carnevale, 2013).

Since having an educated populous makes the nation stronger, our government makes federal money available to help those in need finance an education. Unfortunately, as described in Chapter One, students who attend community colleges have a greater likelihood of leaving school without completing a degree as they are disposed to being less academically prepared and have more demands on their time than students attending four-year colleges and universities. As education is so important, policymakers must both create policies that make higher education accessible, and ensure that the public funds dispersed are a good use of taxpayer money by allowing individual students to advance. Thus the education level of the nation increases.

As more people attend school, the amount of federal spending for higher education grows. The number of federal grants dispersed between the years 2005 and 2015 grew by 110% and the distribution of federal student loans rose by 39% (College Board, 2015). There is concern about both the increased amount of money individual students are borrowing and a rise in the default rate for the repayment of student loans (Baker & Doyle, 2017). In 2013, the default rate on student loans was at an all-time high of nearly 15% (Federal Student Aid, 2015). As students who have financial need are eligible for grants, it is not surprising that community college students are more reliant on

Pell grants than are students at four-year schools (Juszkiewicz, 2014). While most community college students do not have to take out loans because their Pell grants cover the costs, the numbers of students borrowing is increasing (Baker & Doyle, 2017). Community college students who take out loans are more likely to default on them than students who take out loans to attend 4-year colleges and universities (Baker & Doyle, 2017; Juszkiewicz, 2014). In 2010, the default rate for community college students who took out loans was higher than average at 20.9% (Juszkiewicz, 2014).

Borrowing money to attend school and then not obtaining the desired degree can put a student dropout in a worse socio-economic position than s/he was before starting school. The individual student may be in a position of having to pay back Pell Grants and or carrying debt through student loans. In a report on student debt, Kolodner and Butrymowicz (2017) refer to dropouts without a degree as being in “purgatory” (para5). “These former students have few prospects for well-paying jobs, yet the loans they racked up mean that making a decent wage is even more imperative” (Kolodner and Butrymowicz, 2017 para 5). Borrowers who drop out are twice as likely to be unemployed and ten times as likely to default (Gladieux & Perma, 2005). The negative consequences of a dropout who defaults on debt results in not only a drain of taxpayer money but has a profound effect on the individual. For these reasons, measures to make education accessible and to entice degree completion are of high concern (Duncan, 2015).

Recognizing the low success rates, coupled with a desire to meet the vision of having a more educated populous, community college, professional organizations including the American Association of Community Colleges, banded together to sign the College Completion Agenda. The Completion Agenda is a pledge to ensure policies,

practices, and institutional cultures that will increase graduation rates by the year 2020 (McPhail, C.J., 2011). The completion initiatives are designed not only to attract students to enroll in college, but also to provide supports to help students succeed. One of the core beliefs embedded in the Completion Agenda is that community colleges should be an open door, but not a revolving door (McPhail, 2011). The revolving door refers to the number of students who enter and exit a community college without meeting their goals. Some students repeatedly exit and then return only to exit again without achieving a degree.

The call for more graduates and numerous initiatives to improve success such as the College Completion Agenda has led to a shift in the overall higher education landscape from one where there was little question about the value of college to an increased emphasis on outcomes (Bailey et al., 2015 Kuh et al., 2015). To meet the expectations in this new educational paradigm, leaders of colleges are called upon not only to offer quality courses but to provide supports that meet the needs of the students.

Online courses may be a part of the key to having a more educated population but only if students are successful in the courses. In a study about performance gaps between online and face-to-face courses, Xu and Jaggars (2014) describe the role of online courses.

Online learning has the potential to be a democratizing force in higher education; however, to meet this potential, it must not only improve access to college courses among traditionally-underserved students, but it must also support the academic success of these students (p 634).

This literature review will examine how well students are performing in online courses through a student success framework. It will then review the notion of high-impact practices and how these practices relate to student success in online courses.

Search Process

The initial strategy for this literature review included a review of studies related to enrollment trends, persistence and outcomes in online courses. There is an abundance of studies about how students are achieving in online courses. However, making judgments about how well students are achieving in online courses is challenging.

Graham (2015) describes a challenge that researchers of online instruction face:

A challenge with research in an emerging area such as online and blended learning is that the conversations are not taking place in one central location; they are distributed across many disciplines and scholarly communities.....The distributed nature of the online and blended learning literature presents a challenge to researchers because it requires becoming familiar with research outside of their specialized domains, (chapter 3 section 1, para. 3).

The challenge discussed by Graham was evident when reviewing the literature for this report. The studies regarding online learning come from a variety of disciplines, and the outcome measures vary, making it challenging to draw conclusions.

After reviewing the literature about online courses, the search shifted to reviewing student success literature. A review of Kuh et al.'s (2007) framework of *What Matters to Student Success* was the lens for analyzing the literature about online courses. This review of literature presents a description of the Kuh et al. (2007) description of pre-

college experiences, the college experience, and then the post college experiences with the related studies that focus on community college students and online courses. The final section of the review present the Kuh (2008). *Framework for High-Impact Practices*, where practices for creating the conditions for engagement that ultimately lead to student success are discussed. Ultimately, the high-impact practices lead to the development of the research question for this study.

Enrollment in Online Courses

Online courses show promise as a means of furthering access to higher education. The increasing enrollment rates in online courses reflect the growing acceptance of this type of instruction. Students are increasingly selecting to take courses online rather than in the classroom. Allen and Seaman (2015) report that the rate of enrollment in online courses since 2004 is 20 to 30 times higher than the overall rate of enrollment in higher education courses. One-third of higher education students report taking at least one course online (Legon & Garrett, 2017). Lokken (2015) attributes nearly all growth at community colleges to eLearning or online enrollment. More than a quarter of community college students enroll in at least one online course each semester, and half take at least one fully online course during their academic careers (Bailey et al., 2015).

The popularity of online courses comes from the flexibility and convenience of not being bound by time or place (Christiansen & Horn, 2013; Jaggars, 2014, Salter, 2012). As community college students are more likely to work and have family responsibilities, providing flexibility in course offerings appears to be a good option to allow these students to take classes. Students report online courses are a good way to take care of general education requirements and to balance school with other responsibilities

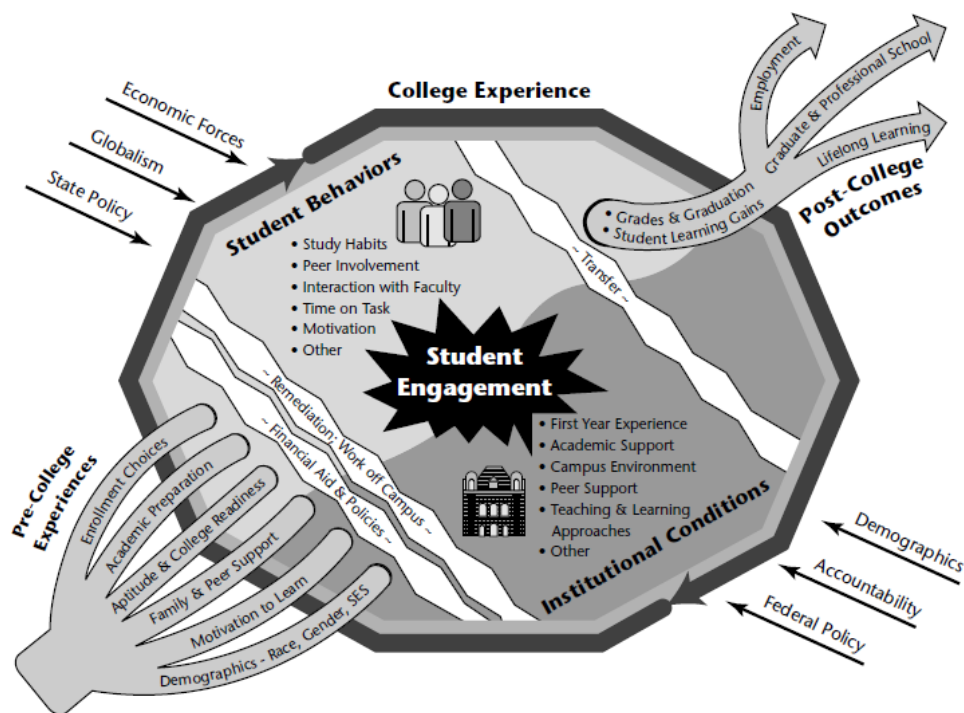
(Bailey et al., 2015; Jaggars, 2014). The enrollment rates support the perception that these courses are popular with students. As student success is a concern for community college students, it seems worthwhile to examine how well students are achieving and what supports are needed to serve this population.

What Matters to Student Success

Since the increased emphasis on outcomes in education, student success is a concern that is taking center-stage in higher education, particularly at the community college, where graduation rates are low. Course completion, persistence from one semester to the next, and or degree attainment are common measures of student success. (Kuh et al., 2007). However, student success is broader than these conventional measures. Kuh et al. (2007) made a list of the goals of community college students. Fifty-seven percent of community college students intend to earn an associate degree 48% intend to transfer to a 4-year school, 41% percent seek to obtain or upgrade job-related skills, 40% take courses for self- improvement and personal enjoyment, 30% are hoping to change careers, and 29% percent intend to complete a certificate program. Each of these goals lays the foundation for a means of measuring student success. In the Kuh et al. (2007) Framework the definition of student success is broadened beyond persistence and described as any of the following; academic achievement, engagement in educationally purposeful activities, satisfaction, acquisition of desired knowledge, skills and competencies, persistence, attainment of educational objectives, and post-college performance. In other words, Kuh, et al. (2007) see success as multidimensional rather than linear.

In the conception of the *What Matters to Student Success* framework Kuh et al. (2007) approach student success by addressing the pre-college experiences, as well the college experience, that lead to the post-college outcomes. The post-college outcomes are the results of the student’s pre-college experiences and college experience and are the measures of student success. The *What Matters to Student Success* Framework will serve as a guide of the discussion of student success in online courses.

Figure 2.1. Framework for *What Matters to Student Success*.



From “Piecing together the student success puzzle: Research, propositions, and recommendations,” by G. Kuh, J. Kinzie, J. Buckley, J. Bridges, & J. Hayek, (2007), *ASHE Higher Education Report*, Volume 32, Number 5.

The next section of this review will examine online courses by presenting and applying Kuh et al.’s (2007) framework to the literature. An understanding of how online courses support success as well as an identification of elements inherent in the delivery

that present barriers toward success help identify where improvements might increase successful completion rates.

Pre-College Experiences and Online Courses

The Kuh et al. (2007) framework for *What Matters to Student Success* recognizes that pre-college experiences are a part of the student success framework by noting that, “Who students are and what they do before starting their postsecondary education make a difference in their chances for obtaining a baccalaureate degree or another postsecondary credential” (p. 21). Pre-college experience includes enrollment choices, academic preparation, aptitude and college readiness, family and peer support, motivation to learn, and demographics such as race, gender, and socio-economic status (SES). The characteristics with which students enter college influence chances of student success.

In general, community college students are more likely to have negative pre-college experiences that diminish the likelihood of success than students who attend four-year colleges and universities. These factors include low SES, having to go to school part-time, working full-time, being a first-generation college student, not attending college immediately after high school, requiring remedial work and being a single parent responsible for caring for dependents. (AACCC, n.d.-a.; Bailey et al., 2015; Community College Research Center, n.d.; Jaggars, et al., 2013b; Waiwaiole & Arnsparger, 2015). Any of these factors put the community college student at risk; students with multiple risk factors are exponentially likely to have challenges with success. The factors that place a student at risk are not surprising.

Studies that have accounted for student characteristics are showing a magnification of performance gaps for at-risk students in the online environment. In

other words, students who are at-risk for performing poorly in a traditional classroom are at more risk for performing poorly when they take an online course (Johnson and Mejia, 2015; Jaggars et al., 2103b). The next part of this report will review studies that address how pre-college experiences influence performance in an online course.

Prior GPA. Multiple studies indicate prior GPA is a predictor of success in an online course (Aragon & Johnson, 2008; Cochran, Campbell, Baker & Leeds, 2014; Jaggars et al., 2013b; Johnson & Mejia, 2015; Morris, et al., 2005). In a review of records, Aragon and Johnson (2008) found that prior GPA significantly predicts completers and non-completers of online courses. In another study, Wladis et al. (2017) found that G.PA is a significant predictor of success in an online course, but not any more so than it is for traditional courses.

Other studies found that prior GPA was a predictor but go further, finding that not only does prior GPA predict a final grade, but for those who enter a course with a lower GPA the chances of failure or withdrawal is much more likely than in traditional courses (Johnson & Mejia; 2015). In a study of California community college students, Johnson and Mejia (2015) found that prior GPA was a predictor of performance, but that students with a prior GPAs of below 3.0 who took a class online had wider gaps in achievement than their counterparts who took courses in a traditional format. In another study that investigated the issue of retention in online classes designed to identify “at-risk” students Cochran et al. (2014) found that students with G.P.As of below 3.0 were more likely to withdraw. In a community college economics course, Figlio, Ruch and Yin (2010) found that students in the online section scored the same as students in a face-to-face section when they entered the course with a high GPA. However, students who came into the

online course with a low GPA were more likely to score worse on exams than a student with low GPAs who took the course in the classroom. There was no literature that indicated GPA was not a predictor of success in an online course.

Aptitude and college readiness. Another means of predicting success is by academic preparedness as judged by placement tests and SAT scores. In a study of records of community college students, Xu and Jaggars (2104) found that if a student has ever enrolled in a remedial course they had larger performance gaps in online courses than those who did not take remedial courses. In another study of community college students, Wolff et al. (2014) also found that the placement in developmental courses placed a student at-risk for successful completion of an online course accounting for 55% of the variation in the differences in final exam scores between online and face-to-face students (Wolff et al., 2014). In a study of community college students that reviewed records and student backgrounds, Aragon and Johnson (2008) did not find that readiness influenced completion or non-completion. There was no further explanation to account for this finding.

Prior experience in online courses. A third way to predict who would be successful in an online course was by experience. In a study of undergraduate students in online courses Cochran et al. (2014) found those students with senior standing and more academic experiences were more likely to complete their online courses. They found the withdrawal rate was highest for freshman and decreases steadily as a student gains college experience (Cochran et al., 2014). Wladis et al. (2017) and Wladis et al. (2013) found that prior online course outcomes were a more significant predictor of future online course grades than was prior GPA.

Hixon, Ralston-Berg, Buckenmeyer, and Barczyk (2016) also found experienced students perform better than novice students. Their (2016) investigation revealed that novice, intermediate, and experienced online students approach courses differently. Novice learners expressed a need for guidelines, while experienced students expressed a higher need for self-introductions, appropriate assessments, quality instructional materials, clarity of requirements for interaction, ease of navigation, and availability of technologies (Hixon, et al., 2016). If the novice students are not focusing on the importance of the assessments and the quality of the course materials, it could be that it is taking novice students longer to orient, which could be a factor in why this group is less likely to be successful.

Another means of preparedness mentioned in the literature was technical readiness. Aaragon and Johnson (2008) reported 18% of community college students who were not successful in their online courses dropped because they did not have the technical skills needed to navigate the course.

Race, gender, age and socioeconomic status. Demographics are predictors of success in college and in online courses. “It is sometimes said when predicting future events that demographics is destiny” (Kuh et al., 2007 p. 21). Multiple studies review student performance in online courses by demographics. Minority students do not fare as well in online courses as Asian and nonminority students (Jaggars et al., 2013b; Johnson & Mejia, 2015). In a study of performance gaps in online courses Xu and Jaggars (2014) found woman slightly outperformed men in face-to-face courses, and that the gender gap was larger in online courses. Others also report females perform better than males (Cochran et al.; 2014; Johnson & Mejia, 2015).

Age is one demographic where the literature shows that success rates in online courses differ from success rates in traditional courses. Kuh et al. (2007) consider non-traditional students who have taken a break from college to be at-risk. In a study of community college students, Xu and Jaggars (2014) found that older students were slightly less likely than younger students to persist in face-to-face courses; but in online courses, older students were slightly more likely than younger students to persist. Others confirmed this finding. In a study of community college students in California older students, those over the age of 25, outperformed traditional college-age students by almost 5% (Johnson and Mejia, 2014). Fetzner (2013) confirmed that older students perform higher in online courses than younger students.

Some studies addressed SES. Grades were lower and withdrawal rates were higher for students with a background of low SES (Jaggars, et al., 2013b). Students with loans are more likely to withdraw from an online class than students without loans (Cochran et al., 2014).

Enrollment patterns and motivation to enroll. The literature supports that the reasons students choose online courses over face-to-face courses may be a predictor in the chance for success. In a study of a physics course, Murphy and Stewart (2017) found that on-campus students are increasingly choosing to take courses online. The students in the study had the option of taking the lecture portion of the course either online or in the classroom. All students in the study participated in a face-to-face lab. The findings were that students in the online section achieved approximately 10% lower than expected (Murphy & Stewart; 2017). Possible explanations for the discrepancies in performance were that students in the online section were less academically prepared, may have

enrolled late when online was the only option, or may underestimate the requirements of an online course (Murphy & Stewart; 2017). Fetzner (2013) also found that the time of registration was a factor in student success. Students who enrolled later were at a higher risk for successfully completing an online course than students who enrolled earlier (Fetzner, 2013).

Rationale choice theory presented by Wladis et al. (2014) provides an explanation for why students are less successful in online courses than on-campus courses. The theory suggests that people engage in activities and make decisions on a “cost-benefit analysis” (Wladis et al., 2014 p.3). Jaggars (2014) interviewed online community college students and found that students choose to take electives online rather than required courses and courses that they have less interest in. If this is the case, according to the rational choice theory, the student who has less investment and interest in the online class is more likely to decide the cost of putting time into the class is not worth the benefit. Underestimating the academic requirements, coupled with less interest, could contribute to higher dropout rates in online courses. Rationale choice theory explains that when the cost of completing the course is higher than the benefit, the student drops (Wladis et al., 2014).

Another theme which emerged in the literature was that students may be enrolling in online courses because they think they are easier than course sections taught in a traditional format (Jaggars 2014; Wladis et al., 2014). If this theory is true, students may make poor enrollment choices, choosing online courses with unrealistic expectations. The student may be getting advice from family and friends to take courses online for reasons of convenience. These well-meaning supporters may not have the experience to

understand the demands of an online course or recognize the academic readiness of the student.

There is little doubt that student preparation or what Kuh et al. (2007) call the Pre-College Conditions has a strong influence on the student's potential for success. However, there is hope for overcoming negative pre-college experience through positive college experiences. Features of positive college experiences are described in the next sections.

College Experiences and Online Courses

As defined in the Kuh et al.'s (2007) Framework for *What Matters to Students Success*, the college experiences are what happens while the student is in school. Student engagement is the foundation for the college experience and the key to how the student will "survive and thrive" (Kuh et al. 2007 p.7). The college experience includes both student behaviors and the institutional conditions that lead to engagement (Kuh et al., 2007). Engagement is the factor which might be able to negate the consequences of negative pre-college experiences that put the student at risk (CCCSE, 2014; Kuh et al., 2007). Kuh et al. (2005) define engagement as the amount of time and effort students put into their academic activities that lead to the experiences and outcomes that constitute student success. In the Framework, Kuh (2007) describes the institution's role in promoting engagement as "How institutions of higher education allocate their human and other resources and organize learning opportunities and services to encourage students to participate in and benefit from such activities" (p.9).

Student behaviors include study habits, peer involvement, interaction with faculty, time on task, and motivation. The institutional conditions mentioned by Kuh et al. (2007)

include the efforts the institution makes toward the first-year experience, academic support, campus environment, peer support, and teaching and learning approaches.

Motivation to learn. One way to examine why students are not successful in online courses is to consider difference between these and face-to-face courses. Bailey et al. (2015) frame the discussion of persistence in online courses within the context of student motivation. They describe entering community college students as having an under-developed academic motivation, which is necessary for success (Bailey et al., 2015). They present an analysis of classroom conditions that help students motivate to persist and perform well at academic tasks. These include:

(1) building strong interpersonal connections among learners and between the learners and teacher, which provides a social motivation to perform well; (2) providing opportunities for students to enhance their individual autonomy by investigating questions on their own rather than being told the answer, and by exploring issues that dovetail with their own personal interest, background and goals; and (3) developing students' sense of academic competence by setting challenging academic standards and tasks, coupled with targeted support that helps students meet those challenging standards (pp 94-95).

Bailey et al. (2015) claim that online courses do not do as well as face-to-face courses in promoting the conditions that build the academic motivation needed to be successful, as the courses typically do not satisfy the three factors associated with motivation.

In an attempt to understand student motivation, O'Neill and Sai (2014) questioned why students chose a face-to-face course when the same course was offered online for the

same cost and the same credit. The results provide some insight into where online courses might be lacking. Sixty percent of the respondents chose to take the class in the classroom despite having to invest a substantial amount of time to commute to the classroom (O'Neil & Sai, 2014). The most frequent response for why the student took the course in the classroom was that the student thought they would learn more (O'Neil & Sai, 2014). Just under 50% thought they would earn a better grade (O'Neil & Sai, 2014). The open-ended responses indicated students wanted a live professor, thought face-to-face courses were more engaging, and indicated that face-to-face courses were a better value.

If students are not academically motivated, they are missing an essential component of the Kuh et al. (2007) college experience associated with student success.

