The Effect of a Learning Strategies Success Course on Community College Student Academic Success

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Abstract

Community college student success remained at a low rate of 31% in 2015 (U.S. Department of Education National Center for Education Statistics, Institute of Education Sciences, 2017a). The purpose of this study was to determine the short-term and long-term effects of college learning strategies course participation on student success at a large Midwestern community college, measured by cumulative grade point average (GPA) in the semester enrolled in LS 176, re-enrollment the first fall after matriculation to the college, long term GPA (at graduation or up to six semesters after matriculation to the community college for full-time students, or up to twelve semesters after matriculation for part-time students), and graduation (up to six semesters after matriculation to the community college for full-time students, or up to twelve semesters after matriculation for part-time students). Archival data from the institutional student information system were analyzed. The study research design used a quantitative approach analyzing hypotheses from four research questions.

The results from the study indicated participation in the college success course (LS 176) had a positive effect on first semester GPA for students who successfully completed the LS 176 course. Students who were successful in the college learning strategies course were significantly more likely than non-participants to persist to the next fall semester after matriculation. GPA at graduation was not significantly affected by LS 176 successful participation; however, students who successfully participated in the course were statistically more likely to graduate. The findings of the study may be used to inform decision-making regarding the usefulness of success course participation by

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community college administrators and faculty to devise effective academic pathways to enable student success.

Dedication

I dedicate this dissertation to my parents, who taught me that hard work is the key to success. I am forever grateful for their support and encouragement as I pursued this dream. I am also grateful to my husband, who held our household together in a steadfast and patient way as I worked my way through this journey. His patient advice, listening ear, and sympathy for my struggles were all that I could have asked for in a partner.

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Chapter 1

Introduction

Community colleges provide a valuable entry point into higher education for nearly 45% of American college students (Ma & Baum, 2016). Jeffcoat et al. (2013) noted a college education is seen as a means to improve the earning potential of the student, equip students for the rigors of the workforce, add to tax revenue, and spur economic growth. In spite of these lofty objectives for students beginning their educational journey in 2012, the percentage of community college students who graduated within three years of matriculation remained at a low rate of 31% in 2015 (U.S. Department of Education National Center for Education Statistics, Institute of Education Sciences, 2017a). Researchers have remarked this low completion rate may be because community colleges serve students who are less academically prepared (Cho & Karp, 2012; Jeffcoat et al., 2013; Kimbark, Peters, & Richardson, 2017; Linderman & Kolenovic, 2013; Martin, Galentino, & Townsend, 2014; Scherer & Anson, 2014).

Academic interventions at community colleges intended to improve outcomes for underprepared students have resulted in increased persistence and retention (Cho & Karp, 2012; Fowler & Boylan, 2010; Mcintosh & Rouse, 2009; Roark, 2013; Wernersbach, Crowley, Bates, & Rosenthal, 2014). Various researchers have evaluated the impact study skills instruction has on community college student academic achievement (Abts, 2012; Cho & Karp, 2013; Coleman, Skidmore, & Weller, 2017; Denton, Seybert, & Franklin, 1988; Tuckman & Kennedy, 2011). The completion of an academic success course is one intervention that has had a positive effect for students (Abts, 2012; Cho & Karp, 2013; Coleman, Skidmore, & Weller, 2017; Denton, et al., 1988; Tuckman & Kennedy, 2011). Denton et al. (1988) analyzed the effects of an academic success course, the Strategic Learning System (LS 176), on course completion and cumulative semester GPAs at a large Midwestern community college (MCC). Their results demonstrated the college's LS 176 course improved outcomes for student course completion and grade, as well as Introductory Psychology course completion rates. No recent studies have been conducted to ascertain the effects of the LS 176 academic success course on student achievement at the large Midwestern community college.

Background

Community colleges traditionally have open admissions policies that promote the enrollment of students who have a wide range of ability levels and academic preparation. In addition, students attend community colleges for a variety of reasons, ranging from personal development to obtaining a specific degree or certificate (Goldrik-Rab, 2010). Porchea, Allen, Robbins, and Phelps (2010) found the percentage of community college students completing a degree or certificate within three years was 31%. As previously stated, one explanation for this low completion rate is the broad range of incoming students' academic ability and academic preparation (Cho & Karp, 2012; Jeffcoat et al., 2013; Kimbark et al., 2017; Linderman & Kolenovic, 2013; Martin et al., 2014; Scherer & Anson, 2014; Porchea et al., 2010). Academic preparation concerns can involve deficiencies in study skills, reading, and math. According to the National Center for Education Statistics, roughly one-third of community college students enter their postsecondary community college journey with "relatively low ability levels in mathematics and reading" (Hoachlander, Sikora, & Horn, 2003, p. 126). High impact practices to raise completion rates found in the literature include student engagement in campus

activities, clubs, and successful participation in study skills courses (Windham, Rehfuss, Williams, Pugh, & Tincher-Ladner, 2014). Access to financial aid support and the ability to enroll in credit bearing classes, versus developmental non-degree eligible courses, are also tied to academic success (Goldrik-Rab, 2010).

Previous studies related to success programs have focused on GPA and retention in a university setting (Heinrichs & Lehnert, 1986; Hermida, 2009; Tuckman & Kennedy, 2011). Crisp and Taggart (2013) proposed that more research is necessary to explain the relationship between student success programs and student achievement, particularly in the community college environment. Whether labeled college success, student success, study skills, College 101, first-year seminars, orientation programs, success skills, or learning strategies, community college programs all have common goals: increased student GPA, academic program persistence, and associate degree completion (Hatch & Bohlig, 2016).

For success programs, one effective strategy to improve outcomes for students is academic study skills courses. A study conducted by Windham et al. (2014) found study skills course participation was a significant means to improve student persistence. Roark (2013) found participation in a mandatory study skills course affected factors known to increase retention. These types of course offerings provide tools that promote the likelihood of academic success. Crede and Kuncel's (2007) extensive literature review illustrated that study motivation and skills for academic study have the greatest influence on GPA and grades in individual classes. However, it has been posited that inadequate proof exists that study skills offer long-term retention efficacy and that the dearth of this evidence particularly extends to community colleges (Patton, Morelon, Whitehead, & Hosler, 2006).

One less explored area related to student success is the premise whether or not these courses may offer more than study skills improvement (Kimbark et al., 2017; Tuckman & Kennedy, 2011). Kimbark et al. (2017) found that a student success course was beneficial to improve completion at the community college level and recommended that the course be mandatory for all incoming students. Tuckman and Kennedy (2011) found that after a learning strategies course, successful participants had significantly higher GPAs for the next four terms than non-participants, and the effects of the course were also found to make these students six times more likely to be retained. In the study by Kimbark et al. (2017), students reported that the transition to college was more effective after an academic skills course, particularly in the areas of time management and decision making. In addition, Wernersbach et al. (2014) found the increased development of student academic self-efficacy is another component of study skills course outcomes that may have direct implications for increasing community college student success.