Interaction with faculty and peers. Interaction with faculty is associated not only with engagement while in school, but also with life satisfaction after leaving school (Purdue Index, 2014). Bailey et al. (2015) pinpoint the reason students perform consistently worse in online courses to a lack of interaction. They report that students find that the assignments that require peer-to-peer interaction feel forced and artificial and do not mirror the conversations that occur in a classroom, making interpersonal connections difficult (Bailey et al., 2015). Bonk and Khoo (2014) report that online courses tend to lack interaction between students and that the courses lack personal and immediate feedback. Xu and Jaggars (2013) assert that high-quality online courses need to promote strong interpersonal connections and imply that many online courses are not meeting this expectation.

As community college students spend less time on-campus than their peers at four-year colleges and universities, a report by the Community College Center for Student Engagement (2014) concluded that engagement for the community college students best occurs in the classroom. If engagement is expected to occur in the classroom and online courses are lacking in this area, online students may be at a disadvantage, particularly as the nature of the interactions may be inherently inauthentic.

Study habits and time on task. Online courses have the potential to meet some student needs in ways that face-to-face courses cannot. Doyle (2017) suggests that learning occurs best when the brain is ready to learn. Online courses can accommodate the learners' preferences in a manner that face-to-face courses cannot. The nature of online courses makes course design even more important than it is in face-to-face courses where the instructor is present and can recognize and respond to student confusion. Careful course design may be able to tap into the student's readiness to learn and promote motivation, interaction, and study habits.

As mentioned previously, community college students are likely to have more outside commitments than students attending a four-year college or university, which leaves less time to dedicate to their studies (Bailey et al., 2015). As a group, community college students are less academically prepared, which may put them at risk for underestimating the time commitment for succeeding in an online course. Some students enroll in online classes as they do not have the time in their schedule to attend class in a classroom, and then find that they do not have the time needed to dedicate to an online course either, leading to a poor grade or withdrawal (Salter, 2012).

In a study of the factors that influence completion and non-completion of online courses, Aragon and Johnson (2008) found that personal/time constraints were the number one reason for not completing a course. The reasons students gave were personal problems, scheduling conflicts or overload, lack of motivation, work conflicts, and lack of time (Aragon & Johnson, 2008). Fetzner (2013) conducted a study about why students who received an F or a W in an online class were not successful. The number one reason was “I got behind and it was too hard to catch up” (Fetzner, 2013, p. 15). Students who are underprepared and overcommitted, having to work and care for dependents, might find online courses appealing as they hope they can squeeze them into a crowded schedule. Trying to balance work, family, and school is challenging. The structure of the online class that does not require a commitment to study at a particularly time and place may make it easy to put the work off and ultimately contribute to an unsuccessful outcome (Salter, 2012).

Course design. There are numerous theories and frameworks that describe effective teaching practices. Chickering and Gamson (1999) present seven principles to improve teaching and learning. These include contact between students and faculty, reciprocity and cooperation among students, active learning, prompt feedback, emphasizing time on tasks, communicating high expectations, and respecting diverse talents and ways of learning. Barkely (2010) describes effective teaching as engagement with a definition of a “synergistic interaction between motivation and active learning” p 8). In a description of significant learning, Fink (2013) proposes a taxonomy that includes; foundational knowledge, application, integration, human dimensions caring, and learning how to learn. While addressing instruction for community college students,

Bailey et al. (2015) indicate that teaching competencies, concepts and habits of the mind are critical. This means that students are learning basic skills, understanding at a conceptual level how information is relevant, and using metacognitive processes to become better learners (Bailey et al. 2015). None of these teaching practices suggest the mode of instructional delivery. As they are principles and frameworks that address teaching and learning, the concepts should apply to any type of instructional delivery.

Not all courses include the pedagogy described above that promotes student engagement. Poor course design in an online course cannot be made up for by teacher presence. Bonk & Khoo (2014) recognize the prevalence of poor design of online classes and identify factors that have a negative influence on student persistence. These include: weak course structure, incompetent instructors, classes that are difficult to navigate, course design that lacks interaction between students, courses that lack learner choice and do not allow for learning preferences, and courses that lack personal and immediate feedback on coursework. Bonk and Khoo (2014) conclude that one of the outcomes of poor online course design is a student feeling of isolation and a lack of sense of belonging in an academic community.

Recognizing that there is little literature that shows that instructional quality of online courses is related to better student outcomes; Shattuck (2015) suggests that studies of learner satisfaction might provide insight to student success in online courses. Most of the studies on satisfaction focus on the connections that are formed between students or with the engagement between the student and the instructor. Rhodes (2009) found that student-instructor interaction was the most important element of the course. The students in the study valued direct feedback on their performance more than they valued peer-to-

peer interaction. Gallien and Oomen-Early (2008) found that students who received individual feedback had significantly higher levels of satisfaction than those who received collective feedback. Young and Norgard (2006) found students were dissatisfied when instructors did not participate in discussions or make quick responses to student questions

Two studies investigated the role of content and navigation as predictors of student satisfaction. Boling, Hough, Krinsky, Saleem, and Stevens (2012) found that courses that incorporated multi-media were more engaging were more helpful than text-based courses. Simunich, Robins, and Kelly (2015) found that well-designed courses that provided easy navigation led to improved student motivation and that self-efficiency increased.

Quality of decision-making about online courses has been found to be problematic. Jaggars et al. (2013a) found that many colleges put courses online based on instructor interest rather than a centralized strategic decision-making process. The decentralized decision-making about online course offerings makes it more challenging for institutions to monitor the quality of the online courses and programs (Jaggars et al., 2103a). Schools seem to be recognizing the need for sound course design. The Instructional Technology Council, a committee of the American Association of Community Colleges, conducts an annual survey of distance education leaders. In the organization's national survey the results show distance education programs are shifting from just offering courses online toward making a commitment to the quality of the schools' online programs (Lokken & Mullin, 2014). The efforts schools take to improve online programs include increasing awareness of the importance of offering quality

professional development and training for faculty and staff, addressing the issue of student readiness, and improving student assessment, retention and completion rates (Lokken & Mullin, 2014).

Teaching and learning approaches are part of the institutional conditions that lead to student engagement. Improvements in teaching and learning in online courses might be a factor in increasing persistence rates in online courses. While Bailey et al. (2015) and Bonk and Khoo (2014) identify challenges in online courses, both recognize its benefits and advocate for improved design that will motivate students.

Post College Outcomes

The college experience ends when the student exits school. The post-college outcomes in the *What Matters to Student Success* framework include employment, graduate and professional school, and lifelong learning. Examining both the outcomes of online courses and how well students who take online classes fare in meeting educational goals contributes to the discussion of the effectiveness of these courses.

Empirical studies lean toward the stance that academic outcomes in online courses are no better or worse than the outcomes associated with a face-to-face course (Means et al., 2010; Lack, 2013; Wu, 2015). Yet, persistence rates in online courses are a concern, with studies showing completion rates lower by 10 to 15%. (Allen & Seaman, 2015; Jaggars et al. 2013a; Johnson and Mejia, 2015). Online courses seem to be a natural fit for community college students who have a high need for flexible schedules. However, if students don't succeed, the more flexible online courses may not be as helpful as hoped (Bailey et al., 2015).

Meta studies of online course outcomes. Meta studies conducted to examine the equivalence of online courses to other types of instruction support the notion that the outcomes are the same, if not marginally superior. A U.S. Department of Education meta-analysis of studies of online courses found that “Online learning conditions produced better outcomes than face-to-face learning alone” (Means et al., 2010, p. 9). Following the 2010 report, Lack (2013) and Wu (2015) conducted further reviews of the literature that examine the effectiveness of online courses. Lack (2013) included studies that, for unknown reasons, perhaps being overlooked, did not appear in the Department Of Education study, as well as studies published after the Means et al. (2010) study cut-off date for inclusion. Lack (2013) concluded that the evidence does not suggest online learning is any more or less effective than face-to-face courses. Wu (2015) picked up chronologically where Lack (2013) left off and found “students in online and hybrid formats performed no worse and, in some cases, better than their counterparts in face-to-face sections” (p.7).

One of the findings of the three meta-analyses is that there is a lack of rigorous research regarding the effectiveness of online learning (Lack, 2013; Means et al. 2010; Wu, 2015). Means et al. (2010) identified 1,132 studies that addressed online learning between 1996 and 2008. Only 99 of these studies met the criteria for inclusion for the meta-analysis. Criteria included having empirical research, comparing between online instruction and face-to-face instruction, having learning outcomes for both the treatment and control group, and having enough data to calculate effect size (Means et al., 2010). Lack (2013) and Wu (2015) also had criteria for determining what studies to include in their reviews. These included studies that: compared at least one face-to-face section to

at least one hybrid or fully online section, examined objective learning outcomes or measures of academic performance that were not self-reported, involved at least one undergraduate, for-credit college course offered outside of a continuing education program, took place in the United States or in a country with a comparable culture and higher education system, and was authored by someone who is not a current student (Lack, 2013; Wu, 2015). Lack's (2013) review included only 20 studies, and Wu's (2015) review included 12. A hundred and thirty-one studies over a nearly 20-year span of time do not seem like an abundance of rigorous research.

In addition to there being a lack of studies regarding online learning, Means et al. (2010), Lack (2013) and Wu (2015) found shortcomings with the existing studies. Each of the researchers reported that studies on the effectiveness of online instruction had small sample sizes, making them prone to finding no statistical significance (Lack, 2013; Means et al., 2010; Wu, 2015). The standard errors were higher than they would be in studies with more participants. Means et al. (2010) found in many of the studies the researcher served as both the experimenter and the instructor, which could lead to bias.

In a critique of the Department Of Education study Jaggars & Bailey (2010) questioned the findings, as some of the studies in the review compared face-to-face courses with blended courses. Jaggars and Bailey (2010) also found evidence that some of the investigators of the studies in the review chose the components of their courses that were most suited to online instruction rather than including the full course. These studies may have created a biased toward a positive view of online instruction (Jaggars & Bailey, 2010). Further criticisms of the existing studies are particularly relevant to the success of community college students. Wu (2015) reported that most studies do not account for

student factors and prior academic success of the students in the study, posing a threat to the validity of the studies. Jaggars and Bailey (2010) point out that many of the studies in the Department Of Education analysis were carried out with graduate courses and courses that addressed students studying health sciences. These studies do not represent typical college and university settings or community college students (Jaggars & Bailey, 2010). Jaggars and Bailey (2010) expressed specific concern about the applicability to low-income and community college students. Additionally, the definition of outcomes was not consistent. Lack (2013) noted a wide variety of outcome measures were used to judge the effectiveness of online courses including: pre and post-tests for both online and face-to-face students, semester averages, scores on exams and overall performances, average quiz grades, scores on a particular assignment, raw scores on the final exam, final course grades, and successful completion rates.

Grades. Recent studies that compare the grades of students in an online section to the grades of students in face-to-face sections yield mixed results. Cavanaugh and Jacquemin (2015) compared the grades of students at a public 4-year institution for over 5000 courses taught by over 100 faculty over a ten-year period. The finding was that overall there were no statistical differences in grades when comparing online instruction to face-to-face instruction (Cavanaugh & Jacquemin, 2015). Each instructor in the study taught at least one course face-to-face and the same course online. In another study McCutcheon, Lohan, Traynor and Martin (2015) found online and blended learning was as effective as face-to-face learning of clinical skills in undergraduate nursing students. For those who were successful, there was evidence that the students in online course perform as well as students in face-to face courses (McCutcheon et al., 2015).

Others found that students typically received lower grades in online sections compared to face-to-face sections of the same course (Murphy & Stewart; 2017; Xu & Jaggars, 2014). As mentioned in the demographics section of this report, some found that grades in online courses were particularly low when students came in with risk factors such as poor academic preparation (Figlio et al., 2010; Johnson & Mejia; 2014; Wladis et al. 2013; Xu and Jaggars, 2014).

Persistence toward graduation. Another means of addressing outcomes is to look at how well students who take online courses persist toward graduation. Jaggars Edgecombe and Stacey (2013b) found that community college students who take online courses during their first semester of enrollment are less likely to return for subsequent semesters. However, studies that are more recent show contradictory findings. Johnson & Majia (2014) found that students who take online courses transferred to a four-year institution and or earned an associate degree at a higher rate than those that did not. They conclude the following:

For students juggling school, family, and work obligations, the ability to maintain a full-time load by mixing in one or two online courses per term may outweigh the lower chances of succeeding in each particular online course. Moreover, if a student's choice is between taking an online course or waiting for the course to be offered in a classroom at a convenient time, taking the online course can help expedite completion or transfer. Overall, it appears that the availability and flexibility of online courses help many students achieve their long-term educational goals. (p 12).

In another study that examined how online courses were affecting student completion, Shea and Bidjerano. (2017) found that students who participated in distance education early were more likely to complete a college degree than those who did not. The percentage of students who obtained a credential within four years was five percent higher for those that took an online course than for those who did not (Shea & Bidjerano, 2017). Shea and Bidjerano (2017) concluded that online courses are improving access and opportunity to college by providing choice, flexibility, and convenience. The contradictory findings raise questions about how taking online courses contributes to graduation rates.

Examining online courses through the lens of the framework of *What Matters for Student Success* revealed numerous measures for identifying at-risk students, examining course design and identifying factors that lead to positive college-outcomes. In the next section the review shifts to how to address student success in online courses.

High-Impact Practices

An extension of the Framework for *What Matters to Student Success* is the construct of High-Impact Practices. Kuh (2008) coined the phrase High-Impact Practices (HIPs) when describing practices institutions intentionally employ to promote student engagement, which increases the likelihood of student success. Following Kuh's (2008) definition, a HIP is one that has empirical evidence to support that the practice leads to outcomes associated with student success. As described in Chapter One, HIPs are practices that schools commit to with resources and professional development. The practices are those that are institutionalized on a wide-scale with the intent of increasing engagement for high numbers of students (Kuh, 2008).

HIPs increase the likelihood that deep learning will occur (Kuh, 2008). There are design features of HIPs that make them effective. Participation requires time and effort from the student that deepen the student's investment in both the activity and overall education (Kuh, 2008). Involvement in a HIP is effective with students because the task demands at least one of the following: students interact with faculty and peers about substantive matters, students experience diversity, students get frequent feedback about their performance, student's apply what they are learning outside of their studies, and the experience can be life-changing (Kuh, 2008).

Kuh's (2008) examples of the HIPs include programs that support common intellectual experiences, study abroad, learning communities, internships, collaborative assignments and projects, undergraduate research, service-learning, and capstone courses and projects. Developing and promoting HIPs create a culture that promotes engagement and facilitates student success.

High-Impact Practices for Community College Students

Expanding on Kuh's introduction to HIPs, the CCCSE conducted a multiyear study on the effectiveness of HIPs for community college students. The thirteen HIPs in the study included: mandatory academic goal setting and planning, required orientation, accelerated or fast-track developmental education, participation in first-year experience programs, student success courses, learning communities, experiential learning beyond the classroom, tutoring, supplemental instruction, assessment and placement, registration before classes begin, attendance policies, and alert and intervention technologies (CCCSE, 2014).

The practices in the study included some of Kuh's (2008) practices but differed as many of the CCCSE HIPs promote practices that force engagement but do not take explicit time and effort from students. For example, mandatory attendance, no late registration, and alert and intervention initiatives do not take direct time and effort from the student, but get students to attend class, and put processes in place to help students who show signs of struggling. Attending class and meeting with an advisor encourage engagement with academic pursuits.

High-Impact Practices for Students in Online Courses

The CCCSE (2014) report suggests community college students spend less time on campus than students at traditional four-year colleges and universities and theorize that HIPS are most useful when the practices occur in the classroom. Creating HIPS for online students who are not physically present in the classroom is even more challenging, as online students do not typically have face-to-face interactions on campus. In a presentation about HIPS to community college distance learning educators and administrators, Kinzie (2015) pointed out that an analysis of undergraduate online student responses from the National Survey of Student Engagement (NSSE) showed much lower levels of engagement than all other types of students. As the NSSE gathers information about how students spend their time and what they gain from attending college, the analysis supports a need to address engagement for online students (National Survey of Student Engagement, 2017). Kinzie (2015) identified practices she thought were particularly relevant to online students including, a design that demands time and effort to purposeful tasks from the student, a high level of interaction with faculty and peers, high expectations and frequent feedback about performance, and learning in context. Kinzie

suggested that HIPs developed at the departmental level would have a wider effect than those that originate at the course level (personal communication, March 13, 2015).

While one dimension of engagement comes from student behaviors, the other aspect comes from what Kuh et al. (2007) calls institutional conditions, which are the resources, educational policies, programs, practices and structural features that the institution employs. The institutional conditions are the programs and processes the administrators, faculty and staff at the institution take to help students engage. There are multiple steps an institution can take to improve student success in online courses that have potential to become a HIP. One example is to better prepare students by creating an institutional orientation program to increase awareness of the demands of an online course and to help students develop strategies to successfully complete an online course (Aslanian & Clinefelter, 2013; Wladis et al., 2014; Wolff et al., 2014; Xu and Jaggars ; 2014).

Other approaches are to provide targeted support. One suggestion for practice was to provide targeted support to classes that might have students with the highest risk factors (Wladis et al., 2014). An example of such an approach would be extra support for lower level courses, which are typically taken as electives or distributional requirements (Wladis et al., 2014). Some believe improved outcomes might come from providing direct supports such as 24/7 technical support (Aragon & Johnson, 2008; Jaggars et al., 2013a; Wladis et al., 2014), providing online tutoring (Jaggars, et al., 2013a), implementing early alerts systems and providing intrusive advising (Aslanian & Clinefelter, 2013; Wolff et al., 2014).

Another theme emerged that suggested limiting enrollment to those who demonstrate academic readiness (Jaggars et al., 2013a; Wladis et al. 2014). Institutional practice to eliminate late enrollment without special permission was also mentioned as a means of promoting student success (Fetzner, 2013). One other practice was to promote the quality of online courses through faculty professional development with an emphasis on incorporating the teaching of self-directed learning skills into courses (Xu & Jaggars, 2014).

Faculty Interaction. A finding of the Gallup-Purdue Index (2014) study of more than 30,000 college graduates from across the United States, found relationships with faculty while in school were one of the keys to thriving after college. The elements of life satisfaction include: purpose well-being, financial well-being, social well-being, community well-being, and physical well-being (Gallup-Purdue Index, 2014). In fact, the odds of thriving in all areas of well-being were 1.5 times higher if the student had at least one professor who made them excited about learning and 1.7 times higher if the student had experiences where they felt their professors cared about them as a person (Gallup-Purdue Index, 2014). As online courses do not have face-to-face interactions, and interaction is a key to thriving in college, the promotion of faculty-to-student interaction may be a key to improving outcomes.

Bailey et al. (2015) present compelling evidence for the need to redesign community colleges. The call is for colleges to redesign in such a way that students are intentional with a plan of study and complete school faster with a closer articulation to both workforce and the institutions that the students transfer to. A part of the redesign includes greater support for students as they progress through their course of study.

Bailey et al. (2015) talk about the need for mentoring. Analyzing the Gallup-Purdue Index (2014) findings and the Bailey et al., call for redesign through the lens of the Kuh et al. (2008) framework. There is at least the suggestion that interaction with faculty can lead to higher levels of engagement and in turn promote better post-college outcomes.\

Summary

Access to higher education, the rising costs of college, scarcity of state and federal support, the debt that students are incurring, and poor student outcomes are challenges facing higher education institutions. (Bailey et al., 2015; Baker & Doyle, 2017; Duncan, 2015; Kolodner and Butrymowicz, 2017, Kuh et al., 2015, Wyner, 2014). A paradigm of transparency and accountability is new for higher education where in the past the value of a college degree was accepted on face value (Bailey et al., 2015; Kuh et al., 2015). As open access institutions, community colleges not only provide access to an education for all, they are also called upon to prove the value of the education (Bailey et al. 2015, Wyner, 2014). Community college graduation rates are particularly poor most likely because they disproportionately serve at-risk students (Bailey et al., 2015; Kuh et al., 2007). These schools face unique challenges in maintaining their open-access mission and improving success rates.

The Kuh et al. (2007) framework for *What Matter to Student Success* asserts that the student's pre-college experiences influence the likelihood of success, but that what happens while a student is in school can negate experiences that put the student at risk. Student engagement, described as the amount of time and effort students spend on academic activities is the foundation of the success framework (Kuh et al., 2007). Institutions can contribute to the likelihood that a student will engage by creating the

conditions that determine the college culture. High-impact practices are institutional practices that promote engagement (Kuh, 2008). These practices empirical evidence that links them positively with student engagement and student achievement (CCCSE, 2014; Kuh, 2008).

Online courses are popular, and enrollments in these courses is growing at a time when enrollment in traditional courses is flat (Allen & Seaman, 2015; Legon & Garrett, 2017; Poulin & Straut, 2016). With so many students choosing the online format, it is concerning that students are not successfully completing these courses at as high a rate as they are completing their face-to-face courses (Allen & Seaman, 2015; Jaggars, Edgecombe, & Stacey, 2013a; Johnson & Mejia, 2014). Online students are less likely to spend time on campus and may be at a disadvantage in forming participating in the practices that promote student engagement (CCCSE, 2014).

Community college students are more likely than students at four-year colleges and universities to need support to develop the competence to become a better learner (Bailey et al., 2015). Taking a program approach toward promoting academic competence through support notes might be a means of helping students engage with their academic studies (J.L. Kinzie, personal communication, January 28, 2015). Research suggests that student interactions with faculty are a primary indicator for post-college outcomes that lead to success (Gallup-Purdue Index, 2014). Instructors with online teaching experience might be particularly well suited to encourage students to engage. This study explores how students in community college online courses who receive supports above what the college typically provides achieve.

CHAPTER III

METHODOLOGY

Community colleges play a vital role in the U.S. higher education system by opening access to college (Bailey et al., 2015; Boggs, 2010; Wyner, 2104). Having an educated population is a foundation for both the economic growth of the nation and an individual's potential for upward mobility (Bailey et al., 2015). The schools are accessible as costs to attend a community college are lower than four-year colleges and universities, students can go to school without leaving the community, and admission standards are minimal. The open-access nature of community college allows more students to enroll in college courses, but the same factors that make college accessible may account for how well community college students as a whole are performing. It is evident that many community college students are underprepared, overcommitted, and are not succeeding at a high level (Bailey et al., 2015). In an era of record high student loan defaults, policymakers are creating measures that require transparency of student outcomes and are holding higher education institutions accountable for student success (Kuh et al., 2015). Online courses offer a form of instructional delivery that seems to be increasingly popular with community college students. Taking courses online provides a greater level of flexibility and convenience, but this form of delivery that further opens access has particularly poor course persistence rates.

Discussion about how to improve student success is ubiquitous in the community college systems. One of the keys to student success is a high level of student engagement (Kuh et al., 2007). Engagement is the energy the student spends on academic pursuits combined with policies, programs, and practices that institutions employ to motivate students to participate (Kuh et al. 2005). Student engagement is positively related to student success indicators such as persistence, satisfaction, and other desired learning outcomes (Kuh, 2016; Kuh et al., 2007). The nature of engagement in online courses might be different than in face-to-face courses where instructors and students do not meet in person. This study examines how adding engagement in the form of supports beyond what the college typically provides influences student achievement in online courses.

This chapter includes a restatement of the problem and purpose statements, the research hypothesis, a description of; the population and sample, the research design, the procedures for the experimental study, the data collection methods, and the analysis used to answer the research questions.

Problem Statement

Online courses that have no class meetings present a means of offering access to higher education by providing flexible and convenient courses not bound by time and place. However, the completion rates in these courses are lower than other types of instructional delivery by up to 15% (Allen & Seaman, 2015; Jaggars et al. 2013a). In the Framework for *What Matters to Student Success*, Kuh et al., (2007) suggest that the student interaction with faculty and the institution's approach toward teaching and learning are factors that promote engagement and lead to a higher likelihood of success. Potentially, there are many ways to increase student success in online courses. The most

common measures include addressing the student preparation that occurs before the student begins the course or making efforts to improve the student experience in the course through design efforts. Taking steps to provide opportunities for online students to engage with a faculty member outside of class, and to receive tips designed to encourage, support, develop study strategies, and take advantage of college supports might provide another means of improving student success in online courses.

Statement of Purpose

The purpose of this study is to investigate whether the final grade in an online course increases when a student has an opportunity for increased engagement. Engagement in this study comes from adding opportunities for interaction with an experienced online faculty member and the promotion of study strategies and college services.

Research Questions

The overarching question that informed this study was: Do academic supports embedded into an online program lead to improved levels of achievement in an online course? The specific hypothesis was a restatement of the research question. In addition to determining if the level of support made a difference to the participant's final grade, the study sought to determine if sub-groups of students were more responsive to the interventions.

The null hypotheses were the tests of significance.

H₀: There will be no significant relationship between the final grade in an online course and the level of support the student receives.

H₀: The age of the student will not moderate the effect of the type of support the student receives.

H₀: The student's prior GPA will not moderate the effect of the type of support the student receives.

Population

Participants in this study were enrolled at County Community College during the fall semester of 2016. According to the US. Dept. of Education's College Navigator (n.d.), County Community College is a large, non-residential, 2-year public multi-campus institution. A report on the college web page indicated a student population of 17,136 students during the fall, 2016 semester. The majority of students attended part-time with 32% of the students attending full-time, 60% percent of the students were female, 58% of the students were white, and 62% of the student population was aged 24 and under ([Institution], 2017).

The percentage of full-time, first-time students who graduated or transferred out within 150% of "normal time" to complete their program was 36% for students who began their studies in the fall of 2012. During the 2014-15 school year, 38% of the students received Pell grants, and 25% of the students took out student loans. The default rate on loan repayment for the 2013 cohort was 17% (US. Dept. of Education's College Navigator, n.d.).

Nearly half of the students at the college enrolled in an online course with 19% of the students enrolled only in distance education, 27% enrolled in some distance education, and 54% were not enrolled in any distance education (US. Dept. of Education's College Navigator, n.d.). A review of the [Institution] National Community

College Benchmarking Project report for County Community College (2015) provided detailed information about success rates in courses including rates of success in online courses. The data came from the fall of 2013 semester. The withdrawal rate for institutional-wide credit courses was 14.31%, the completion rate was 85.69%, the completer success rate was 83.95%, the enrollee success rate was 71.94%, and the percentage of students who earned a grade of an A or a B was 58.49%. Online students underperformed with a withdrawal rate of 19.88%, the completer rate was 80.12%, the completer success rate was 79.96%, the enrollee success rate was 64%, and the percentage of students who earned a grade of an A or a B was 51.80%. Overall the enrollee success rates in an online course were on average about eight percent lower than the college average and a student's chance of earning an A or a B was about seven percent lower in online courses.

A second report of online student performance at County Community College came from an application to participate in the college's *Completing the Dream* project. *Completing the Dream* was the institution's program to provide support for piloting innovations that lead to student success. In this application the Online Learning Department reported success rate for first-time online students as 18% below students taking a traditional face-to-face class and 9% lower than experienced online students (Online Learning Department, 2014). First-time online students were defined as students who have not taken an online class in the last two academic years. Success was defined as students who earn a grade of C or better (Online Learning Department, 2014). The rates reported in the Online Learning application were likely to be lower for online students as the comparison was to face-to-face courses. In the College Benchmarking

report (2015), the comparison was between students in online courses and students in all credit courses, which would include online courses ([Institution], 2015; Online Learning Department, 2014).

During the fall of 2014, the College administered the Noel-Levitz Priorities Survey for Online Learning. This satisfaction survey compares the responses of [Institution] online students to National Online Learners. The satisfaction level for [Institution] online students was statistically significantly lower than the national online learners in the areas of accessibility of; advisors, how the program advisor helped the student work toward career goals, the value of student to student collaboration, the institutions response to requests for information, channels for student complaints, sufficient course offerings, timely information about financial aid, the availability of online career services, the quality of online instruction, the adequacy of online library resources, appropriate technical assistance, contact information for questions about programs and services, the convenience of payment procedures, the availability of tutoring services, bookstore services, the clarity of evaluation procedure sand faculty responsiveness. The online student perceptions were above the national average in the areas for the questions that addressed tuition paid being a worthwhile investment, the availability of financial aid and assignments being addressed clearly in the syllabus ([Institution], 2014).

Participants

Participants in this study were students enrolled in 16-week online sections of English Composition I (ENGL- 1113), American History Civil War to Present (HIST-1493), and American Federal Government (POLS -1113). These courses satisfy general

education requirements for an Associate Degree and students typically take these courses early in their academic career.

The instructor of each section received a request to include his or her section in the study. The request to include the section in the study was sent through the College email system (see Appendix A for a copy of the note to seek approval to include the course in the study). All sections that had approval from the instructor were included in the study.

Human Subjects Consideration

Approval for the study was obtained from both the Oklahoma State University and County Community College's Institutional Review Board. The study was exempt from a full review as there were no known risks to participants. The researcher sent an information email to all participants on the first day of the study. Participants were provided with directions to opt out of the study if desired. (see Appendix B to review the informed consent note sent to participants, and Appendix C to review the IRB approvals).

Research Design and Rationale

This quantitative experimental study reflects a post-positivist epistemological stance, assuming that reality can be observed and measured (Creswell, 2009). Quantitative experimental studies look deterministically at the subject and seek to determine cause and effect, but the researcher recognizes that there may not be an absolute truth and that findings may not be generalizable, and are open to revision and reinterpretation in other environments (Creswell, 2009; Dziuban, Picciano, Graham, C. & Moskal, 2015). Inherent in quantitative studies such as this one are structured methods and careful collection of numerical data from participants. The numerical data is used to

describe and interpret the results through statistical measures. Experimental design is the strongest type of quantitative research as it allows the researcher to determine if the particular treatment influences the outcome (Creswell, 2009; Dziuban et al., 2015). Random assignment of participants to experimental groups is the reason that experimental studies are valuable. The random assignment to a treatment group or control group allows the researcher to look for cause and effect relationships. Following the research design, the participants in this study were randomly divided into the three experimental groups.

Table 3.1

Research Study Design

Group	Assignment	Treatment	Outcome
Group 1	R	X ₁	Outcome
Group 2	R	X ₂	Outcome
Group 3	R	Outcome

Notes:

R = Random Assignment

X₁ = Treatment 1 (personalized support by faculty)

X₂ = Treatment 2 (success tips from the Online Learning Department)

Procedures

The study began with the recruitment of faculty members to send support notes to students. (see Appendix D for a copy of the recruitment note). Participants were randomly assigned to one of the three experimental groups by the Institutional Research

& Assessment (IR&A) Department. The IR&A Department sent the participant assignments to the faculty members and to the Online Learning Department. To conduct this study, the researcher, the faculty who agreed to support students, the Online Learning Department and the IR& A Department at County Community College each completed specific tasks (see Appendixes E for a description of the procedures the IR&A Office was instructed to follow, Appendix F for the faculty protocol and Appendix G for the protocol provided to the Administrative Assistant in the Online Learning Department).

Group 1: Personalized Support from Faculty

Participants in the Personalized Support Group received the highest level of support. Each participant was assigned to a faculty member. The faculty member was a full-time College employee who had experience teaching online courses, but was not the instructor of the course in which the student was enrolled. The faculty member sent each student assigned to him or her personalized emails with encouragement and tips for succeeding in an online course as well as information about College services (see Appendix I for a copy of the emails sent to students in the Personalized Support Group). The faculty member provided contact information and encouraged the student to contact him or her if the student had questions, or needed advice. Personalized means the email was addressed directly to each student rather than addressed as a collective group email. At the end of each week that the faculty sent notes the faculty members were asked to submit a report summarizing any interactions they had with participants (see Appendix I for a copy of the Faculty Report form).

Group 2: Generic Support from the Online Learning Department

The Generic Support Group received emails from the Online Learning Department with tips for succeeding in an online course including information about College services (see Appendix J for a copy of the emails sent to students in the Generic Support Group). Participants in this group received more support than what students in online courses at County Community College typically have, but the additional support was not personalized as it was for participants in the Faculty support group. The success tips were sent on the same schedule as the faculty emails. In the generic emails, the students were directed to call the College's service center for answers to questions about academic and student services. (see Appendix I for the protocol followed by the Department of Online Learning when sending the Student Success Tips).

Group 3: Control Group

Students in the control group received no additional supports beyond those provided to all online students.

Data Collection

As outlined in the protocols, the IR&A Department extracted data from the College's registration system. Each participant was assigned an index number, which was the deidentified number assigned to the participant by the IR&A Department. This number allowed the researcher to conduct the study without obtaining identifying information about the student participants. The IR&A Department sent two spreadsheets to the researcher with student data gathered from the College's Student Information System. The first was sent at the beginning of the fall 2016 semester after students were given the opportunity to opt out of the study. The spreadsheet sent at the beginning of the

semester also had each participant's GPA coming into the semester, date of birth (DOB), age on day one of the study, and the experimental group assignment. The spreadsheet sent at the end of the semester included an additional column listing the participant's final grade in the online course.

The results of the participant surveys were made available to the researcher on an Excel spreadsheet. The student name was replaced with the index number. The IR&A Department also sent the consolidated survey results gathered using the Qualtrics reporting tools. The researcher collected the faculty reports using an online form and recorded the responses on an Excel spreadsheet.

Data Analysis

The research questions addressed the main effect of the intervention, level of support, and the interaction of age and prior GPA on the main effect. As shown in Table 2 and Table 3 the dependent variable, or criterion variable, for this study, was the final grade the student earned in the course. The independent variables in this study were the type of support the student receives, prior GPA, and age.

Table 3.2

Study Variables

Variable Type	Moderator Variables	
	<u>Age</u>	<u>Grade Point Average</u>
Outcome Variable	Final course grade	Final course grade
Predictor	Level of Support	Level of Support
Predictor	Age	Prior GPA
Interaction Variable	Level of Support x Age	Level of Support x GPA

The data analysis required to answer the research questions included analyzing not only the relationship between the independent and dependent variables, but also the moderating effect or interaction of the independent variables. A moderating effect is an interaction where the effect on one variable depends on the level of another (Frazier, Tix, & Barron, 2004). The moderating variables in this study were the interactions between the independent variables group on age and group on prior G.P.A

Hierarchical Regression

Multiple Regression techniques were used for the analysis as they create an equation that predicts the values of the dependent variable and explains the relationships between variables (Lomax & Hahs-Vaughn, 2013). Hierarchical multiple regression allows the researcher to enter the independent variables into the equation examining the strongest correlations to the weakest (Lomax & Hahs-Vaughn, 2013). In this study, the regression analysis determined if the level of support could predict the outcome of grade,

if age and prior GPA predicted the outcome, and then if the interaction of the independent variables predicted the outcome.

Data Preparation

In multiple regression, when the independent variable is categorical and nominal, dummy variables are created to put them on a scale of 0, and 1 to make the model work (Lomax & Hahs-Vaughn, 2013). Before the analysis was conducted, variables were reformatted and recoded into new variables. When there are more than two categories multiple dummy code predictors are created, specifically 1 – minus the levels of categories of the categorical predictor (Lomax & Hahs-Vaughn, 2013). As shown in Table 3 there were three experimental groups, thus two dummy variables were created one for the group that received faculty support and another for the group that received generic emails. These groups were compared to the control or reference group which received only the College’s usual supports.

Table 3.3

Dummy Variables

<u>Variable Name</u>	<u>Description</u>	<u>Variable Type</u>	<u>Coding Method</u>
D1	Faculty Support	Categorical	1, 0
D2	Generic Support	Categorical	0, 1
Reference Group	No Additional Support	Categorical	0, 0

New variables were also created that centered the predictor scores for both age and GPA. The centered scores represent the difference of each subject’s score from the

mean. Centering is helpful in social science research where zero is not a meaningful point on a scale (Cohen et al., 2003). In this study subjects under the age of 18 were excluded and thus the range of age scores begins at 18 as scores of less than 18 are not possible. Prior GPA was centered as well. Table 4 presents the names and a description of how the variables were centered.

Table 3.4

Centered Predictors

<u>Variable Name</u>	<u>Description</u>	<u>Variable Type</u>
Age_cen	Mean Age - Subject Age	Scale
GPA_cen	Mean Age - Subject GPA	Scale

A new variable for the final grade was created to provide a numerical value for the course final grade. The numerical value reflected a standard grading scale. Table 3.5 shows the numerical values of each letter grade a participant could earn in an online course.

Table 3.5

Numeric Grading Scale

<i>Final Letter Grade</i>	<i>Converted Final Grade</i>
A	4
B	3
C	2
D	1
F	0

Interaction variables were created to examine if both age and prior GPA moderated the effect of the level of support. To create these interaction variables, the independent variables, age-centered and GPA centered, were multiplied by the dummy coded group assignment. Table 3.6 provides a description of the methods used to create the interaction variables.

Table 3.6

Interaction Variables

<u>Variable Name</u>	<u>Description</u>	<u>Variable Type</u>
D1*Age_Cen	Interaction variable for age on group that received faculty support	Scale
D2*Age_Cen	Interaction variable for age on group that received generic email	Scale
D1*GPA_Cen	Interaction variable for GPA on group that received faculty support	Scale
D2*GPA_Cen	Interaction variable for GPA on group that received generic emails	Scale

Validity

Steps were taken to ensure that the protocols and the success tip emails reflected practices that were helpful to online student success. Individuals who reviewed the templates included; the Administrative Assistant from the Online Learning Department, who has experience answering questions from online students, the Director of the College call center who has knowledge of the types of questions students call to get assistance

with, and an academic advisor, and a counselor from the College's TRIO program who have experience working with first-generation and low-income college students.

Additionally, several faculty members were invited to review the protocols. Collectively the group that reviewed the protocols had extensive knowledge of student needs at the College.

Built into the research design were manipulation checks to help ensure the fidelity of the interventions. The faculty were asked to submit reports within a week of sending each support note. These reports gave the researcher assurances the faculty member was supporting students as prescribed by the protocol. The reports also gave faculty a place to reflect on how well the intervention was working for the students s/he was supporting. The response rate and the information gathered from the faculty reports were stored on an Excel Spreadsheet. The data was analyzed to determine if the faculty sent the support notes as planned. Comments from the faculty were reviewed to determine subjectively how well the faculty who sent the support notes think the intervention worked, and how the intervention could be better. The response rate of the faculty reports will be presented in the Results section and the subjective findings will be presented in the Discussion section of this report.

Participants in the study were encouraged to participate in a survey designed to determine the participant's awareness of the support efforts and success tips. (see Appendix K to review the participant survey). The participant survey responses were analyzed to determine if the participants in the treatment groups recognized the intervention associated with the experimental group that they were assigned to, and to

determine if participant perceptions of online course differed for participants in the three experimental groups.

Summary

This experimental study sought to explore the relationship between providing students in online courses support beyond what they would typically receive and the students' course grade. Students were assigned to one of three experimental groups. One group of students was assigned to a faculty member with online teaching experience, who provided success tips, made students aware of service the college has to offer, and made him or herself available to the student should the student have questions or need advice. The second group of students received emailed success tips and information about College supports. This group of students did not have a contact person; these students were directed to call the College's call center if they had any questions. The third group of students did not receive additional supports beyond what the College provides to all online students.

The outcome measurement was the student's final grade in the online course. Hierarchical multiple regression analysis determined the type and strength of the relationship of the group assignment and the final course grade. The interaction of age and prior GPA were examined as factors that moderate the outcome. Participants were encouraged to participate in a survey to determine if they recognized the intervention, and if their perceptions of online courses varied depending on group assignment. The next chapter describes the results of the analysis.

CHAPTER IV

RESULTS

The purpose of this study was to investigate whether adding opportunities for engagement for community college students in online courses made a difference in the students' final grades in the particular course. Participants in this study were assigned to one of three experimental groups. Participants in each group had the usual supports available to all online students. Participants in two of the three groups received support above and beyond what the college typically provides to online students. One group received generic success tips from the Online Learning Department, and the other group received personalized emailed success tips and an offer of support from an instructor with online teaching experience.

The study used hierarchical multiple regression analysis to examine the relationship between the final grade in an online course and the level of support the participant received and also to determine if either age or prior G.P.A moderated the effects of the support. This chapter will discuss the findings.

Sample

Participants in this study were students enrolled in 16-week online sections of Composition I, American Federal Government, or American History – Civil War to Present. Instructor permission was required to include the section in the study. There were 11 Composition I sections offered in the 16–week format. Permission was obtained

for eight of the sections. One instructor who taught three sections declined participation indicating she was trying a new methodology and did not think it was a good semester to include her students in the study. There were nine sections of History offered, and all sections were included in the study. There were 12 sections of American Federal Government offered. Permission was obtained from the instructors of seven of the sections. Two instructors did not respond to requests to include students in the study; one taught three sections and the other taught two. In total, participants in this study came from 26 online sections that were capped at 20 students meaning there were potentially 520 participants in this study.

The actual number of participants was lower for three reasons. The first was that some of the students were enrolled in more than one course included in the study. In these cases, the Institutional Research and Assessment (IR&A) Department included the student in the group that received the higher level of support and removed the student from the other experimental group(s) receiving a lower level of support. The second reason for a reduction of participants was that students were allowed two weeks to drop a course and receive a full refund. At the end of two weeks, the IR&A Department removed students from the study who dropped their course during the open-drop period. The third reason was that students were given the option to opt out of the study. One student opted out of the study and was removed. After duplicated enrollments, students who dropped during the open drop period, and the student who opted out were removed, there were 355 participants included in the study.

Findings

An examination of grades for the full sample revealed that the majority, 56% of participants, earned a grade of A or B and 71.9% of the participants were successful completers, earning a grade of “C” or higher.

Table 4.1

Participant Course Grades

Grade	N	Percentage of Sample
A	99	27.9%
B	106	29.9%
C	40	14.1%
D	22	6.2%
F	36	10.1%
AW	12	3.4%
W	29	8.2%
Total	355	100%

Forty-two students did not complete the course with a letter grade. These participants withdrew (W) from the course voluntarily after the open-drop period ended, were administratively withdrawn (AW) by the instructor, or in one case was assigned the grade of an incomplete which left 313 participants who earned a letter grade in the course.

Test of Significance with Moderation by Age

H₀: There will be no significant relationship between the final grade in an online course and the level of support the student receives.

H₀: The age of the student will not moderate the effect of the type of support the student receives.

The final grades in the online course for each group as well as for the full sample are shown in Table 4.2.