MCC Learning Strategies

The curriculum for the Learning Strategies course (LS 176) at MCC was based on a program developed by the University of Kansas Institute for Research for Learning Disabilities (KU-IRLD). Adapted from its initial purpose to improve academic outcomes for junior and high school students with learning disabilities (Alley & Deshler, 1979), the faculty of MCC modified the curriculum for college student needs (Denton et al., 1988). The Learning Strategies curriculum was developed to pair with a co-requisite course in which to apply the strategies. Originally pilot tested in U.S. history courses, the program expanded to include psychology, nursing, chemistry, and electronics course applications. Now open to students in all disciplines, the Learning Strategies curriculum is applied to discipline-specific courses at MCC.

The Strategic Learning System (SLS) is the core of the Learning Strategies program at MCC. As a one-credit course, the SLS is a six-week course in which the strategies are applied to another course in which the students are simultaneously coenrolled. The SLS methodology consists of five strategies to create a system through which students can improve their study techniques and become independent college level learners.

Divided into packets, there are five phases of the SLS. The initial phase consists of concepts related to learning theory from Educational Psychology principles related to how learning occurs and how students can be more efficient in their study techniques, including the concept of growth mindset and the importance of planning, regulating, and evaluating metacognitive processes for learning. According to Dweck (2008), growth mindset is the "belief that your basic qualities are things you can cultivate through your efforts" (p. 7). Metacognitive processes for college study are defined by Cukras (2006) as "planning, selecting, organizing and monitoring" a study plan (p. 197). The second phase consists of textbook strategies. The first strategy is THIS (Title, Headings and key terms, Introduction, and Summary), which enables students to quickly and efficiently preview a textbook chapter. The follow up to THIS is GO (Graphics, Objectives and review questions), which gives students a more detailed look at the key ideas to be learned in the chapter. The third phase is focused on effective notetaking skills. TRAPS

(Turn headings into questions, Read a pre-determined section, Answer questions, Place key information in notes, and Summarize) is for in-depth study from a textbook utilizing two column notetaking. Two column notetaking is a method in which students divide their notetaking paper into two columns. The left (and smaller column) is labeled with cues, like key words, terms, important places, names, dates and the right (larger) column is filled with the corresponding details, definitions, events, and examples (Aaronson, 1975). This notetaking methodology is next applied to lectures or lecture classes with PLANS (Prepare for class, Listen for cues, Anticipate relationships, Note systematically, and Summary). Students learn effective listening skills, in addition to noting what 'to do' next in their notes. In the fourth phase, RECAP (Review readings, lecture notes, objectives and study guides, Examine for key information, Consolidate and elaborate, Ask testworthy questions, Process answers), students learn application of Bloom's taxonomy to their own predicted test questions. Lastly, REACH (Read directions, Estimate time, Answer systematically, Check for completeness, Hunt for careless errors) provides valuable tips to be a more effective test-taker. Imbued within the strategies lessons are relevant campus resources and problem-solving discussions for class issues and concerns. The courses have a maximum number of 15 students to allow for personalized student-instructor interaction.

Faculty in the Learning Strategies Department at MCC are trained in the Effective Teaching and Learning Model (Hunter, 2004) by a master teacher mentor in the department. Over the course of a six-week class, faculty are trained in the methodology which includes a description of the strategy, modeling its use, guided practice in applying the strategy, a comprehension check, and students' independent practice of the strategy on their course content materials. Observation of the Strategic Learning System course curriculum delivery by trained professors increases reliability in the department that students will all receive quality instruction. This in-depth training allows for parity among classroom experiences for students, and provides a built-in mentor support system for new faculty.

While previous research focused on end of semester application course grades and Learning Strategies participation, no current research has been conducted to evaluate the impact of the Strategic Learning System on student success (defined as GPA, persistence, and graduation) at a large Midwest community college. Assessing the short term and impact of the LS 176 student success course at MCC can help create effective pathways to help students succeed in their community college course of study.

Statement of the Problem

It is crucial to understand the value of academic study skills courses in equipping community college students to succeed in college. The Learning Strategies program at MCC utilizes content-applied learning strategies in credit courses to enable students to become more strategic learners. With a research-supported foundation and an administrative funded initiative developed in the late 1980's to improve student outcomes, the Learning Strategies Department developed curriculum is delivered by trained faculty in a classroom setting. Students are identified for course enrollment in a variety of ways: counselor referral, self-referral, and course professor suggestion. Learning Strategies presentations are provided in Psychology, History, Sociology and other courses at the beginning of each fall and spring semester. This builds awareness of the Learning Strategies courses as a resource for students and helps build enrollment, which can be a hurdle in non-required courses. The Learning Strategies Department offers a variety of courses: one credit hour courses include the following: LS 176 Strategic Learning System, LS 178 Exam Strategies, LS 186 Exam Strategies, and LS 174 Learning Strategies for Math. The Learning Strategies Department also offers a three-credit hour student success course: LS 200 College Learning Methods. Although a study was conducted at the inception of the program regarding student outcomes associated with LS 176 (Denton et al., 1988), no recent studies of student outcomes associated with LS 176 have been conducted at MCC.

Purpose of the Study

This study was conducted to determine the short-term and long-term effects of Learning Strategies course participation on student success at a large Midwestern community college. The first purpose of this study was to determine the impact a Learning Strategies course had on short term cumulative GPA (semester enrolled in LS 176). The second purpose of this study was to determine the relationship between successful completion of a Learning Strategies course and persistence after the course (re-enrollment the next fall). A third purpose of this study was to determine the impact a Learning Strategies course had on long term GPA (at graduation or up to six semesters after matriculation to the community college for full-time students, or up to twelve semesters after matriculation for part-time students). The final purpose of this study was to determine how a Learning Strategies course (LS 176) affected students' abilities to persist in community college courses and programs, as measured by graduation rate within the 150% timeline (at graduation or up to six semesters after matriculation to the community college for full-time students, or up to twelve semesters after matriculation for part-time students).

Significance of the Study

Due to the need to prepare students for the workforce, strategies to improve community college student graduation and completion of certificate programs are needed, and for some students enhanced academic study skills may help them to succeed in their programs of study. This study contributed to the knowledge base regarding academic interventions that may increase student academic success in a community college setting. Community college efforts to improve graduation rates, develop effective pathways for students, and invest in high impact practices and programs that will support student success can be informed by the results of this study. Understanding how Learning Strategies course participation affects student cumulative GPA, persistence, and graduation can inform administrators, faculty, staff, students, and parents with knowledge about the effects of this program of study. Pathways for community college students can be more effectively designed with expanded knowledge of the effects of enrollment and completion of a Learning Strategies course. Personnel and students at other community colleges may find these results helpful as they plan for student success at their institutions.

Delimitations

Lunenburg and Irby (2008) defined delimitations as "self-imposed boundaries set by the researcher on the purpose and scope of the study" (p. 134). The researcher narrowed the focus of this study with the following delimitations: 1. This study was located at a large public community college in a metropolitan city with an average enrollment of approximately 19,000 students, both full-time and part-time.

2. This study included traditional students who were degree-seeking or transfer students.

This study included data for students who began their course of study between
 and 2014 at Midwestern Community College (MCC).

Assumptions

Lunenburg and Irby (2008) defined assumptions as "postulates, premises, and propositions that are accepted as operational for purposes of the research" (p. 135). This study was conducted under the following assumptions:

1. All student data (GPA, persistence, and graduation) were accurate and current.

2. The interpretation of the data accurately represented the experiences of the participants.

Research Questions

The following research questions guided this study.

RQ1. To what extent is there a difference in first semester of matriculation cumulative GPA among successful (course grade of C or higher), unsuccessful, and nonparticipant degree-seeking full and part-time freshmen in a Learning Strategies course (LS 176)?

RQ2. To what extent is there a difference in persistence (fall re-enrollment after matriculation) among successful (course grade of C or higher), unsuccessful, and non-participant degree-seeking full and part-time freshmen in Learning Strategies course (LS

176)?

RQ3. To what extent is there a difference in long term (at graduation or up to six semesters after matriculation for full-time students or up to twelve semesters for part-time students) cumulative GPA among successful (course grade of C or higher), unsuccessful, and non-participant freshmen in a Learning Strategies course (LS 176)?

RQ4. To what extent is there a difference in graduation (up to six semesters after matriculation for full-time students or up to twelve semesters for part-time students) among successful (course grade of C or higher), unsuccessful, and non-participant degree seeking full and part-time freshmen in a Learning Strategies course (LS 176)?

Definition of Terms

The following terms are defined to allow for a common understanding of the verbiage utilized in this study.

Academic Success. York, Gibson and Rankin (2015) defined academic success as "academic achievement, satisfaction, acquisition of skills and competencies, persistence, attainment of learning objectives, and career success" (p. 5).

Bloom's Taxonomy. Krathwohl (2002) defined Bloom's taxonomy as a framework "of education objectives classifying statements of what we expect or intend students to learn as a result of instruction" (p. 212).

Content applied learning strategies. Nisbet and Shucksmith (1986) defined content applied learning strategies as the opportunity to practice strategies for effective learning in context on content from concurrently enrolled courses.

Grit. As defined by Duckworth (2017), grit is "passion and perseverance for long term goals" (para 1).

Learning Strategies. Deschler and Schumacher (2006) defined learning strategies as "an individual's approach to a learning task. It includes how a person thinks and acts when planning, executing, and evaluating performance on a task and its outcomes" (p. 122).

Metacognition. "One's stored knowledge or beliefs about oneself and others as cognitive agents, about tasks, about actions or strategies, and about how all these interact to affect the outcomes of any sort of intellectual enterprise" (p. 910) is Flavell's (1979) definition for metacognition.

Multitasking. Multitasking was explained by Kenyon (2010) as "participation in more than one activity at a time" (p. 43).

Persistence. Habley and Bloom (2012) stated persistence is "a rate or percentage of students who return from one enrollment period to another" (p. 8).

Retention. Hagedorn (2012) defined retention as "college completion" with a degree or certificate (p. 81).

Success Course. O'Gara, Karp, and Hughes (2009) defined college success courses as those which aim to "provide participants with information about the college, help in academic and career planning, and techniques to improve study habits and other personal skills" (para 8).

Organization of the Study

This study includes five chapters. Chapter 1 summarized the background and statement of the problem, purpose, and the significance of the current study. This chapter also specified the four research questions that guided the study, as well as definitions for key terms, assumptions, and delimitations. Chapter 2 provides a review of the literature

including research related to community college student enrollment, performance and funding pressures, the characteristics of community college students, and student challenges related to college completion. Factors affecting student success are identified and measures of student success are explored. In addition, student study attitudes, success course interventions, and the effects of these courses are examined. Chapter 3 delineates the research methods utilized in the study and includes the research design, population and sample, measurement, data collection procedures, data analysis and hypothesis testing, and limitations. Chapter 4 includes the results of the study, including the descriptive statistics and hypothesis testing. Chapter 5 provides a study summary with an overview of the problem, purpose statement and research questions, methodology review, major findings, relationship of results to the literature and conclusions, implications for action and recommendations for future research.

Chapter 2

Review of the Literature

Chapter 2 provides a review of the literature related to higher education, student academic success, student characteristics, effective academic skill interventions, and the methodology of effective success courses. The first section provides a review of the current conditions of community college student success, and the factors affecting college student academic success. The second section delineates interventions to improve student success in higher education through academic skills courses.

Current Conditions in Higher Education.

Undergraduate enrollment in higher education is on the rise with a 30 percent increase since 2000 and a projected increase of 12% from 2015 to 2026 (McFarland et al., 2017). With nearly double the earning potential, degree attainment is an investment that can pay off for students (U. S. Department of Labor, Bureau of Labor Statistics, 2015) and the lack of a college degree can carry with it an "economic penalty" (Carnevale, Rose, & Cheah, 2013, p. 3) that stays with an American worker for a lifetime. It has been posited that a degree is the one reliable conduit to "overcome one's disadvantaged socioeconomic origins" (Schudde & Goldrik-Rab, 2015, p. 28).

Community college students comprise nearly half of the undergraduate population (American Association of Community Colleges [AACC], 2016). Students attend community colleges for a combination of affordable and flexible academic options. While higher education may be seen as a pathway to academic and economic success, this journey is fraught with difficulty for many. With an eye on performance and a need to justify this costly investment, there is pressure to increase student degree and certificate attainment (Joyce, 2010; Kelchen & Stedrak, 2016).

While students see income gains from degree attainment, the reality is that a large number of students fail to graduate. Only 22.6% of community college students attain a degree or certificate within three years (National Student Clearinghouse Research Center, 2017a), and many students fail to persist after their freshman year. According to the National Student Clearinghouse Research Center (2017b), 29.1% of students fail to reenroll in higher education after their freshman year, showcasing the difficulty in navigating to the goal of degree completion. Additionally, the National Student Clearinghouse Research Center (2017a) reported only two out of five students who earn an associate's degree go on to ultimately complete a bachelor's degree, underscoring that there are many hurdles to degree completion.