Table 4.2

Mean Grades in the Online Course by Level of Support

Group	Mean Course Grade	N
Faculty Support	2.65	108
Generic Support	2.69	99
No Additional Support	2.68	106
Total	2.67	313

The descriptive statistics did not show a relationship between the type of support a participant received and the grade earned in the online course. The course grades participants earned were essentially the same for all three experimental groups.

As shown in Table 4.3, the mean age of the participants in this study was 26.11 years with the youngest participants being aged 18 and the oldest aged 69.

Table 4.3

Participant Age

<u>Participant</u>	<u>Minimum Age</u>	<u>Maxim Age</u>	<u>Mean Age</u>	<u>Std. Deviation</u>
N = 313	18	69	26.11	8.906

There were more participants aged 24 and below or what is known as a traditional-aged student than students above the age of 25 or what is known as a non-traditional student. Table 4.4 presents the number of traditional and non-traditional aged participants.

Table 4.4

Numbers of Traditional and Non-Traditional Participants

	<u>N</u>	<u>Mean Age</u>	<u>Std. Deviation</u>
Participants Aged 18-24 (Traditional)	172	19.9	1.8
Participants Aged above 25 (Non-Traditional)	141	33.68	8.211

As shown in Table 4.5, Non-traditional aged-students' final course grades were slightly higher than traditional-aged students, but the difference in the final grade appears to be marginal.

Table 4.5

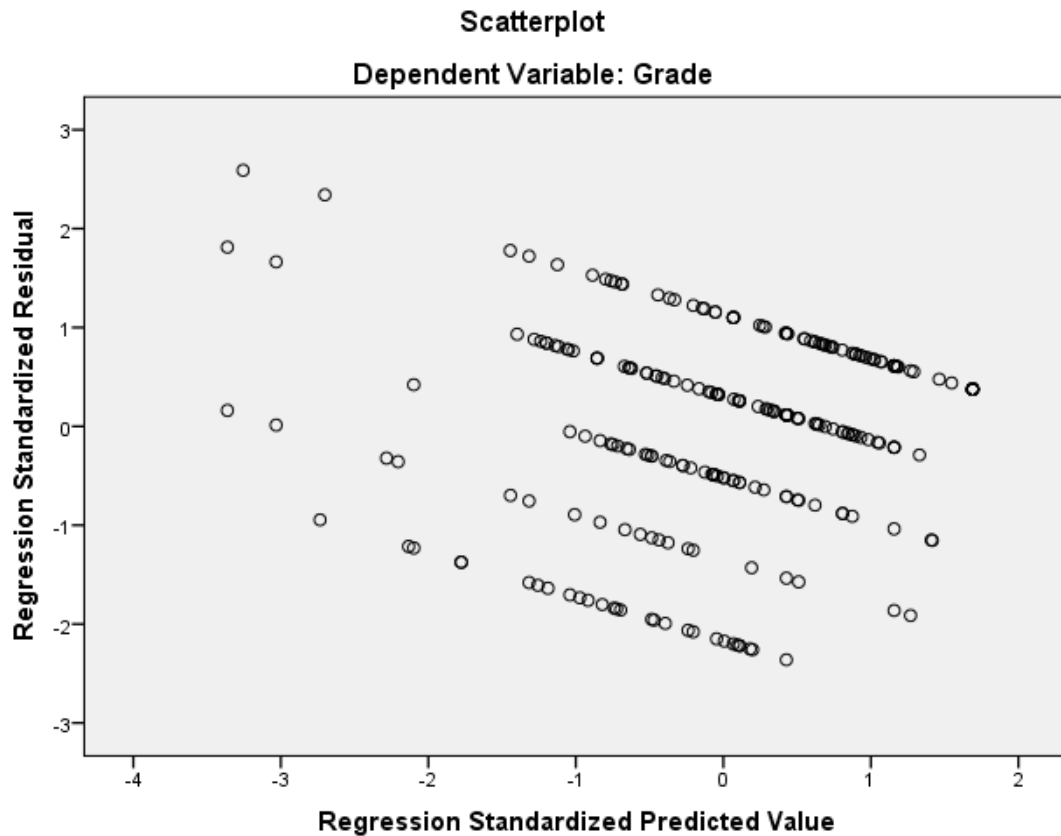
Mean Course Grades by Age

	<u>N</u>	<u>Mean</u>	<u>Std. Deviation</u>
Traditional-aged students	172	2.61	1.322
Non-traditional students	141	2.74	1.273

Assumptions

Before reporting testing the null hypothesis, the assumptions to use multiple regression were tested using the standardized residuals from the analysis. The Durbin-Watson statistic was computed to evaluate the independence of errors and was 1.744, which is acceptable. This statistic suggests that the assumption of independence errors had been met. A relatively random display of points, where the spread of residuals appeared fairly constant over the range of values for the independent variables provided evidence that the assumption of homogeneity of variance was met.

Figure 4.1 Scatterplot of Residual Variables for Age and Grade



A review of the scatterplot of the independent variable AGE and the dependent variable GRADE showed that there was no evidence of a non-linear relationship between age and the participants' final grade. As so many of the participants were between the ages of 18 and 24, it was difficult to confirm the assumption of linearity.

The assumption of normality was tested via examination of the unstandardized residual values of the independent variables. While skewness (-.818) and kurtosis (-.366) suggested normality, review of the S-W test for normality (SW = .879, df = 313, p = 0.00) indicated a problem with this assumption. Examination of case-wise diagnostics using Mahalanobis distance and DfBeta values suggested there were cases that were influencing normality. Removing the cases with the most influence did not change the

significance of the regression test. Multicollinearity assumptions were tested by reviewing the Tolerance and VIF scores which were low indicating the multicollinearity assumptions were met. The VIF scores for each variable were below 5 and Tolerance was above 0.2.

Analysis

A hierarchical regression was performed to assess the effect of group, the effect of age and then the interaction of age and group. The multiple regression test revealed that neither the level of support, the participant's age, nor the interaction of age and support was statistically significant for predicting the outcome of the final grade. The findings are summarized in Table 4.6.

Table 4.6

Hierarchical Regression Model with Age as a Moderator

<u>Model</u>	<u>Variable Entering the Model</u>	<u>Beta for Entry Variable</u>	<u>R₂</u>	<u>Sig Δ</u>
1	D1, D2	-.011	0.000	.974
		.003		
2	Age_Centered	.086	0.007	.129
3	D1xAge_Centered	-.057	0.005	.434
	D2xAge_Centered	.046		

Final Model $F(5, 307) = .807, p = .545 R^2 \text{ Model} = .013$

Age accounted for less than one percent of the variance in the final grade. Neither level of support or age were significant predictors. The interaction between age and group was not significant, therefore, there was no moderating effect. In other words, the level of support was not more or less effective for participants of a certain age. In summary, there

was no significant interaction when looking at the type of support the student received, the effect of age, or the interaction between age and the type of support; the results failed to reject the null hypothesis.

Test of Significance with Moderation by Prior G.P.A

H₀: There will be no significant relationship between the final grade in an online course and the level of support the student receives.

H₀: The student’s prior GPA will not moderate the effect of the type of support the student receives.

As shown in Table 4.7, 248 of the participants who earned a letter grade in the course had a prior G.P.A.

Table 4.7

Mean Grade by Prior GPA

<u>Prior G.P.A.</u>	<u>Mean Course Grade</u>	<u>N</u>	<u>SD</u>
0 -.9999	1.8	10	1.549
1.0 - 1.9999	2.09	22	1.509
2.0 – 2.999	2.18	91	1.313
3.0 – 4.0	3.12	125	1.067
Total	2.63	248	1.316

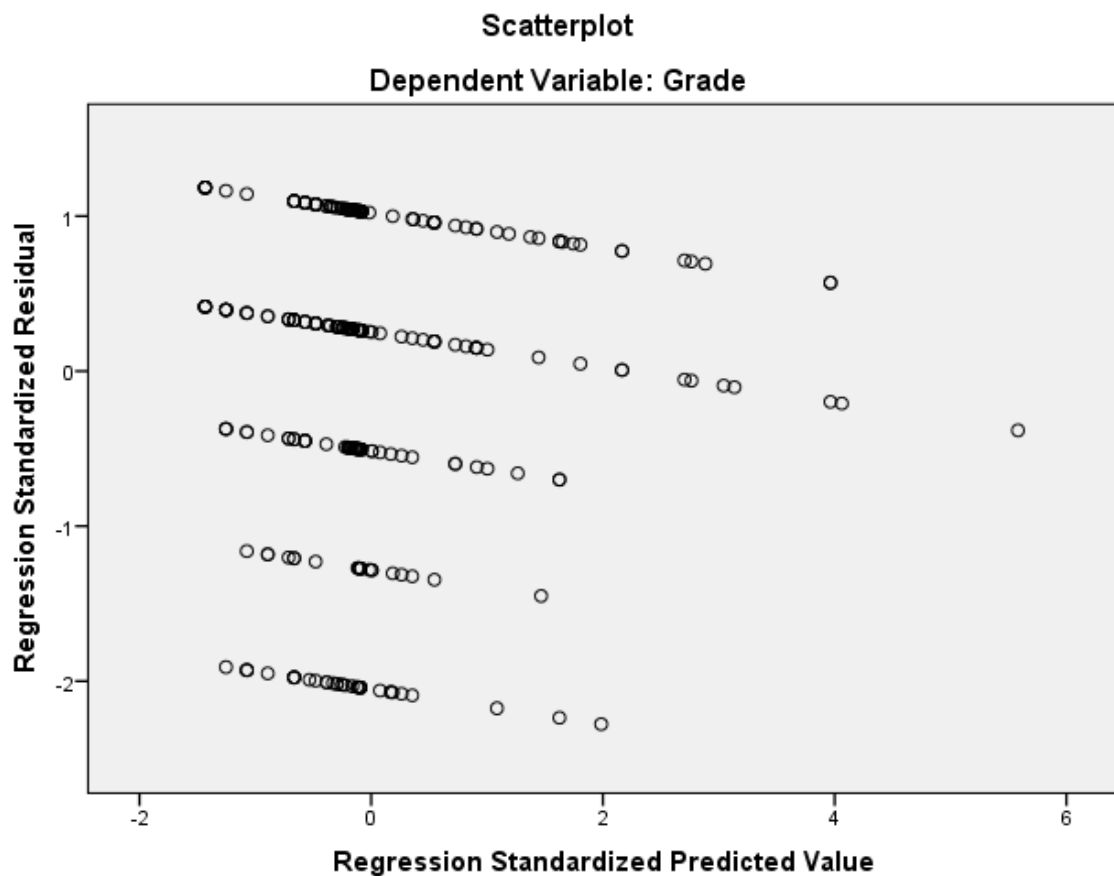
The number of students in this second analysis of Prior GPA was fewer than the analysis on age as there were 69 students who did not have a college G.P.A; students without a prior GPA were excluded from this analysis. The mean grade earned in the online course for those that had a prior GPA was 2.63 on a 4.0 scale. Prior GPA

appeared to be correlated with the final course grade. As shown in Table 13 participants with higher prior GPAs performed better in their online courses.

Assumptions

The assumption of independence errors was met. The Durbin-Watson value equaled 1.933. A scatterplot of the residual errors indicated that the assumption of homogeneity of variance was met.

Figure 4.2 Scatterplot of Residual Variables for Prior GPA and Grade



There was no indication of a violation of linearity, but like with age, where the majority of the sample fell into a specific age range, the assumption was hard to confirm

as there were many more As and Bs than other grades. There were indications that the assumption of normality was not met. The Tolerance and VIF scores were low, indicating that multicollinearity assumptions were met.

Analysis

A hierarchical regression was performed to assess the effect of the level of support, the effect of GPA and then the interaction of GPA and group. The multiple regression test revealed that the level of support and the interaction of prior GPA and support were not statistically significant for predicting the outcome of grade. The findings are summarized in Table 4.8.

Table 4.8

Hierarchical Regression Model with Prior GPA as a Moderator

<u>Model</u>	<u>Variable Entering Model</u>	<u>Beta for Entry Variable</u>	<u>R₂</u>	<u>Sig Δ</u>
1	D1, D2	-.097 -.063	0.007	.402
2	Prior GPA_Centered	.403	0.169	.000
3	D1x GPA_Centered	-.028	0..170	.853
	D2x GPA_Centered	-.050		

Final Model F(5, 242) = 9.908, p = .000 R² Model = .170

As is widely supported in the literature, prior GPA was a predictor of the final course grade (Aragon and Johnson, 2008; Cochran et al., 2014; Jaggars et al., 2013b; Johnson & Mejia, 2014; Morris, et al., 2005), accounting for approximately 17% of the variance in final grade. However, prior GPA did not moderate the effect of support on

the student's final grade. This means that the intervention was no more or less successful for participants who had either high or low GPAs prior to participation in this study.

Post Hoc Findings

After the initial analysis, the data was reanalyzed to determine how the 65 students who did not have a prior GPA fared. The exploration began with an inquiry to the IR&A department to confirm the significance of a not having a prior GPA. The IR&A Department sent the participant list to the National Student Clearinghouse to confirm prior attendance. Fifty-two of the 65 participants with no prior GPA showed no prior college attendance. The IR&A Department indicated the other 13 participants had not provided their transcripts by the first day of class, but it appears these students had attended college elsewhere. IR&A provided a deidentified list of participants who had no history of attending college making it possible to analyze the outcomes of students who had no college experience.

As shown in Table 4.9, this group appeared to have achieved well compared to the full sample. Nearly 77% of participants new to college, earned a grade of A or B and 84.6% of the participants earned a grade of "C" or higher which was the school's criteria for successful completion.

Table 4.9

Participants New to College - Final Course Grades

Grade	N	Percentage of Sample
A	17	32.7%
B	23	44.2%
C	4	7.7%
D	2	3.8%
F	3	5.8%
AW	0	0%
W	2	3.8%
Total	52	100%

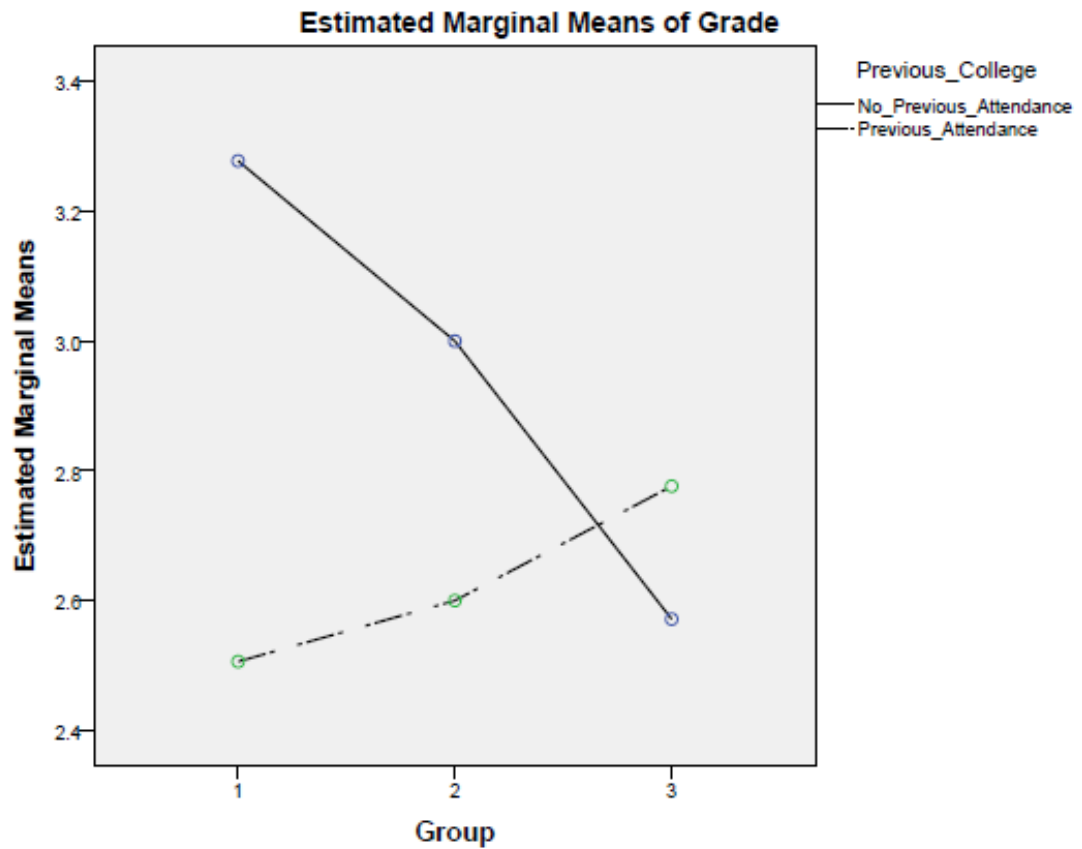
Looking at the mean scores, it was evident that there was stronger treatment effect for students who did not have college experience. As shown in Table 4.10 and Figure 4.3, participants with no college experience who received support from a faculty member outperformed all participants in the group that had college experience as well as the students who were new to college that did not receive additional support.

Table 4.10

Grades by College Experience and Level Support

	<u>Group</u>	<u>Mean Course Grade</u>	<u>N</u>
With College Experience	Faculty Support	2.51	83
	Generic Support	2.60	80
	No Additional Support	2.78	85
	Total	2.63	248
Without College Experience	Faculty Support	3.28	18
	Generic Support	3.00	18
	No Additional Support	2.57	14
	Total	2.98	50

Figure 4.3. Grades by College Experience and Level Support



To examine the effect of support for students with no college experience, the null hypothesis was retested for this subset of participants

H₀: For students with no college experience, the final grade in an online course does not differ based on the level of support the student receives.

ANOVA was selected as the test of significance as the analysis can determine if the independent variable group assignment, significantly influenced the dependent variable, final grade (Lomax & Hahs-Vaughn, 2013). The assumptions of ANOVA were examined. The random assignment of participants to experimental groups helped to ensure the assumption of independence was met. Additionally, a scatterplot of residuals

against the independent variable, level of support, was reviewed. The points were randomly displayed from 0 giving further support that the assumption of independence was met. According to the Levene's test, the homogeneity of variance was violated $F(2, 47) = 53.741, p = .031$. The Levene's test measures the variability of the error variances for the dependent variable. A violation of the homogeneity assumption leads to the possibility of falsely rejecting a null hypothesis. The skewness statistic of the residual was -1.062 and kurtosis was 1.157 , both within the range of an absolute value of 2 suggesting some evidence of normality. However, there were other indications that the assumption of the normality was violated. A significant S-W test raised concern that the sample distribution for the residuals was different than what would be expected in a normal distribution ($SW = .904, df = 50, p = .001$). Further examination of Q-Q plots showed four outliers that could be skewing the findings. Examination of these outliers revealed that all had low grades with three earning a grade of F and one earning a grade of D. As the assumptions of ANOVA were not fully satisfied, statistical testing was expanded to include non-parametric tests in attempts to validate the findings. The observed power was $.348$. Low power such as the power scored in this indicates that the test was not very powerful which increases the probability of rejecting the null hypothesis when it is really false leading to what is called a Type II error (Lomax, Hahs, Vaughn, 2013).

As shown in Table 4.11, the one-way ANOVA was not statistically significant.

Table 4.11

ANOVA Summary Table – Students with No College Experience by Support Group

<u>Source</u>	<u>SS</u>	<u>df</u>	<u>MS</u>	<u>F</u>	<u>Sig.</u>
Group	3.940	2	1.970	1.746	.186
Error	53.040	47	1.129		
Total	56.980	49			

R Squared = .069 (Adjusted R Squared = .030)

It was appropriate to analyze the data using the non-parametric Kruskal-Wallis test, which is more powerful when normality assumptions are violated and assumes equal population variances across groups (Lomax & Hahs-Vaughn, 2013). The findings were no statistically significant differences between the grades participants received regardless of the level of support provided. ($H(2) = 1.758$ $p = .415$). The results confirmed that the null hypothesis could not be rejected.

Faculty Reports

The experimental conditions for this study relied on the Online Learning Department and the faculty sending support notes following the protocols. A validity measure built into this study was to have the faculty submit reports within a week of sending the support notes. There were 18 faculty members and six notes meaning that if 100% of the reports were submitted, there would be 108 reports. Submission of the report indicated that faculty support notes were sent as planned and provided a means to ensure the validity of the independent variable, the level of support. Faculty received a reminder note to send the report on each Friday that they sent support notes. If the

faculty member did not submit a report, a reminder was sent on the following Tuesday. As shown in Table 4.12 the faculty seemed to be following the protocol, as the response rate for submitting reports was high. Overall, 97% of the reports (n=105) were submitted on time or with one reminder.

Table 4.12

Submission Rates of the Faculty Reports

	<u>Week 1</u>	<u>Week</u>	<u>Week 3</u>	<u>Week 6</u>	<u>Week 10</u>	<u>Week 13</u>	<u>Overall</u>
		<u>2</u>					
Submitted report on time	15 (83%)	13 (72%)	16 (89%)	15 (83%)	15 (83%)	13 (72%)	87 (80%)
Submitted report after one reminder	3 (17%)	5 (28%)	2 (11%)	2 (11%)	3 (17%)	3 (17%)	18 (17%)
Did Not submit report	0	0	0	1 (6%)	0	2 (11%)	3 (3%)

The reports from the faculty indicated that there were 28 reports of student contacts with faculty. Considering there were over 600 emails sent, this was a low response rate. Most contact was through email, with one report of a phone call and one report of an office visit. Many of the reports were that the student sent a thank you note for the email. Some faculty reported that they customized the notes, but none of the submitted modifications contained substantial changes from the original email. The customizations showed that the faculty member sent the emails to individual students rather than as one group email and that they signed their name and added contact

information. As these reported customizations did not extend beyond the protocol directions, they did not qualify as customizations.