Along with student success, persistence, and retention concerns, higher education budgetary issues have an effect on students. Due to tightening budgets, state appropriations for higher education have not kept pace with inflation, and as a result, tuition rates for students have experienced significant increases (State Higher Education Executive Officers Association, 2015). Students bear more of the costs of their education, and this has manifold effects. One effect is an increased pressure for accountability for institutions of higher education by state government, leaders in higher education, governing bodies, and constituents (Cowan, 2013; Moltz, 2009). State performance-based funding measures tie funding formulas to performance indicators like successful course completion, degree completion timelines, and transfer rates (National Conference of State Legislatures, 2015). This is a reversal from past policies that tied funding to enrollment. The National Conference of State Legislatures (2015) found that 32 states currently implement portions of this funding model. Thornton and Friedel (2016) determined performance-based funding mandates required institutions under pressure for increased course and degree completion to be "consciously connecting current initiatives and best practices to anticipated improved outcomes" (p. 200). They also reported that this model affected nearly everything in the community colleges, including public perspectives. The pressure is to deliver an efficient and effective educational product that helps students succeed in their education and then demonstrate that success through increased retention, graduation rates, and degree production (Rutherford & Rabovsky, 2014).

Community College

Given the various motivations for attending a community college, meeting expectations for performance funding and graduation can be challenging. As a large percentage of the undergraduate student population, community college students are a varied group, with goals ranging from personal enrichment to career objectives (Voorhees & Zhou, 2000). Due to these wide-ranging objectives for attending a community college, students may not travel a straight path to degree attainment. Most community colleges are open access, low tuition, and open-door policy institutions, with enrollment of a significant number of underprepared students requiring remediation and academic skills development (Fike & Fike, 2008). Given the varying expectations for performance-based funding, meeting both student objectives for attending community college and accomplishing performance-based funding benchmarks can be daunting. Academic characteristics of community college students. Students at the community college possess a varied mix of academic abilities. Lack of preparation for community college students can be of an academic nature in regard to reading ability (Chevalier, Parilla, Ritchie, & Deacon, 2017), or may include poor study skills and a lack of clear educational objectives (Zeidenberg, Jenkins, & Calgano, 2008). Poor academic preparation is a pressing need. Nearly 60% of community college students are required to build their academic skills before enrolling in college level courses (Bailey, 2009).

One effort to improve community college student academic deficits is found in developmental education. Students referred for academic improvement in order to successfully complete college level work are required to enroll in developmental courses to build their skills (Cho & Karp, 2012). Lack of academic skills may be in the areas of reading, writing, or math. Students may be required to enroll in developmental and remedial courses before they may enroll in college-level work (Jeffcoat et al., 2013; McIntosh & Rouse, 2009; Waiwaiole & McClenney, 2016). According to Chen and Simone (2016), nearly 68% percent of community college students enrolled in at least one developmental or remedial course. Developmental course enrollment is also tied to difficulty in completing a college education, as these students tend to be unprepared for college and have weak academic skills that limit ability to perform college-level work (Bailey, 2009).

Fewer than one-third of community college students earn a certificate or degree in a six-year time period (Tinto, 2012). The Community College Completion Corps (2017) stated that community college students are "overwhelmed, overextended, underfunded, and underprepared" (para. 1). Over 60% of community college students require

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remediation of some sort (Chen & Simone, 2016), highlighting the pressing need for community college student academic skill enhancement. Researchers believe under preparation is one issue that community colleges need to address in order to improve student outcomes (Abreu-Ellis, Ellis, & Hayes, 2009; Abts, 2012; Crisp & Taggart, 2012; Stewart, Lim, & Kim, 2015; Zeidenberg et al., 2007). According to McCabe (2003), the need to improve academic competencies to prepare students for academia, employment, and personal advancement is one of the most pressing imperatives of the community college.

Students in the community college may require remediation before achieving success in college courses (Cukras, 2006; Grunder & Hellmich, 1996; Jeffcoat et al., 2014). Many community colleges require students to take a placement test in order to ascertain students' skill levels in reading, writing, math, or study skills (Florida Department of Education, 2006; Fowler & Boylan, 2010), and a large majority must build their academic skills in developmental courses before they can earn college level credits (Chen & Simone, 2016). Reading difficulties can be a major hurdle. Becoming strategic learners who actively seek meaning in higher education written course material is an important skill for college students (Simpson, Stahl, & Francis, 2004). Hermida (2009) proposed that success at the college level is contingent on fundamental academic skills including reading, writing, critical thinking, and oral presentation. However, "most students employ non-university strategies to read academic texts" (Hermida, 2009, p. 20), which is insufficient for college work.

Student achievement in college may be due to lack of high school preparation that meets collegiate academic expectations (Conley, 2007). Venezia and Jaeger (2013)

stated many students enter college without the skills, knowledge, or attitudes necessary for college success. Academic performance is crucial for success in the long term, and Stinebricker and Stinebricker (2014) indicated that nearly 45% of students drop out in their first two years of college due to a failure to meet college academic expectations. Bound, Lovenheim, and Turner (2010) found that a combination of lack of academic preparation, resources available to students, and institutional characteristics can cause significant issues in college completion.

Demographic characteristics of community college students. As a group, community college students are not homogenous. Considering ethnicity, the AACC (2016) reported 49% of students were white, 22% were Hispanic, 14% were black, 6% were Asian/Pacific Islander, and 1% were Native American. Pryor, Hurtado, Saenz, Santos, and Korn (2006) stated community college students are older than the traditional 18-year old freshman with an average age of 28. The AACC (2016) found half of community college students were between the ages of 22 and 39. Over half of community college students were female and more than one-third were the first in their family to attend college (McFarland et al., 2017). It is clear from the demographics reported in research that community college students are outside of the traditional eighteen-year-old freshman expectations for undergraduate college students.

Not all community college students plan to graduate with a degree or certificate, having their own personal objectives for attending a community college. There is no linear path to a baccalaureate degree, and Alba and Lavin (1981) showed community college students have variable paths to their academic goals. Laanan (2000) found a majority of the students in their study attended community college with the intention of

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earning more money, getting a better job, becoming more knowledgeable, and improving study skills. It is notable that an associate degree was not a major goal of students in the study (Laanan, 2000). Degree attainment was only a goal of nearly one-third of students. In a study by Vorhees and Zhou (2000), the intentions of the majority of students attending a community college were to obtain a certificate, earn transfer credits, and career preparation. In comparison, Wood and Palmer (2013) found students were interested in community leadership as well as reaping the financial benefits of a college education. With a majority of students attending part-time (AACC, 2016), it is clear that community college students have a uniquely diverse set of motivators for their educational journeys.

Factors Affecting Student Success

Students in the community college have a variety of demographic and personal characteristics that can be risk factors affecting their success. Burdened with academic concerns, obligations at home, the need to work, or financial issues, community college students are a diverse group with many hurdles to clear on their way to accomplishing their goals. A variety of risk factors may be barriers for student success in the community college.

Risk factors. The need to build effective pathways to success in the community college is underscored by the myriad of issues community college students may face. A coordinated and collaborative path to degree and goal completion is necessary to help students succeed in the community college (Bailey, Jaggars, & Jenkins, 2015). With identified risk factors including delayed college entry, part-time enrollment, full-time employment, financial independence, having dependents, and single parenthood (Schmid

& Abell, 2003), community college students have a difficult journey to degree attainment. Misconceptions about the college environment can also be an issue. From false beliefs about attendance, grading and community college academic rigor, and misconceptions about multi-tasking, Miranda (2014) found community college students have characteristics and perspectives that can also be barriers to success.

Community college students are also more likely to be first generation, utilize financial aid, and must balance home, work, and school responsibilities (AACC, 2016). These characteristics can also be risk factors for college degree completion, according to the AACC (2016). Community colleges also serve a large percentage of minority, lowincome, and adult students (Ma & Baum, 2016), all of whom experience higher failure and dropout rates, according to the U.S. Department of Education, National Center for Education Statistics, Institute of Education Sciences (2017b). Community college students tend to be varied in terms of ethnicity, age, and ability. That resulting diversity, while a positive attribute of higher education, can make it more difficult for students to cultivate a peer group (Astin, 1993). When focusing on community college student success, it is evident there are significant hurdles for community college students to overcome (Bailey et al., 2015; McClenney, 2013).

Cost as a risk factor. A significant pressure for students is the cost of college enrollment. Due to funding changes and increasing tuition costs, students need to bear more of the cost of their education than in the past. Ishler (2005) proposed, "skyrocketing tuition threatens to make college affordable for all but the wealthy" (p. 25). As federal and state funding has diminished, students are more likely to work to support themselves and to pay tuition, which can also have negative effects on their academic success (Astin, 1993; Carnevale, Smith, Melton, & Price, 2015; Stern & Nakata, 1991). Tessema, Ready, and Astani (2014) found a large number of hours worked has a negative effect on GPA. However, 40% of undergraduate students work full-time while in college (Carnevale et al., 2015), and a majority work at least part-time to manage their budget and gain relevant experience (Richardson, Evans, & Gbadomosi, 2009). Part-time employment may have a less deleterious effect on college achievement. Dundes and Marx (2006) found part-time employment (particularly 10 to 19 hours on campus) enabled students to more effectively find a work-college balance, and to be more successful than peers who worked more intense schedules, and those who did not work.

Generational factors. Millennial students are defined as students born since 1982 (Howe & Strauss, 2000) and are described as a "new breed" of students on campus (Newton, 2000, p. 9). This generation has unique characteristics that can affect their college success. With descriptors such as special, achieving, sheltered, pressured, confident, and conventional (Lowery, 2004), Millennial students enter college with a mindset geared toward reliance on technology, a dependence on rote learning strategies, actively involved parents, and optimism about their abilities (Elam, Stratton, & Gibson, 2007). With an educational history including state and federally mandated testing, these students have had the pressure to "pass tests" (Perna & Thomas, 2007, p. 473), instead of preparation for college academic inquiry. Colleges now face the imperative to guide these students in their educational journey. In order to do this, Turner and Thompson (2014) recommended that Millennial students be involved in activities and events, develop effective study skills, and cultivate strong campus relationships in order to ease the transition to college.

College norm expectation factors. Common college success measures include GPA, retention, and graduation rates, all of which are measures of intellectual and academic ability (Upcraft, Gardner, & Barefoot, 2005). However, college students in a community college have characteristics and beliefs that may hinder their ability to succeed, in addition to traditional academic skill concerns. Normative expectations can be fraught with pitfalls for community college students who find the transition from high school to community college more than academically arduous (Karp & Bork, 2014). In a study by Miranda (2014), 48% of students failed to realize absences negatively affect grades and stated that multitasking in class was an efficient way to learn. In direct contrast to community college student opinions, a study by Colom, Martinez-Molina, Shih, and Santacreu (2010) showed multitasking reduced working memory and challenged memory capacity. In addition, most students were unaware of the negative effects of distractions (Miranda, 2014), a major hindrance for student success (Junco, 2012).

Due to a lack of understanding of the norms of college, community college students may feel confused about the expectations of their new environment, and uncomfortable expressing these frustrations (Cox, 2009). Upon conducting interviews with high school students, Karp and Bork (2012) found high school students lacked comprehension about college expectations and behavioral norms. This lack of normative understanding was even more pronounced among first generation students (Collier & Morgan, 2008). Non-cognitive variables can be a hidden component of navigating college that can directly affect student success (Ransdell, 2001). Lack of cultural competence can cause difficulties both in and out of the classroom (Schudde & GoldrikRab, 2015). Balduf (2009) stated underachieving students find their preparation for college lacks the proper skills in terms of work ethic, personal motivation, and self-discipline. With a less forgiving environment than high school and varied instructional styles, college students experience a disconnect between previous academic experiences and expectations of the college environment (Karp & Bork, 2014).

Psychosocial factors. Psychosocial skills, like self-efficacy, goal setting, selfconcept, attitude, and motivation have been shown to have an effect on student success (Donche, de Maeyer, Coertjens, Van Daal, & Van Petegem, 2013; Komarraju, & Nadler, 2013; Liu et al., 2014; Nickerson, Diener, & Schwarz, 2010). Liu et al. (2014) indicated self-regulated behavior (a student's ability to monitor the metacognitive process) is an underlying need for college students, and can directly affect academic outcomes. Robbins, et al. (2004) found the best predictors for GPA were related to academic selfefficacy (the concept that self-referent thoughts direct behavior) and motivational factors (the ability to sustain action toward goal accomplishment). The need for autonomy and self-regulated skills to manage the demands of college life was a major component of the study performed by Duckworth, Peterson, Matthews and Kelly (2007), which demonstrated the significance of "grit," the belief that "achievement is the product of talent plus effort" (p. 1098). On the contrary, unrealistic "positive illusions" (Nickerson et al., 2011, p. 737) were found to be detrimental to college success. Fowler and Boylan (2010) found that transition efforts to help students succeed were most effective when the interventions were a mix of academic and nonacademic, as well as personal need fulfillment.