Student Survey

Another manipulation check was to survey participants to determine if there were difference in the way participants responded to questions about their online learning experiences. The response rate for the student survey was near 20% (n = 68 of the 355 participants who were sent invitations to participate). (see Appendix L for the complete survey results). The results indicated that 38.24% of those that responded to the survey had completed three to five online courses before the fall 2016 semester began. Twenty-six percent of the sample had no online experience. The number of online courses participated in this semester varied with the highest percentage of participants enrolled in two online courses. Table 4.13 presents the number of online course enrollments for participants in the study

Table 4.13

Number of Online Courses Enrollments for the Survey Respondents

<u>Response</u>	<u>%</u>	<u>Count</u>
One	23.53%	16
Two	33.82%	23
Three	19.12%	13
Four	20.59%	14
Five or more	2.94%	2
Total	100%	68

Of particular interest were the questions that asked about whether or not students found the emailed success tips helpful. One question on the survey focused on the support notes from the Online Learning Department, received only by Group 2. The intent of the question was to determine if those who were in the group that received the support emails from the Online Learning Department recognized the intervention. The responses from the participants in all three groups were similar. The participants in all groups rated these supports positively. Sixty-seven percent of the participants agreed or strongly agreed that the notes from the Online Learning Department were helpful and 29.41% neither agreed nor disagreed. Approximately four percent of the participants disagreed or strongly disagreed and nearly nine percent reported they did not remember getting the emails. When examining the results by group there were no notable differences in the responses. The numbers of students who indicated they did not remember getting emails was low: one participant from the Faculty Support group, two from the Generic Support Group, and three from the Control Group. The responses received did not confirm that group that received emails from the Online Learning Department recognized the intervention.

The responses to the question about the helpfulness of emails and encouragement from a faculty member were almost identical to the responses regarding the helpfulness of the notes sent from the Online Learning Department. Most responses indicated the support notes were helpful with the distribution of responses being similar for each group. Again, the responses received did not confirm that the participants recognized the intervention.

Overall, the participants who completed the survey rated their experiences in their online courses positively. Table 4.14 displays the student responses to the question, “Overall my experience in my online course or courses has been positive.” The response trends for each group were nearly identical and overwhelmingly positive. The survey did not reflect that the participants from any particular experimental group had a better or worse experience than participants in the other experimental groups.

Table 4.14

Experiences in Online Courses for the Survey Respondents

Answer	%	Count
Strongly Agree	51.47%	35
Agree	33.82%	23
Neither Agree nor Disagree	10.29%	7
Disagree	2.94%	2
Strongly Disagree	1.47%	1
Total	100%	68

Summary

This experimental study sought to explore the relationship of adding an opportunity for engagement to students in online courses by providing support beyond what they would typically receive and the students’ course grade. Students were assigned to one of three experimental groups. One group of students was assigned to a faculty member, who provided success tips, made students aware of service the college has to offer, and made him or herself available to the student should the student have questions

or need advice. The second group of students received emailed success tips and information about College supports. This group of students did not have a contact person; these students were directed to call the College's call center if they had any questions. The third group of students did not receive additional supports beyond what the College provides to all online students.

The outcome measurement was the student's final grade in the online course. Hierarchical multiple regression analysis determined the type and strength of the relationship of the group assignment and the final course grade. The interaction of age and prior GPA were examined as factors that moderate the outcome. The next chapter discusses the results of the analysis.

CHAPTER V

DISCUSSION

Online courses present a means of increasing access to higher education and expanding opportunities for degree completion by offering students flexible and convenient classes that do not require attendance at a prescribed time and place. Enrollment in online courses is growing at a time when overall enrollment in college courses is flat (Poulin & Straut, 2016). While online courses seem to be helping students access higher education, it is concerning that course completion rates in online classes are lower than completion rates in face-to-face courses (Allen & Seaman, 2015; Jaggars et al., 2013a; Johnson & Mejia, 2014). Community college students enroll in online courses at a higher rate than those at four-year colleges and universities (National Center for Educational Statistics, 2017a). This enrollment trend is concerning as the flexibility and convenience that online courses afford may work against these students who tend to be underprepared for the academic demands of college (Bailey et al., 2015; Wyner, 2104). In other words, community college students who are more likely to be at risk of succeeding are selecting online courses that give them an even lower chance of success.

Student engagement during college is understood to be a key to positive college outcomes including course completion, persistence to graduation, and life satisfaction after leaving college (Bailey et al., 2015; CCCSE, 2014; Gallup-Purdue Index, 2014; Kuh et al., 2007). In the Framework for *What Matters to Student Success*, Kuh et al.

(2007) suggest that student interaction with faculty and the institution's approach toward teaching and learning are factors that correlate not only with engagement while a student is in school but also with positive post-college outcomes. In addition to the financial benefits of earning a college degree, engagement while in college, particularly interaction with faculty, leads to increased life-satisfaction scores, after a student leaves college (Gallup-Purdue, 2014). The nature of online courses makes the types of engagement Kuh et al. (2007) describe challenging. Consequently, as engagement with faculty seems to have a strong association with positive college outcomes, the purpose of this study was to investigate whether a relationship exists between the level of engagement offered to online students and the final course grades. In this study, the added engagement came from emailed support notes and the opportunity to dialogue with an experienced online faculty member about academic activities.

Participants in one experimental group in this study received generic emails with support tips. These notes were sent as one mass email to all participants in the group. The second group of participants was assigned to an experimental group where they received personalized support from a faculty member. A faculty member sent an email with success tips to each student, and the student was invited to contact the faculty member if s/he had questions about how to approach an online course or needed advice about college services. All students in the study had access to the college's typical supports which, include online technical resources, a technical help desk, an online orientation, and online tutoring.

The reason for three experimental groups was to help determine if there was an improvement in the participant grades, whether the increased grades came from the

success tips or the interaction with the faculty member. The generic success tips were sent to determine if the success tips by themselves made a difference in the grade.

The overarching research question for this study was: Do academic supports embedded into an online program lead to higher course grades? The null hypotheses were the test of significance.

H₀: There will be no significant relationship between the final grade in an online course and the level of support the student receives.

In addition to determining if the level of support made a difference to the participants' final grades, the study sought to determine if sub-groups of students were more responsive to the interventions. The sub-hypothesis were:

H₀: The age of the student will not moderate the effect of the type of support the student receives.

H₀: The student's prior GPA will not moderate the effect of the type of support the student receives.

Summary of Findings

Participants in this study achieved higher grades than expected based on the rates published in the reports that led to this study. (Online Learning Department, 2014; [Institution], 2015). As described in Chapter III, the enrollee success rate for online students was 64%, and the number of students that earned As and Bs was 51.80% ([Institution], 2015). In this study, the success rates were higher, with the enrollee completion rate at nearly 72% and the number of participants earning As and Bs at nearly 58%. Hierarchical multiple regression was used to test the null hypotheses. The research question first required an examination of the relationship between the

participant's final grade and the level of support provided. In addition to analyzing the effect of the support the participant received, the analysis included the influence of the moderating effect or the interaction of age and prior GPA on the level of support provided. The moderating variables determined whether the treatment effect, support, was stronger for participants of a particular age or for those with high or low prior GPA.

Level of Support. The analysis showed there was no significant relationship between the final grade earned in the online class and the level of support the participant received. When examining the participants' achievements on a 4.0 grading scale, the mean score was essentially the same for participants in each condition, indicating that the independent variable, level of support, did not influence the final grades in the course.

Age. Age was not a predictor of the participant's final grade. The results support the findings that non-traditional students, those over age 24, outperformed traditional students achieving about 1.3 tenths of a point higher on a 4.0 grading scale. In this study the question was not does age influence the final grade, but how age moderates the participants' response to the supports. The finding was that the effect of support on final grades was the same for older and younger students. Age did not moderate the level of support.

Prior GPA

Prior GPA was a significant predictor of the final grade in the online course. However, prior GPA did not moderate the effect of the support the participants received. Students who came into the class with a low GPA did not respond significantly differently to the support than participants who had been academically more successful in the past.

Students New to College. When reviewing the results of the intervention, it seemed that the sub-group, students new to college, performed differently than the full sample in two ways. First, students who were new to college earned higher grades than those with experience. Second, the level of support the participant in this sub-group received seemed to make a difference to the final grade.

When examining the achievement of the 50 participants who were new to college by experimental group assignment the level of performance was striking. The mean course grade for the participants with no college experience compared to participants with college experience was .35 points higher on a 4.0 grading scale. The participants that were new to college and did not receive the additional supports earned mean grades that were almost equivalent or only .05 points lower, than the mean scores of the full sample of students with college experience. For participants that were new to college and received the generic success tips the final grades were on average .37 points higher than the grades of participants with college experience. Students new to college who received personalized support from a faculty member on average earned course grades that were more half a letter grade higher than those with college experience.

In summary, students who were new to college that did not get additional support performed about the same as participants with college experience. Those that were new to college outperformed participants with college experience by about a third of a letter grade if they got the generic support and by over half a letter grade if they received the personalized faculty support. The finding led to the creation of an additional null hypothesis.

H₀: For students with no college experience, the final grade in an online course does not differ based on the level of support the student receives.

While the group means looked significant, once again, the statistical testing revealed the results were not statistically significant. There was no statistically significant relationship between group assignment and the final grade the student earned. The small sample size and the high number of participants obtaining grades at the top of the grading scale in this sub-group, participants new to college, made it challenging to prove statistically significant differences between the levels of support the participant in the sub-group received.

Manipulation Checks. The validity measures in this study included a student survey to help determine if the participants recognized the intervention, and the faculty reports were designed to give assurances that faculty were sending the support notes as directed. Approximately 20% of the participants in the study completed the survey, and the majority of participants agreed or strongly agreed with each question in the survey. The faculty who sent support notes to participants completed their reports at above the 95% rate. This rate includes those that submitted their report upon the first request, or with one reminder.

Conclusions

Increased engagement in the form of success tips designed to help students manage their online studies and an invitation for a dialogue with a faculty member with online teaching experience did not show even a hint of a relationship with final grades for the full sample. However, there was a suggestion of a connection between the level of support a participant received and the final course grade for students who were new to

college. Without statistical significance the findings are not conclusive, but the pattern of final grades brings up the question of whether the students who were new to college who received the additional supports did respond, or if the pattern was just a fluke. If the results are more than just a random occurrence, it could be that students new to college may be more pliable and receptive to supports than the seasoned students as students.

A concern about this support initiative was that faculty would not have or make the time to complete the faculty tasks. The fact that faculty interest in this study was high, and that nearly all faculty providing support sent reports indicating they were completing the functions as directed led to the conclusion that faculty are concerned about the success of online students. Faculty seem to be willing to take on the responsibilities of a student success initiative if they believe the time and effort will lead to improvements for students.

The consistently high levels of agreement from the 20% of the participants that took the end of the study survey led to the conclusion that the survey questions were not discriminating as intended. Perhaps participants assumed the faculty notes were from their instructor and that any email sent from the College was from the Online Learning Department. If this was the case, the high ratings might not be a reflection of the support the student received through this intervention. The survey did not help confirm that the students recognized the additional supports.

In the literature, a lack of experience with online courses correlates with risk for success in online course with some indicating a lack of experience to be a more significant risk factor than a low GPA (Cochran, et al., 2014; Wladis et al., 2014). If this is true, there is an indication that the supports provided to students in this study who were

new to college was helpful as this sub-group that was expected to perform worse than those with college experience performed better. The fact that those who were new to college that did not receive the additional support achieved at the same rate as the rest of the sample gave a further suggestion that the additional supports made a positive difference for participants in the study who were new to college.

According to Kuh's (2008) description of High-Impact Practices, all students benefit from participating in activities that add engagement, but the effects are greatest for those who are underserved or less academically prepared. As the attempt to increase engagement in this study did not yield significant results, it is not clear if the type of engagement offered in this study is helpful. Therefore, it is not possible to conclude if at-risk groups of online students benefit more from increased engagement.

Limitations

Before generalizing the findings, a review of the limitations provides contextual information that helps the reader understand the conclusions and implications. One limitation was that there is no way to know what percentage of the participants read the support emails or followed the advice in the notes. The faculty reported that very few students replied to the offer of support. Of the participants that did respond, there was not a means to determine which experimental group the participant was assigned to. With the set-up of the study, it was unclear if those in the personalized support group read the advice and did not have questions or a desire to converse with an experienced faculty member or if they even read the notes. If the participants were not all reading the support emails, it is difficult to determine how helpful the support notes were.

Another limitation of the study was that there was a built-in assumption that the faculty members were sending the notes following the directions of the protocol. The faculty reports indicated faculty were sending notes to participants, but there was no way to verify that the activity took place. The fact that some faculty stated that they customized the notes when in actuality they were personalizing as directed indicates that there may have been misinterpretations of the directions. As the researcher did not ask for copies of the emails the faculty sent, she cannot confirm that the faculty sent the support notes as planned.

The structure of the survey questions did not provide the intended manipulation check. The intent was to determine if the participant responses aligned with the level of support they received throughout the semester. It appears that the participants generalized the questions leading to high level of agreement on every question. The consistently high level of agreement with each item did not provide helpful information about how the participants perceived the support.

Discussion

The study began as an attempt to address successful completion rates in online courses that lagged behind face-to-face courses. The results of the study indicate the engagement added in this study did not change the outcomes, the course grades. There were some responses that warrant discussion.

The investment of the faculty in this effort to address student success in online courses exceeded expectation. The response rates and comments in the faculty reports showed that faculty were invested. Initially, the comments in the reports indicated optimism about the supports; toward the middle, faculty were asking if others were

receiving responses, and toward the end, the comments reflected that they hoped the notes were helping students, but they weren't sure. The faculty seemed to be wondering if the emails were helping or not. Several indicated interest in the study findings.

One of the limitations of this study was that participants were offered support, but the notes did not ask for a reply. While using the College's email is a requirement, and a primary means of communication in an online course, there is no way to know if students were reading the support notes. Without knowing if the participants read and acted on the support notes, there is no way to tell if the support does or does not make a difference in an online student's final grade.

Sending students email is a common way that colleges disseminate information, but without asking for a response, it is difficult to determine how many students are reading the notes. The results of this study might give credence to suggestions that students are inundated with mundane emails and do not read them. It appears that text messaging is a preferred mode of communication for today's college student (Gardner, 2017). It might be worthwhile to consider text messages as a means of providing support and creating a mentoring relationship. Changing the support to notes to short, concise directives that are more appropriate for text messaging might provide the foundation for further study about ways to best support online students.

Implications and Recommendations

The implications and recommendations that come from this study are divided into three categories; implications for practice, implications for theory, and implications for further research.

Implications for Practice

With no conclusive proof that providing success tips, either personalized or generic, leads to higher grades, there is no direct implication for practice regarding targeted efforts to increase engagement. The high grades of participants in this study indicate an updated analysis of how students are performing in online courses compared to face-to-face at [institution] might be helpful to determine if the performance gaps are narrowing and if targeted supports are needed.

Implications for Theory

Improving the success rates for community college students is getting national attention (Bailey et al., 2015; McPhail, 2011; Wyner, 2014). The call seems to be to improve success by engaging students through the implementation of High-Impact Practices (CCCSE, 2014; Kuh, 2008). These practices rely on student experiences that involve interaction with faculty and peers often with real-world contextualized learning. Much of the suggested pedagogy that promotes deep or significant learning experiences involve learning beyond knowledge and application and requires authentic conversation and reflection (Fink, 2013; Kuh, 2008). This is exactly the type of experience Bailey et al. (2015) find is missing in online courses.

This study intended to add engagement by taking a program approach toward organizing faculty to send success tips and inviting students to converse about their performance in their online course. The CCCSE (2014) calls HIPs a means “making engagement inescapable” (p.3). It appears that participants in this study found it easy to escape as most did not take advantage of the offer of support. Continued effort toward

finding a means to engage online students seems beneficial if this mode of learning continues to play a substantial role in higher education.

Recommendations for Future Research

Replicating the study on a larger group of students new to college might be worthwhile. If students new to college are responding to the additional engagements provided by the faculty and the success tips, continuing the innovation for this targeted group might be a good investment of faculty time and college resources.

In future studies, it might be wise to consider the mechanism for communication. It is possible that students would be more receptive to messages sent by text messaging or other means that students readily access. As is the nature of text messaging and other modern communication applications, the support notes might be briefer, direct, and perhaps sent more frequently.

Including steps to close the loop by asking students questions that require replies may provide more information about how receptive students are to the type of supports provided in this study. Asking for a reply would be a step toward making engagement inescapable.

Final Thoughts

Community colleges are under pressure to both increase access to higher education and to address poor outcomes. Online courses may be a means of making college more accessible. If engagement is the key to student success, and student success is essential to meet the needs of both the individual student and to create an educated citizenry, addressing student success in online courses may help create a more educated society.

Engagement is the time and effort a student spends on academic pursuits and is a foundation for student success. (Kuh et al., 2007). Kuh (2008) coined the phrase High-Impact Practice. The term HIP is reserved for practices that promote high levels of student engagement and have empirical evidence that links the practices to positive student outcomes. These outcomes include higher engagement scores on perception surveys, higher persistence rates, and better grades.

Online courses have the potential to meet some student needs in ways that face-to-face courses cannot. Doyle (2017) suggests that learning occurs best when the brain is ready to learn. In other words, optimal learning occurs when the student has the right amount of sleep, food, liquid and movement. If the student is learning online, s/he can potentially pick times for learning, a luxury not available when a class is at a particular time and place. However, the nature of online courses seems to put students at an inherent disadvantage for engagement. In fact, Kinzie (2015) reported that online students showed much lower levels of engagement than all other types of students as evidenced by engagement scores on the *National Survey of Student Engagement*. Bailey et al. (2015) found the discussion that occurs in online courses forced and artificial, and Bonk and Khoo (2014) report a prevalence of poor course design that results in the online student feeling isolated and not belonging in an academic community, which seems to reflect the opposite of engagement

The literature describes initiatives to improve outcomes in online courses. These initiatives seem to fall into three categories 1) those that help ensure the student is ready for the course, 2) those that address support for the student while in the course and 3) those that address course design. Examples of measures schools take to ensure that

students are ready to succeed in online courses include limiting enrollment to those that demonstrate academic readiness, enforcing on-time enrollment, and developing robust student orientation (Aslanian & Clinefelter, 2013; Fetzner, 2013; Jaggars et al., 2013a; Wladis et al., 2014; Wolff et al., 2014; Xu and Jaggars, 2014). Practices that support students while they are in an online course include online tutoring, 24/7 technical support centers, supports targeted to classes with high risk factors such as those typically take as electives or that meet the distributional requirements, and early alert systems (Aragon & Johnson, 2008; Aslanian & Clinefelter, 2013; Jaggars et al., 2013a; Wladis et al., 2014; Wolff et al., 2014). Professional development emerges as means for addressing course design (Lokken & Mullin, 2014).

This experimental study sought to examine the effects of an innovation designed to encourage higher-level engagement for online students by sending tips to help students engage with their online studies and for one experimental group the offer of a mentoring relationship. The emphasis of the support tips was to encourage students to access the course early and orient quickly, to schedule time to work on the course, and to enter important course dates on a calendar. There was a suggestion to complete assignments a day or two ahead of the deadline to avoid last-minute technical or personal emergencies. The notes emphasized the importance of communicating with the course instructor when needed and made suggestions to use the online tutoring services.

This study did not provide any empirical evidence that supports a means of engaging online students. More study is needed on how to engage this group of students that have diminished or no presence on a campus. Finding ways to support online

students so that they complete their classes is important as these students lead to an educated population who promote the overall well-being of the nation.

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APPENDIX A

Course Approval

Subject: Study Designed to Promote Student Success in Online Courses: PLEASE
REPLY

Dear Faculty Name,

This fall the Online Learning Department will conduct a limited study that involves mentoring online students.

Participants in the study will be enrolled in a 16-week section of Composition I, U.S. History – Civil War to Present, and American Federal Government. These courses were selected as they are courses that students often take early in an academic career.

The mentor will be a faculty member with online teaching experience. S/he will send notes to your students providing encouragement, information about College resources, and strategies for managing the workload of an online course.

The mentor will not be providing any advice about actual course content and will advise the student to contact you about course questions. No one will enter your Bb course site or review your syllabus as a part of this study.

In addition to this study being part of an Online Learning innovation, I plan to use the results for my dissertation study. To use the results, it is important that I have an email approval from you to include students in your course in the study.

If you approve, please let me know by replying to this note and granting your approval.

The Institutional Research and Assessment Department will take steps to make sure I, as the researcher, do not have any knowledge of who the students in the study are or the grades you assign.

Please let me know if you have any questions.
Sincerely,

[Researcher Name]
Associate Professor/Instructional Designer
Online Learning
[Institution Name]
918-595-701

APPENDIX B

Informed Consent

Sent on behalf of [Researcher Name]

Dear Online Student,

I hope your semester is off to a good start. My name is [Researcher Name]. I am an instructional designer in the Online Learning Department. This semester we are piloting a study designed to give us information about how to best support online students. Your course is one of the courses selected for the study. Students in the selected courses will be divided into three experimental groups.

All students in the study will have access to the College's typical supports such as the orientation for online students, online tutoring, technical support from the College Service desk, and access to resources on the Student Tab in Blackboard. Some students will receive support notes from the Online Learning Department. Some students will receive support notes from a faculty member. All students will have the opportunity to participate in an online survey toward the end of the semester.

Participation in this study will not require any extra effort on your part, and there are no known risks, which are greater than those ordinarily encountered in daily life.

In addition to working at the College, I am also a graduate student at Oklahoma State University. I plan to use the results of this pilot study in my dissertation study. If you have any questions about the study, you can contact me at (918) 595-7018 [\[researchername\]@\[institution\].edu](mailto:[researchername]@[institution].edu) or the Oklahoma State University IRB at 405-744-3377 or via e-mail at irb@okstate.edu.

If you do not want to be included in this study, please reply to this note and I will remove you.

I hope you have a successful semester and a great experience in your online course at [institution].

Sincerely,

[Researcher Name], Ph.D. Candidate
Associate Professor/Instructional Designer
Online Learning
[Institution]
[Researcher phone number]

APPENDIX C

IRB Approvals

Oklahoma State University Institutional Review Board

Date: Monday, August 15, 2016
IRB Application No ED16123
Proposal Title: Support for community college students in online courses

Reviewed and
Processed as: Exempt

Status Recommended by Reviewer(s): Approved Protocol Expires: 8/14/2019

Principal
Investigator(s):

Jennifer Campbell 7931 S Hudson Pl Tulsa, OK	Tami Moore 2439 Main Hall Tulsa, OK 74106
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The IRB application referenced above has been approved. It is the judgment of the reviewers that the rights and welfare of individuals who may be asked to participate in this study will be respected, and that the research will be conducted in a manner consistent with the IRB requirements as outlined in section 45 CFR 46.

The final versions of any printed recruitment, consent and assent documents bearing the IRB approval stamp are attached to this letter. These are the versions that must be used during the study.

As Principal Investigator, it is your responsibility to do the following:

1. Conduct this study exactly as it has been approved. Any modifications to the research protocol must be submitted with the appropriate signatures for IRB approval. Protocol modifications requiring approval may include changes to the title, PI advisor, funding status or sponsor, subject population composition or size, recruitment, inclusion/exclusion criteria, research site, research procedures and consent/assent process or forms
2. Submit a request for continuation if the study extends beyond the approval period. This continuation must receive IRB review and approval before the research can continue.
3. Report any adverse events to the IRB Chair promptly. Adverse events are those which are unanticipated and impact the subjects during the course of the research; and
4. Notify the IRB office in writing when your research project is complete.

Please note that approved protocols are subject to monitoring by the IRB and that the IRB office has the authority to inspect research records associated with this protocol at any time. If you have questions about the IRB procedures or need any assistance from the Board, please contact Dawnett Watkins 219 Scott Hall (phone: 405-744-5700, dawnett.watkins@okstate.edu).

Sincerely,

Hugh Crethar, Chair
Institutional Review Board

Oklahoma State University Institutional Review Board

Date: Thursday, November 03, 2016 **Protocol Expires: 8/14/2019**
IRB Application No: ED16123
Proposal Title: Support for community college students in online courses

Reviewed and Exempt
Processed as: **Modification**

Status Recommended by Reviewer(s) **Approved**

Principal
Investigator(s):

Jennifer Campbell	Tami Moore
7931 S Hudson Pl	2439 Main Hall
Tulsa, OK	Tulsa, OK 74106

The requested modification to this IRB protocol has been approved. Please note that the original expiration date of the protocol has not changed. The IRB office **MUST** be notified in writing when a project is complete. All approved projects are subject to monitoring by the IRB.

The final versions of any printed recruitment, consent and assent documents bearing the IRB approval stamp are attached to this letter. These are the versions that must be used during the study.

The reviewer(s) had these comments:

Mod to add a drawing for \$20 Amazon gift certificates.

Signature :

Hugh Crethar, Chair, Institutional Review Board

Thursday, November 03, 2016
Date

Human Subjects Review

Proposal Title: Support for Community College Students in Online Courses

IRB # 16-007

Dear [Researcher Name]:

Your research proposal has been approved by the Institutional Review Board at [Institution]. You are authorized to begin your research and implement this study as of the start date listed in your application. This authorization is valid until the end date listed in your application, or for one year after approval of your study, whichever is earlier. After this authorization runs out, you are required to submit a continuation or renewal request for board approval.

This approval is granted with the understanding that the research will be conducted within the published guidelines of the [Institution] Institutional Review Board and as described in your application. Any changes or modifications to the approved protocols should be submitted to the IRB for approval if they could substantially affect the safety, rights, and welfare of the participants in your study. Please use the IRB number in all your communications.

Thank you for sending us your application for research involving human subjects. By doing so, you safeguard the welfare of our students and federal funding of our college.

Sincerely,

[IRB Co-Chair]

[Name of Director]

Co-chair, Institutional Review Board

[Institution Name]

[Institution Phone Number]

[irb@\[institution\].edu](mailto:irb@[institution].edu)

APPENDIX D

Note to Recruit Faculty Mentors

Dear Online Instructor,

Before you leave for the break, the Online Learning Department is hoping you will consider agreeing to serve as a virtual mentor for online students next fall

The concept is that you, an experienced online faculty member, are in a good position to provide advice to online students about how to be successful in an online course. We will assign up to ten students to you. You will send six emails to these students during the fall semester. In August, Online Learning will provide you with sample emails and a calendar of when to send them. You can send the emails that contain success tips as written or personalize them. You will offer advice about strategies to be successful and make yourself available for questions and to give advice.

Participation in this Online Learning activity counts as a professional development activity for the online instructor. We do not expect the time commitment to be high, but we believe the impact to our online students could be great.

The reason for this initiative is to promote engagement between the College and the online student. The Online Learning Department is concerned about student success in online courses and would like to evaluate the benefits of virtual mentoring as a high impact practice for online students.

If you are willing to serve as a faculty mentor, please send a note to [bbsupport@\[institution\]cc.edu](mailto:bbsupport@[institution]cc.edu)

Signed by the Director of the Online Learning Department

APPENDIX E

Procedures for the Institutional Research and Assessment Office

1. Complete the Spreadsheet
 - a. Columns A: Names of the Student in the Study
 - b. Column B: Student Email Addresses
 - c. Column C: List the CWID of the Student
 - i. If a student is enrolled in more than one section remove the student from the second and or third section.
 - d. Column D: List the CRN of the Course
 - e. Column E: – List the Instructor of the Course
 - f. Column F: GPA of the Student
 - g. Column G: Student DOB
 - i. Following the protocol, eliminate students who are under the age of 18 from the study.
 - h. Column H: Student age on the first day of class (8/22/16)
 - i. Column I: List the Group Assignment
 1. Randomly assign the students from the sections in the study to the three experimental groups
 - i. Support from Faculty (Group 1)
 - ii. Ongoing Success Tips Group (Group 2)

iii. Control Group (Group 3)

j. Column J: GPA of the Student

i. Column K - Mentor Assignment

- a. If a student is assigned to a course where the instructor is the mentor, redistribute the student to another mentor.
2. Send the Faculty Mentors the names and email addresses of the students they will mentor (See appendix C for a copy of the note the Institutional Research Department will send to the Faculty Mentor).
 3. On day one of the third week of the semester, after the open drop period ends, the review the enrollments of each of the sections. If any participant has dropped during the open drop add period,
 - a. Send a note to the Faculty Mentor advising them that the participant is no longer in the study and ask the mentor to remove the participant from their mentee list.
 - b. Remove the participant from the study on the spreadsheet
 4. At any time during this study, if a student withdraws from the course, or if a student contacts the researcher or the mentor and asks to be excluded from the study, you will get a note from the mentor directing you to remove the student from the spreadsheet.
 5. By the middle of the semester
 - a. Make a copy of the spreadsheet and prepare it for the researcher.

- i. Remove columns from the copy of the spreadsheet
 1. Name of the Student
 2. CWID of the Student
 3. Student email address
 4. CRN of the Course
 5. Instructor of the Course
 6. Mentor Assignment
 - ii. Send the spreadsheet to the researcher
6. After grades are posted at the end of the 16-Week semester
 - a. Complete the final column of the spreadsheet
 - i. K: Final Course Grade.
 - b. Send the researcher the deidentified Spreadsheet with the final grades.

APPENDIX F

Protocol for Faculty Mentors

Benefits: This is an activity that full-time faculty that teach online can count as a professional development activity.

Expectations:

- The Institutional Research and Assessment Department will send you a list of online students you will mentor during the fall semester. This list will arrive on the first morning of the Fall semester
- You will send your mentees emails during the Monday, Tuesday, or Wednesday of Weeks 1, 2, 3, 6, 8, and 12 of the semester. The Online Learning Department will provide a template for the email. (see attached) You can use the template notes, or you can customize the notes. You have the option of using the mail merge function of Microsoft Word to send each student a personalized note, or you can generate a personalized note to each of the students,
- At the end of Weeks 1, 2, 3, 6, 8, and 12 you will submit a brief report letting us know how much time you spent, if any of your mentees contacted you, and if you have any suggestions for future mentoring.
- If a student notifies you that he or she dropped the course, you will let the Institutional Research and Assessment department know that the participant has dropped from the study, and you will remove the participant from your distribution list.
- You should make yourself available to any students who contact you. You might reply to an email, answer a phone call, invite the student to your office during office hours or schedule a web meeting if you are comfortable with this technology.
- Your role is to provide encouragement, information about College resources, and strategies for managing the workload of an online course. Full-time faculty who teach online were selected as mentors they have unique experience that might be helpful to new online students. You are not expected to give advice about what courses to take, or about the content of the course you mentee is taking. If the student has complaints about the course or the College, your role is to provide the student with information to address the problem, you should not attempt to solve the problem for the student. (see list of potential questions and expected responses)

Potential Mentee Questions and Expected Responses

Examples of Questions a Student Might Ask	Expected Response
My financial aid has not come through and I can't buy the book yet	<ul style="list-style-type: none"> • Encourage the student to visit a financial aid office or Call2000, (918) 595-2000, to find out options the student has while his/her financial aid is pending. • Let you instructor know about your situation and see if s/he has any suggestions. • Check with the Library to see if they have the book on reserve. The library has many required textbooks on reserve.
My instructor doesn't return my email	<ul style="list-style-type: none"> • Ask if the instructor has a preferred communication mode listed in the syllabus with an expected response time. The student may not be following the expected communication processes, or may be unaware the instructor reserves a couple of days to respond • Ask the student what s/he did to follow-up. Point out that it is possible for an email to be overlooked or deleted. • Suggest that the student reread the email to make sure the questions were clear • Suggest that the student follow-up with a phone call. • If the student issue is not resolved, suggest s/he review the syllabus for information about the instructor's Dean and suggest the student make a contact with this person.
I do not like my class and do not think it is fair.	<ul style="list-style-type: none"> • Instructor complaints are not an area that you should get in the middle of. Suggest the student look at the syllabus and determine if the course

	<p>is following the syllabus. If the student continues to have complaints, the student will need to address complaints to the instructor or the Dean.</p>
<p>My instructor is not grading my work or giving me any feedback.</p>	<ul style="list-style-type: none"> • Ask if the instructor has a response time for grading in the syllabus and if s/he is following it. It is possible the student has expectations above what the professor publishes and has not read the expected response time statements. • Ask the student what s/he did to address the problem. Suggest the student email the instructor, or if the instructor has office hours s/he could call during these times, or make an appointment. • If the student issue is not resolved, suggest s/he review the syllabus for information about the instructor's Dean and suggest the student make a contact with this person.
<p>I am worried that I am going to lose my Financial Aid because I am not doing well.</p>	<ul style="list-style-type: none"> • Refer the student to Call2000, (918) 595-2000. The service representative will direct the call to the appropriate department.
<p>I want to take all of my classes online, but the one I need next is not online. Can you tell me what else I can take?</p>	<ul style="list-style-type: none"> • Encourage first-time students to visit a campus advisement center to meet with an advisor in person. • If student is unable to come to campus, direct student to the Online Advisement webpage: http://www.[institution]cc.edu/student-services/academic-advisement/online-advisement to complete the advisement request form. • Students may also request online advisement via email: onlineadvisement@[institution]cc.edu

	<ul style="list-style-type: none">• Refer the student to Call2000, (918) 595-2000. The service representative will direct the call to the appropriate department.
<p>If you receive any questions that you are not sure about how to answer, asking an advisor how s/he would answer the question would be a good way to proceed. Your role is to support the student with his or her approach toward online courses. You should help the student learn the skill of self-advocacy. You should not intervene on behalf of the student in conflicts with the instructor or in obtaining supports or services. You should not provide advice about career choices or course selection. You should refer the student to Call2000. The service representative will direct the student to the appropriate department.</p>	

APPENDIX G:

Protocol for the Online Learning Department

Expectations:

- The Institutional Research and Assessment Department will send you a list of online students you will send emails to during the fall semester. This list will arrive on the first morning of the Fall semester
- You will send your mentees emails during the Monday, Tuesday, or Wednesday of Weeks 1, 2, 3, 6, 8, and 12 of the semester. (see attached) You can use the template notes, or you can customize the notes. Emails should be sent from the Department's generic email address. Do not add any personalization, or a signature.
- If a student notifies you that he or she dropped the course, you will let the Institutional Research and Assessment department know that the participant has dropped from the study, and you will remove the participant from your distribution list.

APPENDIX H:

Faculty Emails to the Personalized Support Group

Week One

Subject: Getting Started in Your Online Course

Dear *Online Student Name*,

I hope your semester is off to a good start. My name is *faculty name*. I am a faculty member at [institution] and have experience teaching online courses. The College is piloting a support program for online students, and you were assigned to me.

I have some tips to help you get off to a good start.

- Even if you have not been able to purchase your course materials, log into your course site and read any announcements, the syllabus, and any other information that your instructor has provided to help you learn the course structure.
- Determine when your first deadline is and make sure you are clear about what you need to do to meet this deadline.
- After you review the course materials, if anything is not clear to you, ask your instructor. Do not delay making contact with your instructor. Your instructor will not know what you are struggling with if you do not ask a question.

Online students have to be self-directed. Orienting yourself to the structure, and communicating with your instructor about anything that is not clear to you before the course begins, is a huge step toward a great semester.

I am happy to answer any questions you have about online courses or the College. I may or may not know the answer, but I can probably direct you to the proper resources.

You are welcome to email me, call me, or make an appointment for an office visit if you need advice about success in your online course.

Sincerely,

Faculty Name

Faculty Contact Information

Week Two

Subject- Online Course – Faculty Mentor

Dear *Online Student Name*,

I hope your first week went well, and you had a good three-day weekend. As I mentioned in a note I sent last week, The College is piloting a mentoring program, and you were assigned to me.

Time Management and self-direction are critical in an online course. Getting organized early in the course can go a long way toward your success.

Have you taken the time to look at your course schedule and made a plan for meeting your deadlines? Some students print the schedule and check off assignments as they go. Others add the dues dates to a calendar. I am sure there are many other ways to organize your course assignments, and I hope you have found a method that works for you

In my class, I suggest that students work ahead and submit assignments a day or two and. Working ahead can help ensure you never miss a deadline for technical or personal unexpected problems.

If you are unsure about the requirements of the course and think you might have made a mistake by enrolling in an online course, you have until Friday to drop without being charged for the course. I hope you are not in this situation, but if you are, you should talk to an academic advisor and discuss your options. You can call 918-595-2000 to find out more about how to schedule time with an advisor.

As your mentor, I am happy to answer any questions you have about online courses or the College. I may or may not know the answer, but I can probably direct you to the proper resources.

You are welcome to email me, call me, or make an appointment for an office visit if you need advice about how to be successful in your online course.

Sincerely

Faculty Mentor Name

Faculty Mentor Contact Information

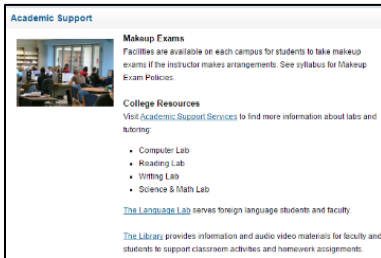
Week Three

Subject- Faculty Mentor – Academic Services

Dear *Online Student Name*,

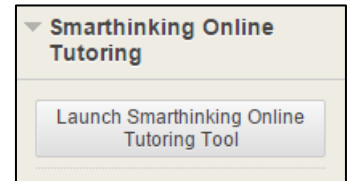
I hope your first three weeks have gone well. As I mentioned in my last note, my name is *Faculty Mentor name*, and I am your mentor for the semester.

I imagine you are starting to work on assignments, or take exams, which are higher-stakes than your early assignments.



Did you know that the College provides tutoring services both online and on-campus? You can find out about on-campus tutoring services by logging into the **My[Institution] portal**, clicking on the **Student Services** tab and then on the link to **Academic Support Services** inside of the **Academic Support** Module.

If you find you cannot come to campus, or need hours later than what the tutoring centers can offer, you can access the **Smarthinking Online Tutoring** from the Welcome to [Institution] page in Bb.



Having someone look over a paper, or help you learn complex concepts can be helpful to your success.

The tutoring services are available to you at no additional cost.

As your mentor, I am happy to answer any questions you have about the College's services. I may or may not know the answer, but I can probably direct you to the proper resources.

If you have a minute, I would like to know how you are doing. You can reply to this email, call me, or make an appointment for an office visit.

Sincerely

Faculty Mentor Name

Faculty Mentor Contact Information

Week Six**Subject:** How Are you Doing?

Dear *Online Student Name*,

At this point, I hope you are feeling comfortable with your online course and have feedback letting you know how you are doing.

I encourage you to keep on going if you are doing well. If things are not going as well as you hoped:

- Are you spending enough time on your course? In my experience, student grades stay consistent unless the student changes either the amount of time s/he is spending
or changes the approach toward the content.
- If you are unsure about how to improve, have you sent your instructor a note, or scheduled a time to meet your instructor. Students who actively seek input about how to approach the course content and activities more strategically, might get tips that help them turn the semester around.

Sometimes online students feel isolated. Faculty at [Institution] are here to teach, and they can't help if they don't know what you are struggling with. If you reach and engage your instructor, you might be pleasantly surprised by the advice you get.

Please let me know if I can be of any assistance to you.

Sincerely,

Faculty Mentor Name

Faculty Mentor Contact Information

Week Ten

Subject: Last Day to Drop a Class

Dear *Online Student Name*,

I am hoping you are doing great, but it is possible things are not going as well as you hoped.

The College allows you to drop a course up until the time seventy-five percent of the course is complete.

Dropping a course might be helpful if you are concerned about your , but you will not get your money back, and if you receive financial aid, there can be negative consequences.

The last day to drop a course this semester is **Friday, November 11th**.

If you are unsure where you stand in your course, contact your instructor and ask.

If you think it is in your best interest to withdraw, talk to an academic advisor about any negative implications the withdrawal will have toward degree completion, or on financial aid you might receive.

You can go to an advising office at Metro, Northeast, Southeast, or West campus, Or you can contact the online advisor for more information. Information about withdrawing from a course and contacting the online advisor is available at [http://www.\[institution\]cc.edu/about-\[institution\]/faq](http://www.[institution]cc.edu/about-[institution]/faq)

Please let me know if I can be of any assistance to you.

Sincerely,

Faculty Mentor Name

Faculty Mentor Contact Information

Week Twelve

Subject: Good luck with the Rest of Your course

Dear *Online Student Name*,

I hope your online course has been a good experience. Soon the semester will be over, and I am sure you will enjoy a well-deserved break. I enjoyed serving as your mentor and wish you the best.

Sincerely,

Faculty Mentor Name

Faculty Mentor Contact Information

APPENDIX I

Faculty Reporting Form

1. When sending your last success, did you use the template note, or did you customize? (if you customized, please paste a copy of the text of your email here.)
2. Did any students seek you out this week? *Adjusted to fit the time period since the last not when needed.*
3. If a student did contact you, did they contact you by phone, email, stop by your office, or other means? Provide brief details about the nature of the communication. Do not use student names.
4. How much time did you spend mentoring student since you sent you last note?
5. Did you experience any issues or have any suggestions for improving this support project?
6. Do you feel like students value the support emails and opportunity to have a mentor or do you have any suggestions for mentoring students in the future?

APPENDIX J:

Student Success Tips: Generic Group

Week One

Subject: Getting Started in Your Online Course

Dear Online Student,

Below are some tips for getting started from the Online Learning department.

- Even if you have not been able to purchase your course materials, log in to your course site and read any announcements, the syllabus, and any other information that your instructor has provided to help you learn the course structure.
- Determine when your first deadline is and make sure you are clear about what you need to do to meet this deadline.
- After you review the course materials, if anything is not clear to you, ask your instructor. Do not delay making contact with your instructor. Your instructor will not know what you are struggling with if you do not ask a question.

Online students have to be self-directed. Orienting yourself to the structure, and communicating with your instructor about anything that is not clear to you before the course begins, is a huge step toward a great semester.