Measures of Student Success

There are a variety of measures to show that students are successful in their institution of higher education. GPA is often used to document student success both in in individual courses, at the end of a semester of study, and at the end of a program of study. Shorter-term measures to show academic success may be measured by GPA include persistence at the community college institution. Persistence, or continuing at the institution other semester, is a way to show student progress to goal attainment. Another measure is graduation, the long-term culmination of the student academic experience.

GPA. GPA is a measure of student success and represents college academic performance. College grades have been shown to be one of the most consistent predictors of college success (Bonet & Walters, 2016; Stewart et al., 2015), and indicate progress toward goal attainment. Hsieh, Sullivan, and Guerra (2007) posited that goal attainment and self-efficacy positively influence student outcomes, and GPA is a crucial component of student goal attainment.

Persistence. Persistence is defined by the U.S. Department of Education, Federal Student Aid (n.d.) as the "percentage of a school's first-time, first year undergraduate students who continue at that school the next year" (p. 22). A measure of academic success, persistence, or continuing enrollment at a college, is a measure of success for both the student and the institution. Re-enrolling, or persistence in college, promotes financial stability and sustainable academic programs for the institution (Fike & Fike, 2008), and provides proof of a positive college experience for students (Astin, 1993; Tinto, 2012).

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Graduation. Graduation rates are a measure of success for both a student and an institution. The U.S. Department of Education, Federal Student Aid (n.d.) defined the expectation for graduation as "the percentage of a school's first-time, first-year undergraduate students who complete their program within 150% of the published time for the program" (p. 22). Completing a program of study and obtaining a degree or certificate in a timely manner shows that a student has fulfilled a purpose for attending the institution. Community colleges are plagued with low completion/graduation rates (Bailey et al., 2015; McIntosh & Rouse, 2009). Kraemer (2017) reported that fewer than 25% of community college students complete a degree or credential in three years or the 150% timeline. In addition, Ma and Baum (2016) reported that 39% of community college students complete a degree or credential in six years, including students who attended a four-year institution after community college.

Success Course Interventions

Effective learning and study strategies are tools students may not develop without direct instruction (Gettinger & Seibert, 2002; Heinrichs & Lehnert, 1986). These fundamental skills in processing information at a college level have been recommended as a high impact practice to "move the needle on community college persistence and completion" (Hatch, 2005, p. 19). Academic integration is a crucial factor for student persistence, according to Pascarella, Smart, and Ethington (1986). Tuckman and Kennedy (2011) found success courses could be utilized to remove barriers to student academic success, increase student persistence, and increase graduation rates, particularly for students experiencing academic difficulty. With a focus on *learning to learn*, success courses courses can positively affect a student's ability to transition effectively into the

expectations of the higher education environment (Florida Department of Education, 2006; Ishler, 2003). Success courses focus on study skills, notetaking, learning styles, and can also serve as a "catalyst for forming relationships with other students and faculty" (Crisp & Taggart, 2013, p. 123). Transforming into independent learners requires an inventory of study strategies (Cukras, 2006), and a success course can be the means to learn these enhanced skills needed for college success. Barefoot, Griffin, and Koch (2012) surveyed colleges and universities and found first-year seminars with academic and study skill components increased persistence and graduation, connected students with one another, faculty, and resources on campus, and boosted academic achievement.

Skill and strategy curriculum in success courses. Cohen (2012) defined metacognition as the ability to be aware how learning, memory, and attention weave together to monitor one's own mental processes. Metacognitive skills are imbued in the cognitive processes of learning in success course strategies, and are seen as crucial to the reading process (Chevalier et al., 2017). Textbook reading and utilization is one skill that may be included in college success courses (Hermida, 2009) and supports effective cognitive development for college students (Simpson et al., 2004). Effective notetaking is another skill typically covered in success courses to increase student comprehension of both text and lecture content (Roark, 2013). Other components of success courses are exam preparation (Purnell, Blank, Scrivener, & Seupersad, 2004) and elaboration activities to make course content more meaningful (Weinstein, Ridley, Dahl, & Weber, 1989). Other curricula covered in success courses may include stress management, time management, learning styles, introduction to campus resources, and educational and career planning (Crisp & Taggart, 2013).

Efficacy of study skills training. Winne (1995) reasoned study skills training is necessary because students do not enter college equipped with the knowledge to meet the academic rigor of higher education. Study skills training has been shown to have positive effects on student academic success (Grunder & Hellmich, 1996; Heinrichs & Lehnert, 1986) and academic self-efficacy (Wernersbach et al., 2014). Kimbark, et al., (2017) found a statistically significant relationship between a study skills course and community college academic success. "Study skills were seen by the students to be helpful in their transition to college and in becoming a successful student in college" (p. 133). Tuckman and Kennedy (2011) found students who successfully completed a learning strategies course were "six times more likely to be retained" (p. 478) and had a much higher graduation rate. Strategic learning systems can improve outcomes for underprepared students (Cukras, 2006), and improve exam scores (Fleming, 2002). Doyle and Garland (2002) found learning strategy instruction increased reading comprehension and rate, reduced test anxiety, and reaped higher grades in the long term (two semesters after the course).

Several authors reported direct instruction of strategy use with content application of strategies improved student outcomes (Heller & Marchant, 2015; Karp, Raufman, Efthimiou, & Ritze, 2017; Weinstein et al., 1989). Utilizing direct instruction of study strategies in a content course in which the student was concurrently enrolled was advantageous for students in Heinrichs and Lehnert's (1986) research, especially for students at risk for academic issues. Strategies courses have been shown to be more effective when skills were applied to a co-requisite course (Denton et al., 1988; Heller & Marchant, 2015) where the strategies were utilized on content from college material. Completion of a content applied success course was shown to be effective over a fiveyear period for all students, including students in developmental education (Florida Department of Education, 2006).

Despite the multiple studies showing the efficacy of study skills courses, barriers to course implementation can be a concern. Students may resist the changes in their study habits forced by a study skills course (Yuksei, 2006). Lack of content-applied strategies seemed to negatively affect the outcomes of the course in Rutschow, Cullinan, and Welbeck's (2012) study that utilized a reflective journaling approach for the development of student skills. Online students showed weaker results from learning strategy curricula in Broadbent and Poon's (2015) review of the research on online higher education learning environments.

Summary

College enrollment numbers are on the rise, and one reason for this rise may be the improved earning potential of college graduates. Community college is a popular choice among undergraduates, however many students fail to graduate. As state and federal budgets contract, the student tuition burden has increased. In addition, there are pressures for accountability in higher education to show student success and graduation rate improvements. Community colleges in particular are plagued by low graduation rates, which may be influenced by community college student risk factors. Lack of academic preparation, a need for remediation, an inability to meet collegiate academic expectations, competing priorities, and generational norms and expectations misalignment may also further complicate goal achievement in college (Karp & Bork, 2014; Komarraju, & Nadler, 2013; Abts, 2012; Perna & Thomas, 2007; Ransdell, 2001).

Student success may be measured by GPA, re-enrollment/persistence, and graduation rates. One intervention to assist students in an effective transition to college is success courses. A success course can be a means to improve student GPA and facilitate retention in the community college (Kimbark et al., 2017). Learning skills in utilizing textbooks effectively, taking notes, test preparation, and test-taking are all components of strategies for learning that may help students to be academically successful when applied to current course content.

High-impact practices for encouraging college student success include content applied strategies courses, direct instruction in strategies usage and implementation, as well as instruction of metacognitive process management were documented in the literature review (Crede & Kuncel, 2008; Karp & Bork, 2014; Wernersbach et al., 1984). With underlying principles based in Educational Psychology, effective strategies instruction teaches students both the "why" and the "how" of academic success skills. This study was a replication with extension of Denton et al.'s (1988) study to determine the effect of a Learning Strategies course on community college student academic success. The current study examined the impact of a learning strategies course on first semester GPA (end of the semester in which a learning strategies course was completed), persistence the fall following completion of a learning strategies course, cumulative GPA at graduation (at graduation up to six semesters of matriculation for full-time students and up to twelve semesters of matriculation for part-time students), and graduation (within six semesters for full-time students or up to twelve semesters for part-time students) at a large Midwestern community college.

This chapter provided a review of the literature related to student academic success, courses intended to enhance student study skills, and the effect of these courses. Chapter 3 includes the methodology including the research design, selection of participants, measurement, data analysis procedures, data analysis and hypothesis testing, limitations, and summary.

Chapter 3

Methods

The purpose of this study was to determine the effects of the Strategic Learning course (Learning Strategies 176) at MCC on short term GPA (end of the semester in which a learning strategies course was completed), persistence the fall following completion of a learning strategies course, cumulative GPA at graduation (up to six semesters of matriculation for full-time students and up to twelve semesters of matriculation for part-time students), and graduation (within six semesters for full-time students or up to twelve semesters for part-time students) at a large Midwestern community college. This study was a replication with extension of Denton et al.'s (1988) study to determine the effect of a Learning Strategies (LS 176) course on student academic success at MCC. Chapter 3 includes the methodology utilized in this study, including the research design, selection of participants, measurement, data collection procedures, data analysis and hypothesis testing, and limitations of the study.

Research Design

The quantitative methodology utilized in this study involved the application of statistical analysis to conduct hypothesis tests. Examining variables and relationships between them or differences among groups is crucial to answering research questions (Creswell, 2014). The dependent variables in this study were first semester of matriculation cumulative GPA, persistence (re-enrollment the next fall after Learning Strategies 176 participation), long term GPA (GPA at graduation up to six semesters of matriculation for full-time students and up to twelve semesters of matriculation for part-time students), and graduation (up to six semesters of matriculation for full-time students).

and up to twelve semesters of matriculation for part-time students) among successful (course grade of C or higher), unsuccessful, and non-participants in LS 176. The independent variable of LS 176 participation groups in this study was participation in the learning strategies course for successful (course grade of C or higher), unsuccessful, and non-participants in LS 176.

Selection of Participants

Full-time and part-time degree-seeking freshmen students attending MCC from 2010 to 2014 constituted the sample for this study (N = 16,210). Purposive sampling was utilized for this study. Specific criteria were utilized to determine the sample. Only archival data for degree-seeking full-time or part-time freshmen students who enrolled in MCC in the fall or spring semester in 2010-2014 were included in this study.

Measurement

Data for this study were archived institutional data maintained by the MCC Office of Institutional Research. Some participants successfully or unsuccessfully completed LS 176 in the initial semester of enrollment. Other participants enrolled in MCC as full or part-time students but did not enroll in LS 176. The variables first semester cumulative GPA, persistence (re-enrollment the next fall after Learning Strategies 176 participation), long term GPA at graduation (at graduation or up to six semesters after matriculation to the community college for full-time students, or up to twelve semesters after matriculation for part-time students), and graduation (up to six semesters after matriculation to the community college for full-time students, or up to twelve semesters after matriculation for part-time students) were measured utilizing institutional data. First semester cumulative GPA was defined as student overall GPA at the end of the first semester of matriculation. Some participants successfully or unsuccessfully completed LS 176 in the initial semester of enrollment. Other participants enrolled in MCC as full or part-time students but did not enroll in LS 176. Persistence status was determined by re-enrollment the fall semester after matriculation. Long term GPA was defined as overall cumulative GPA upon graduation. Only students who graduated within the 150% timeline (at graduation or up to six semesters after matriculation to the community college for full-time students, or up to twelve semesters after matriculation for part-time students) were included in the analyses for long term GPA. Graduation status was measured as a categorical variable, because either students graduated or did not graduate. Up to six semesters after matriculation to the community college for full-time students, or up to twelve semesters after matriculation for part-time students graduated or did not graduate. Up to six semesters after matriculation to the community college for full-time students, or up to twelve semesters after matriculation for part-time students was chosen as the timeline benchmark for graduation because that is the maximum time allotment for reporting community college student successful completion on the report to the MCC Board of Regents governing body (Kansas Board of Regents, 2017).

First semester of matriculation cumulative GPA was utilized to measure short term effects of the learning strategies course for RQ1. Some students enrolled in LS 176 in their second semester after matriculation and were not included the analyses for RQ1. GPA at graduation (up to six semesters of matriculation for full-time students and up to twelve semesters of matriculation for part-time students) was utilized to analyze long term effects of the learning strategies course for RQ3. Some students graduated with no GPA due to career or technical program parameters and were excluded from the analyses of long-term cumulative GPA that addressed RQ3.

Data Collection Procedures

The researcher submitted a request for approval to conduct the study through the Baker University Institutional Review Board (IRB) on December 12, 2017 (see Appendix A). The researcher was granted approval to conduct research from the Baker IRB committee on December 13, 2017 (see Appendix B). The researcher submitted an IRB request to MCC on December 13, 2017 utilizing the Baker University form (see Appendix A) to conduct the study using archived institutional data and was granted approval on December 14, 2017 (See Appendix C).