If you have any College processes or need technical support call our helpdesk, Call2000, at (918) 595-2000

Good luck with your semester.

The Online Learning Department

Week Two

Subject – Success Tips from the Online Learning Department

Dear Online Student,

The Online Learning Department hopes your online course(s) are going well. We will periodically send you success tips this semester.

Time Management and self-direction are critical in an online course. Getting organized early in the course can go a long way toward your success.

- Have you taken the time to look at your course schedule and made a plan for meeting your deadlines?
- Some students print the schedule and check off assignments as they go. Others add the dues dates to a calendar. There are many other ways to organize your course assignments and we hope you have found a method that works for you.
- It might help to work ahead and submit assignments a day or two early. Working ahead can help ensure you never miss a deadline for technical or personal unexpected problems.

If you think you may have made a mistake by enrolling in an online course, you have until Friday to drop without being charged for the course. We hope you are not in this situation, but if you are, you should talk to an academic advisor and discuss your options. You can call 918-595-2000 to find out more about how to schedule time with an advisor.

Sincerely,

The Online Learning Department

Week Three

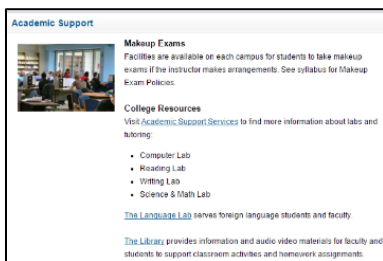
Subject – Success Tips from the Online Learning Department - Tutoring Services

Dear Online Student,

The Online Learning Department hopes your online course(s) are going well.

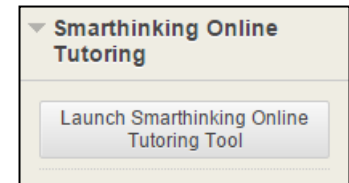
You might find you are starting to work on assignments, or take exams, which are higher-stakes than your early assignments.

Did you know that the College provides tutoring services both online and on-campus?



You can find out about on-campus tutoring services by logging into the **[Institution] portal**, clicking on the **Student Services** tab and then on the link to **Academic Support Services** inside of the **Academic Support Module**.

If you find you cannot come to campus, or need hours later than what the tutoring centers can offer, you can access the **Smarthinking Online Tutoring** from the Welcome to [Institution] page in Bb.



Having a tutor look over a paper, or help you learn complex concepts can be helpful to your success.

The tutoring services are available to you at no additional cost.

You can call [Call Center Phone Number] to find out more about the College's academic services

Have a great week.

Sincerely,

The Online Learning Department

Week Six

Subject: Success Tips from the Online Learning - How Are you Doing?

At this point, we hope you are feeling comfortable with your online course and have feedback letting you know how you are doing.

We encourage you to keep on going if you are doing well. If things are not going as well as you hoped:

- Are you dedicating enough time to your course? In my experience, student grades stay consistent unless the student changes either the amount of time s/he spends on the class or changes his or her studying strategies.
- If you are unsure about how to improve, have you sent your instructor a note, or scheduled a time to meet your instructor. Students who actively seek input might get tips that help turn the semester around.

Sometimes online students feel isolated. Faculty at [Institution] are here to teach, and they can't help if they don't know what you need. If you reach out to your instructor, you might be pleasantly surprised by the advice you get.

If you need to access any of the student services or you need technical support don't forget about Call2000, the College's helpdesk (918) 595-2000.

Sincerely,
The Online Learning Department

Week Ten

Subject: Last Day to Drop a Class

We hope you are doing great in your online class or classes.

We are sending this note in case things are not going as well as you hoped. Are you aware that you can withdraw from a course up until the time seventy-five percent of the course is complete. The last day to drop a 16-week course this semester is **Friday, November 11th**.

Dropping a course might be helpful if you are doing poorly and are concerned about your , but a withdraw might have other negative consequences. You will not get your money back, and if you receive financial aid, there might be implications about your eligibility for future financial awards.

You have a little time to determine if a withdraw is in your best interest. If you are unsure where you stand in your course, contact your instructor and ask. Maybe things are not as bad as you think. If it does not look like you can earn an acceptable grade, talk to an academic advisor about any negative implications the withdrawal will have toward degree completion, or on your financial aid.

You can go to an advising office at Metro, Northeast, Southeast, or West campus, or you can request online advisement at [https://\[institution\].wufoo.com/forms/w1ip3jia1k4jkwo/](https://[institution].wufoo.com/forms/w1ip3jia1k4jkwo/). Information about withdrawing from a course and contacting the online advisor is available at [http://www.\[institution\]/student-resources/enrollment-services/course-enrollment-and-withdrawal](http://www.[institution]/student-resources/enrollment-services/course-enrollment-and-withdrawal)

Hopefully, you are doing great and don't need any of the information in this note.

Sincerely,

The Online Learning Department

Week Twelve

Subject: Finishing the Semester

Dear Online Student,

The semester is going by fast. I hope your course(s) have gone well. Before you know it I hope you will enjoy a well-deserved break. If you need anything during the rest of this semester, or while you are planning for the next one, please contact Client Service at [Call Center Phone Number]

We hope your online courses met your expectations.

Sincerely,

The Online Learning Department

APPENDIX K

Participant Survey

12/8/2016

Qualtrics Survey Software

Default Question Block

The Online Learning Department wants your perception of your experience in your online course or courses this semester. Please take a few minutes to complete the survey.

1. How many online courses have you completed before this semester? (Do not count courses you are enrolled in currently.)

- None
- One
- Two
- Three to Five
- Six to Ten
- More than Ten

2. How many online courses did you take this semester?

- One
- Two
- Three
- Four
- Five or more

3. The automated phone call I got at the beginning of the semester reminding me that my online course begins next week was helpful.

- Strongly Agree
- Agree
- Neither Agree nor Disagree
- Disagree
- Strongly Disagree
- I don't remember getting an automated phone call.

4. Rank your preferences for receiving reminders from the Online Learning Department.

	1	2	3	4
Send email reminders about online courses.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Send text message reminders about online courses.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Send automated phone calls about online courses.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Do not send reminders about online courses.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

<https://az1.qualtrics.com/ControlPanel/Ajax.php?action=GetSurveyPrintPreview>

1/3

5. Emailed success tips and information about College supports from the Online Learning Department at [REDACTED] have been helpful.

- Strongly Agree
- Agree
- Neither Agree nor Disagree
- Disagree
- Strongly Disagree
- I don't remember getting any emails.

6. Emails and encouragement from a [REDACTED] faculty member have been helpful.

- Strongly Agree
- Agree
- Neither Agree nor Disagree
- Disagree
- Strongly Disagree
- I don't remember having any emails from a faculty member.

7. I think my grades are as good as or better in my online course than they would be if I took the same course in the classroom with regular on-campus meetings.

- Strongly Agree
- Agree
- Neither Agree nor Disagree
- Disagree
- Strongly Disagree

8. I think I learn as much in my online course or courses as I do when I take courses in the classroom.

- Strongly Agree
- Agree
- Neither Agree nor Disagree
- Disagree
- Strongly Disagree

9. My connection to my online instructor was about the same as connections I have had with instructors who I have taken courses with in a classroom.

- Strongly Agree
- Agree
-

- Neither Agree nor Disagree
- Disagree
- Strongly Disagree

10. My connection to students in my online course or courses was about the same as connections I have had with other students when I take courses in a classroom.

- Strongly Agree
- Agree
- Neither agree nor disagree
- Disagree
- Strongly Disagree

11. Please rank the factors that led you to choose to enroll in an online course. Rank all factors that describe reasons that you find online classes appealing. You do not need to include factors that are not relevant to you.

	1	2	3	4	5	6
a. I wanted a flexible schedule.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b. I prefer online courses.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c. I don't have to find childcare.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d. I save money by not driving to a campus.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e. I believe the online courses are typically easier than the same course taken in the classroom.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
f. The course(s) I need were only available online.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

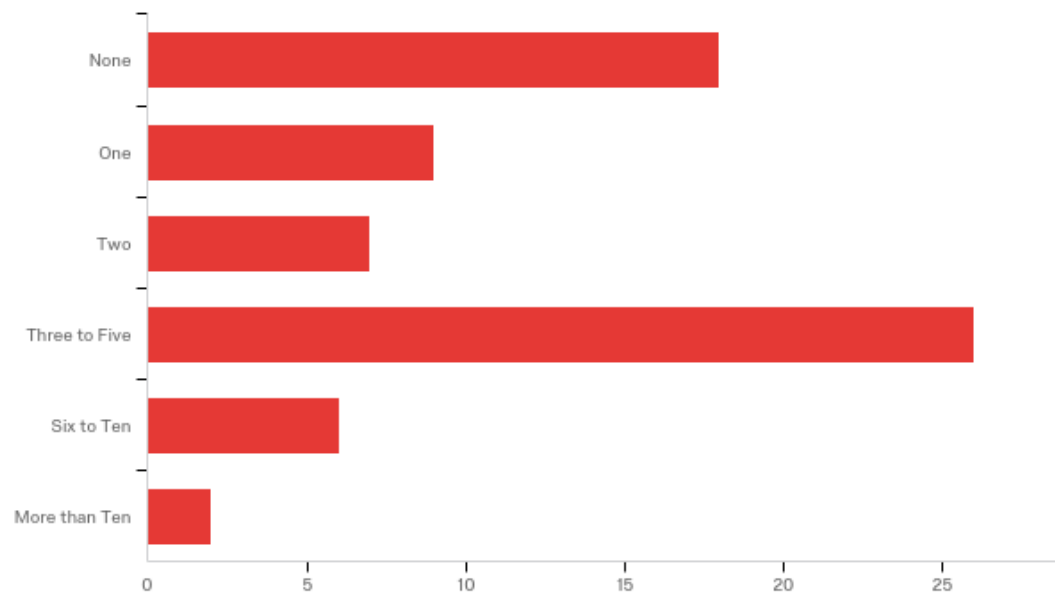
12. Overall my experience in my online course or courses has been positive.

- Strongly Agree
- Agree
- Neither Agree nor Disagree
- Disagree
- Strongly Disagree

APPENDIX L

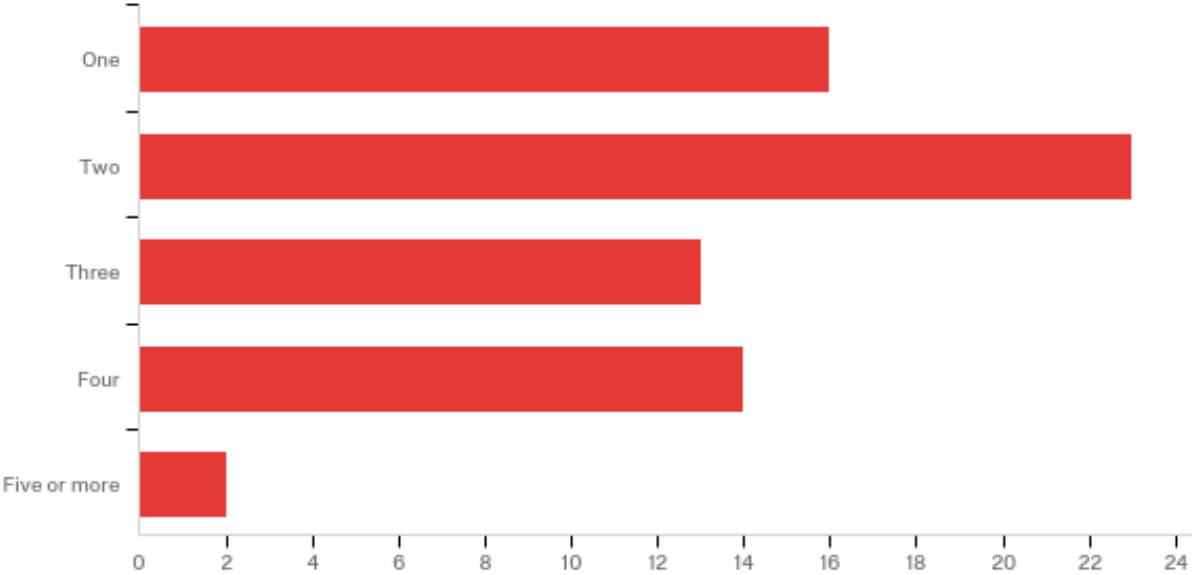
Survey Results

Q2 - 1. How many online courses have you completed before this semester? (Do not count courses you are enrolled in currently.)



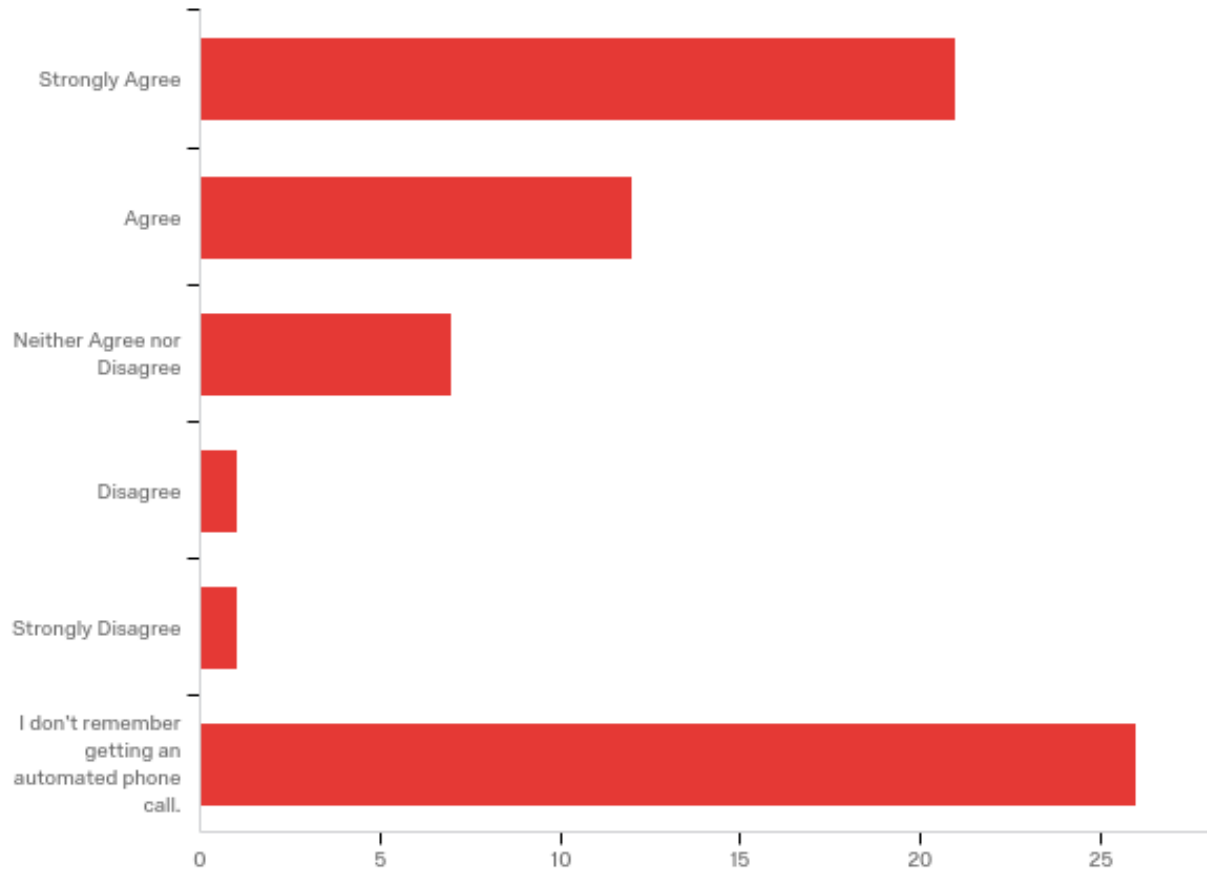
#	Answer	%	Count
1	None	26.47%	18
2	One	13.24%	9
3	Two	10.29%	7
4	Three to Five	38.24%	26
5	Six to Ten	8.82%	6
6	More than Ten	2.94%	2
	Total	100%	68

Q3 - 2. How many online courses did you take this semester?



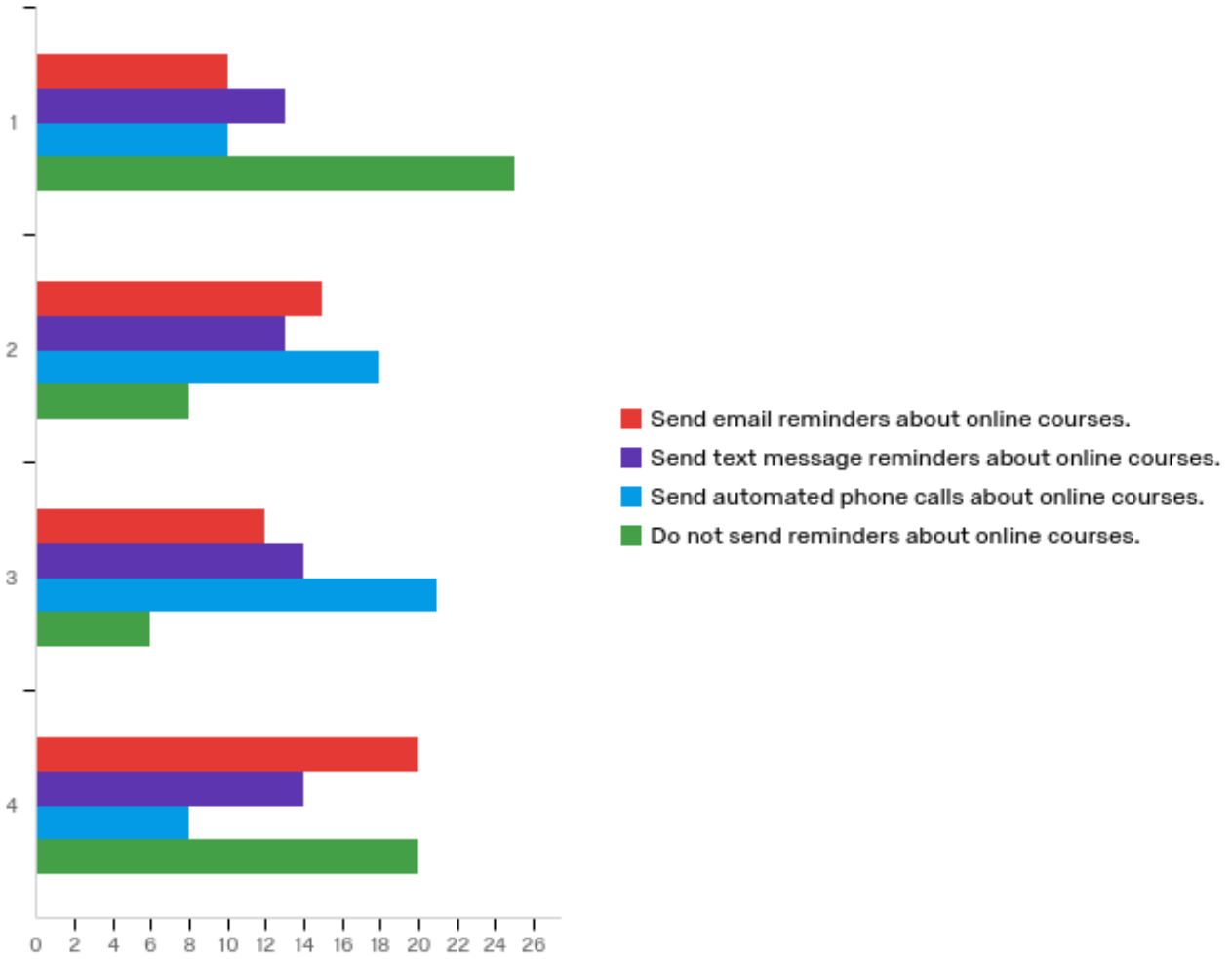
#	Answer	%	Count
1	One	23.53%	16
2	Two	33.82%	23
3	Three	19.12%	13
4	Four	20.59%	14
5	Five or more	2.94%	2
	Total	100%	68

Q4 - 3. The automated phone call I got at the beginning of the semester reminding me that my online course begins next week was helpful.

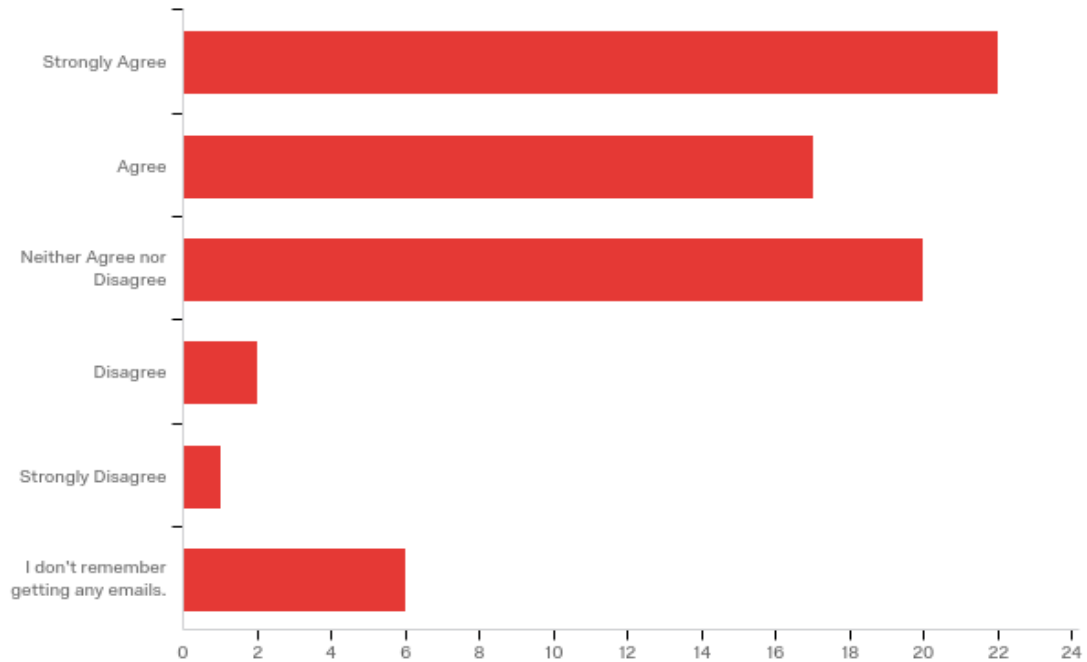


#	Answer	%	Count
1	Strongly Agree	30.88%	21
2	Agree	17.65%	12
3	Neither Agree nor Disagree	10.29%	7
4	Disagree	1.47%	1
5	Strongly Disagree	1.47%	1
6	I don't remember getting an automated phone call.	38.24%	26
	Total	100%	68

Q5 - 4. Rank your preferences for receiving reminders from the Online Learning Department.



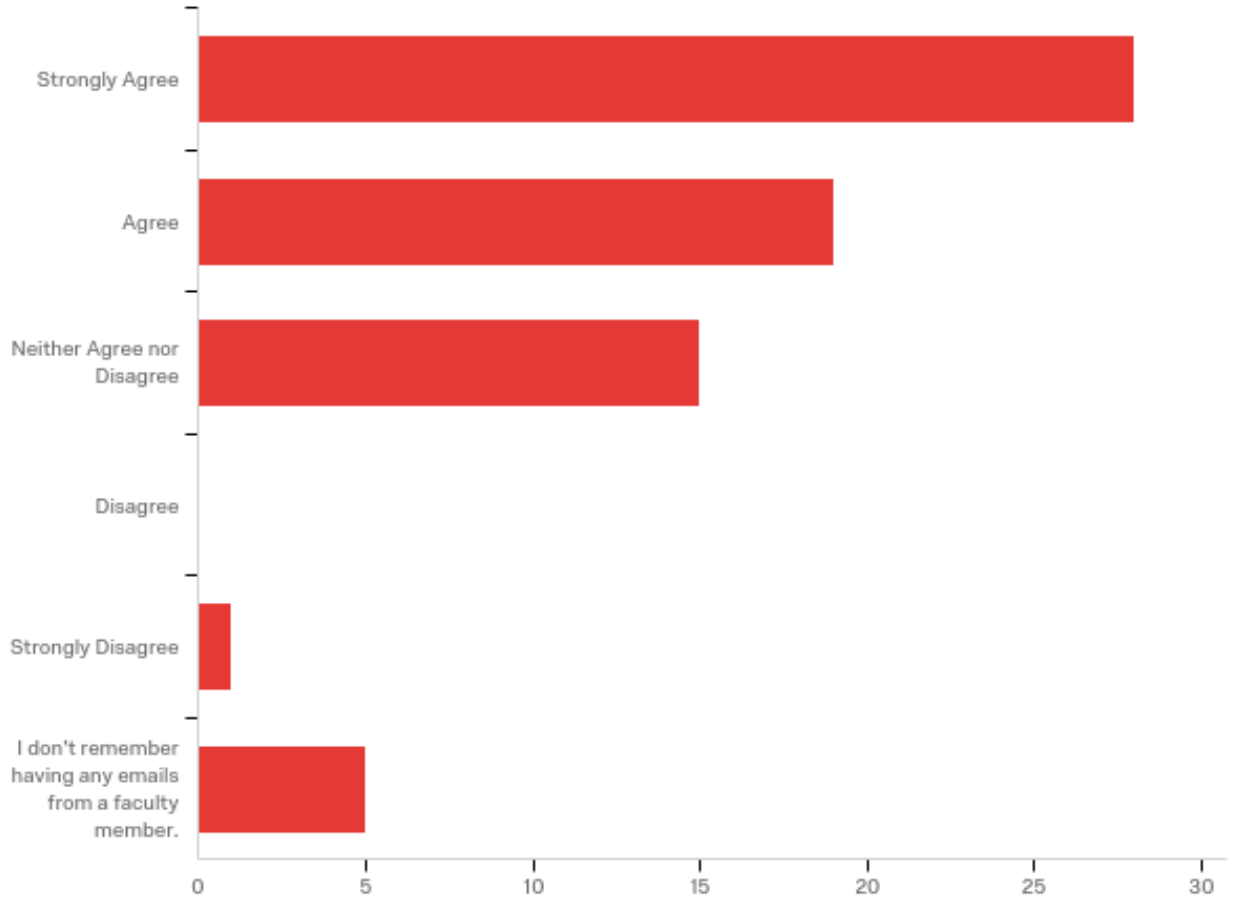
Q6 - 5. Emailed success tips and information about College supports from the Online Learning Department at [Institution] have been helpful.



#	Answer	%	Count
1	Strongly Agree	32.35%	22
2	Agree	25.00%	17
3	Neither Agree nor Disagree	29.41%	20
4	Disagree	2.94%	2
5	Strongly Disagree	1.47%	1
6	I don't remember getting any emails.	8.82%	6
	Total	100%	68

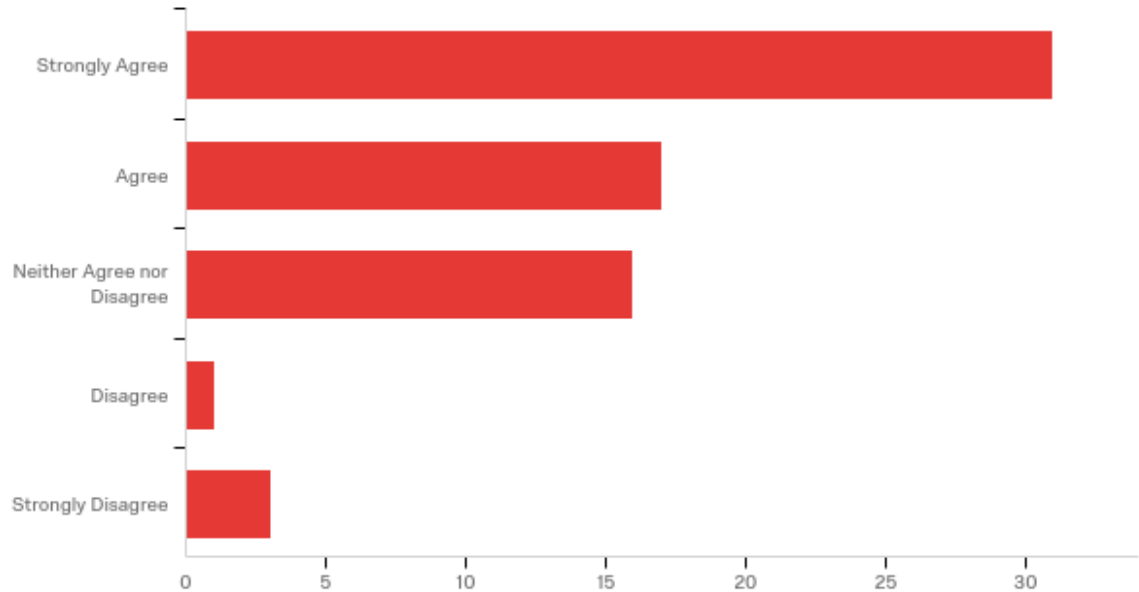
Q7 - 6. Emails and encouragement from a [Institution]faculty

member have been helpful.



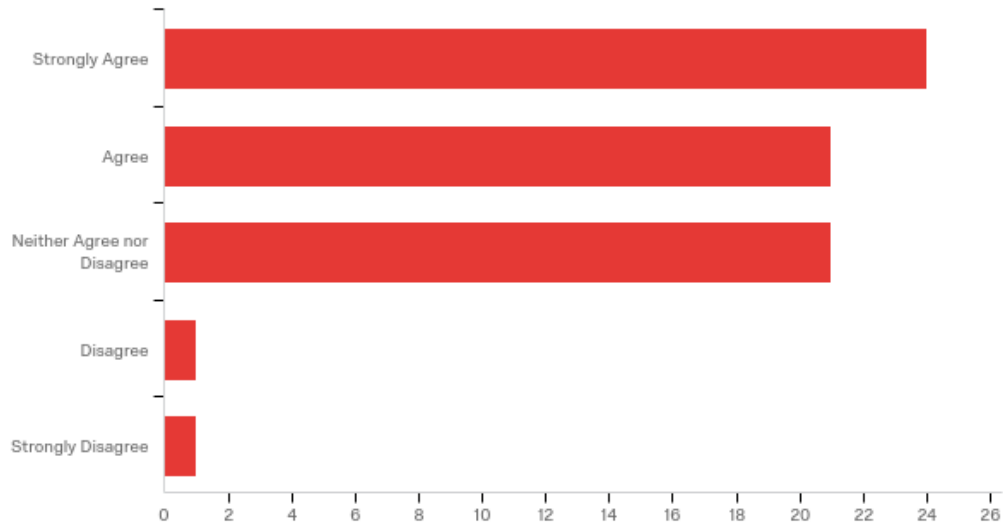
#	Answer	%	Count
1	Strongly Agree	41.18%	28
2	Agree	27.94%	19
3	Neither Agree nor Disagree	22.06%	15
4	Disagree	0.00%	0
5	Strongly Disagree	1.47%	1
6	I don't remember having any emails from a faculty member.	7.35%	5
	Total	100%	68

Q8 - 7. I think my grades are as good as or better in my online course than they would be if I took the same course in the classroom with regular on-campus meetings.



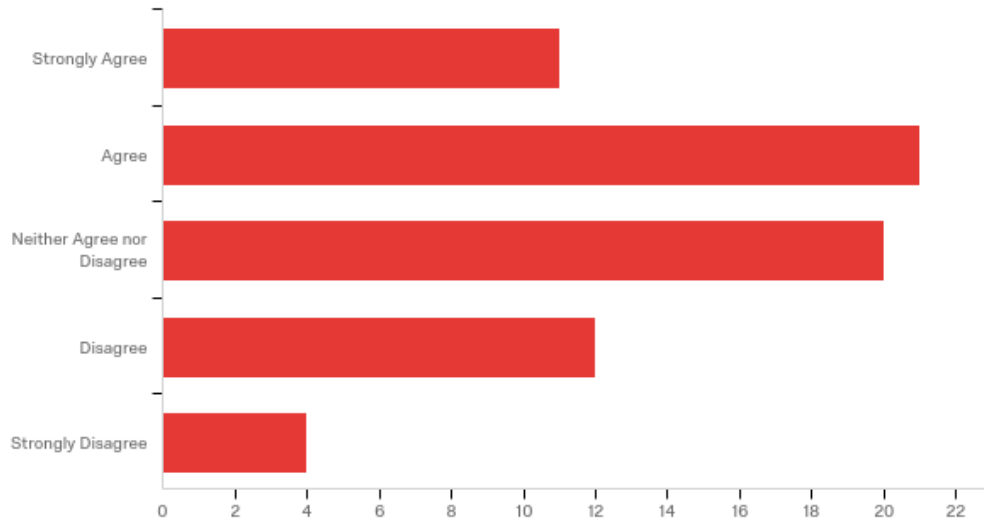
#	Answer	%	Count
1	Strongly Agree	45.59%	31
2	Agree	25.00%	17
3	Neither Agree nor Disagree	23.53%	16
4	Disagree	1.47%	1
5	Strongly Disagree	4.41%	3
	Total	100%	68

Q9 - 8. I think I learn as much in my online course or courses as I do when I take courses in the classroom.



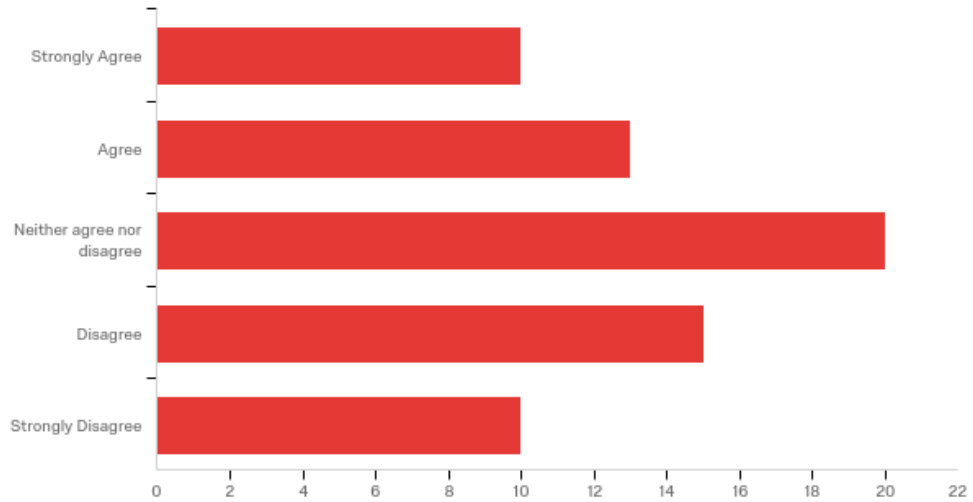
#	Answer	%	Count
1	Strongly Agree	35.29%	24
2	Agree	30.88%	21
3	Neither Agree nor Disagree	30.88%	21
4	Disagree	1.47%	1
5	Strongly Disagree	1.47%	1
	Total	100%	68

Q10 - 9. My connection to my online instructor was about the same as connections I have had with instructors who I have taken courses with in a classroom.



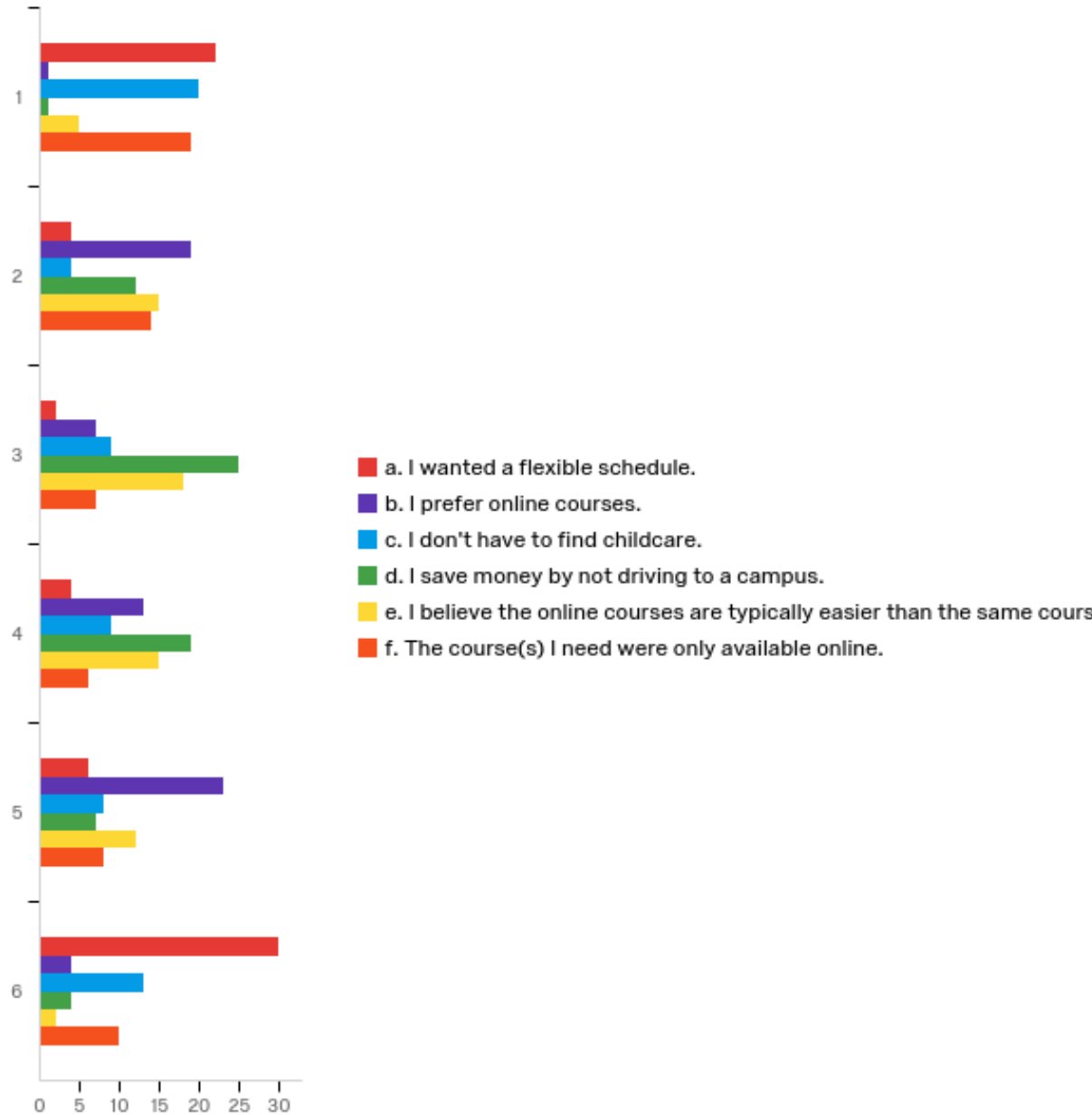
#	Answer	%	Count
1	Strongly Agree	16.18%	11
2	Agree	30.88%	21
3	Neither Agree nor Disagree	29.41%	20
4	Disagree	17.65%	12
5	Strongly Disagree	5.88%	4
	Total	100%	68

Q11 - 10. My connection to students in my online course or courses was about the same as connections I have had with other students when I take courses in a classroom.



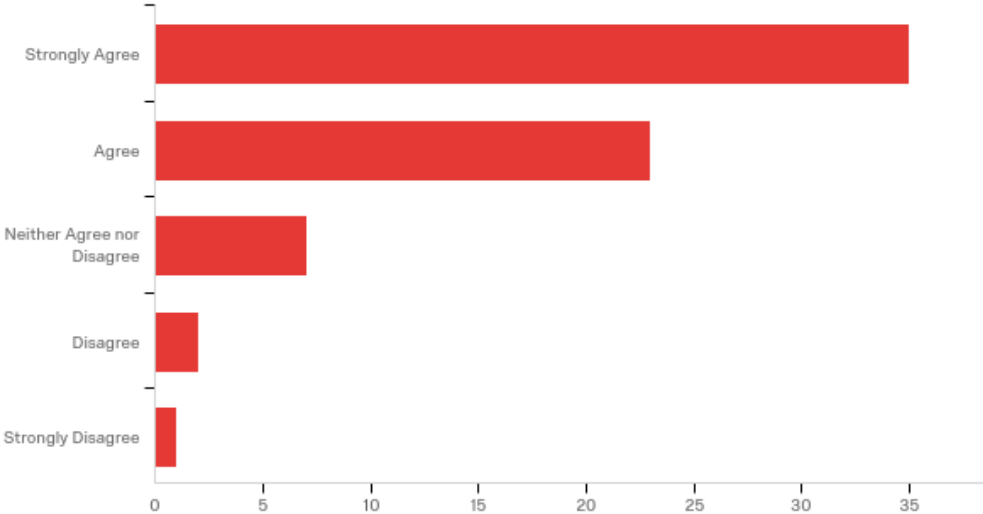
#	Answer	%	Count
1	Strongly Agree	14.71%	10
2	Agree	19.12%	13
3	Neither agree nor disagree	29.41%	20
4	Disagree	22.06%	15
5	Strongly Disagree	14.71%	10
	Total	100%	68

Q19 - 11. Please rank the factors that led you to choose to enroll in an online course. Rank all factors that describe reasons that you find online classes appealing. You do not need to include factors that are not relevant to you.



Q18 - 12. Overall my experience in my online course or courses

has been positive.



#	Answer	%	Count
1	Strongly Agree	51.47%	35
2	Agree	33.82%	23
3	Neither Agree nor Disagree	10.29%	7
4	Disagree	2.94%	2
5	Strongly Disagree	1.47%	1
	Total	100%	68

VITA

Jennifer Campbell

Candidate for the Degree of

Doctor of Philosophy

Dissertation: ENGAGING COMMUNITY COLLEGE STUDENTS IN ONLINE

COURSES:

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Completed the requirements for the Doctor of Philosophy in Educational Leadership and Policy Studies at Oklahoma State University, Stillwater, Oklahoma in December, 2017.

Completed the requirements for the Master of Education in Educational Psychology at University of Oklahoma, OK in 1999.

Completed the requirements for the Bachelor of Science in Occupational Therapy at Boston University, Boston, MA in 1986.

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2007 –Present Associate Professor/Coordinator Instructional Design, Online Learning Department, Tulsa Community College, Tulsa Oklahoma.

2005 -2007 Assistant Professor/Coordinator Instructional Design, Distance Learning Department, Tulsa Community College, Tulsa Oklahoma.

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