Once IRB approvals were received from both Baker University and MCC, archival data were collected from the student information system (BANNER) at the selected institution site. The data included the participant's name, Learning Strategies (LS176) participation status, first semester cumulative GPA, persistence, long-term cumulative GPA (at graduation or up to six semesters after matriculation to the community college for full-time students, or up to twelve semesters after matriculation for part-time students), and student graduation (up to six semesters after matriculation to the community college for full-time students, or up to twelve semesters after matriculation for part-time students). The researcher assigned each student an identification code known only to the researcher and removed all student names from the database. Once names were deleted, the data were organized into Microsoft Excel spreadsheet and inputted into IBM SPSS Statistics 25 for analysis.

Data Analysis and Hypothesis Testing

The following section includes the four research questions and the associated hypotheses, and data analyses. Creswell (2014) explained research questions and

hypotheses are tools for structuring a quantitative study. The following four research questions and subsequent hypotheses guided the study and dictated the analyses performed.

RQ1. To what extent is there a difference in first semester of matriculation cumulative GPA among successful (course grade of C or higher), unsuccessful, and non-participant degree-seeking full and part-time freshmen in a Learning Strategies course (LS 176)?

H1. There is a statistically significant difference in first semester cumulative GPA among successful (course grade of C or higher), unsuccessful, and non-participant degree-seeking full and part-time freshmen in a Learning Strategies course (LS 176).

A one-factor ANOVA was conducted to test H1. The categorical variable utilized to group the dependent variable, first semester of matriculation cumulative GPA, was participation in Learning Strategies 176 status (successful, unsuccessful, and did not participate). The level of significance was set at $\alpha = .05$.

RQ2. To what extent is there a difference in persistence (re-enrollment the fall after matriculation) among successful (course grade of C or higher), unsuccessful, and non-participant degree-seeking full and part-time freshmen in Learning Strategies course (LS 176)?

H2. There is a statistically significant difference in persistence (re-enrollment the fall following matriculation) among successful (course grade of C or higher), unsuccessful, and non-participant degree-seeking full and part-time freshmen in a Learning Strategies course (LS 176).

A chi-square test of independence was conducted to test H2. The level of

significance was set at .05. The two categorical variables included in the analysis were persistence (re-enrollment the fall following matriculation or no re-enrollment the next fall) and participation in the LS 176 course (successful, unsuccessful, and did not participate). Observed frequencies were compared to those expected if re-enrollment were independent of LS 176 participation.

RQ3. To what extent is there a difference in long term (at graduation or up to six semesters after matriculation for full-time students or up to twelve semesters for part-time students) cumulative GPA among successful (course grade of C or higher), unsuccessful, and non-participant freshmen in a Learning Strategies course (LS 176)?

H3. There is a statistically significant difference in long term cumulative GPA (GPA at graduation up to six semesters after matriculation for full-time students or up to twelve semesters for part-time students) among successful (course grade of C or higher), unsuccessful, and non-participant degree-seeking freshmen in a Learning Strategies course (LS 176).

A one-factor ANOVA was conducted to test *H3*. The categorical variable utilized to group the dependent variable, long term cumulative GPA, was participation in Learning Strategies 176 status (successful, unsuccessful, and did not participate). The level of significance was set at $\alpha = .05$.

RQ4. To what extent is there a difference in graduation (up to six semesters after matriculation for full-time students or up to twelve semesters for part-time students) among successful (course grade of C or higher), unsuccessful, and non-participant degree-seeking full and part-time freshmen in a Learning Strategies course (LS 176)?

H4. There is a statistically significant difference in graduation (up to six semesters

after matriculation for full-time students or up to twelve semesters for part-time students) among successful (course grade of C or higher), unsuccessful, and non-participant degree-seeking full and part-time freshmen in a Learning Strategies course (LS 176).

A chi-square test of independence was conducted to test *H4*. The two categorical variables included in the analysis were graduation (up to six semesters after matriculation for full-time students or up to twelve semesters for part-time students) and participation in the LS 176 course (successful, unsuccessful, and did not participate). Observed frequencies were compared to those expected if re-enrollment were independent of LS 176 participation. The observed frequencies were compared to those expected by chance. The level of significance was set at $\alpha = .05$.

Limitations

Limitations are factors beyond the control of the researcher that might influence the results of the study (Lunenberg & Irby, 2008). One limitation of this study is student self-selection to enroll in the LS 176 course. Students are not required to participate in an LS 176 course at MCC. A second limitation is that a variety of other mitigating factors may affect a student's choice to persist at a community college, pursue a degree, or graduate. A limitation that may affect replication of the results is the proprietary nature of the Learning Strategies curriculum, which is subject to copyright, developed at MCC, and not commercially available. A final limitation to generalizability of the results of this study is the distinct nature of the extensive training and mentorship of the Learning Strategies Department, which is unique to MCC.

Summary

This chapter detailed the research design, population and sample, sampling procedures, measurement, data collection procedures, data analysis and hypothesis testing, and limitations. Demographic statistics that describe the study participants and the results of the hypothesis testing are presented in Chapter 4.

Chapter 4

Results

The primary purpose of this study was to examine the effect of participation in a Learning Strategies course (LS 176) at Midwestern Community College (MCC) on short-term cumulative GPA (first semester after matriculation), persistence (re-enrollment the fall following completion of the course or matriculation to MCC), long term cumulative GPA (GPA at graduation or up to six semesters after matriculation for full-time students or up to twelve semesters for part-time students), and student graduation rates (up to six semesters after matriculation for full-time students). This study was a replication with extension of Denton et al.'s (1988) study to determine the effect of a Learning Strategies (LS 176) course on student academic success at a large Midwestern community college (MCC). Chapter 4 presents descriptive statistics for the sample and results of the hypotheses testing.

Descriptive Statistics

Descriptive statistics were utilized to describe the sample of the study. As presented in Table 1, archival data for 16,065 student records were grouped into three categories; successful participants in LS 176 (grade of C or better), unsuccessful participants in LS 176, and nonparticipants. The majority of student participants did not participate in LS 176. Table 1 summarizes the number of students that were nonparticipants, successful participants, and unsuccessful participants in the learning strategies course.

Table 1

Learning Strategies LS 176 Participant Status Frequency Table

Status	n	%
Non-Participant		
Full-time	9733	60.00
Part-time	6157	38.00
Successful Participant		
Full-time	218	1.30
Part-time	44	0.30
Unsuccessful Participant		
Full-time	26	0.16
Part-time	32	0.19

RQ3 and RQ4 examined the long-term effects of the LS 176 course (e.g.

cumulative GPA at graduation and graduation status). A community college associates degree is expected to be completed by a full-time student in 2 years, or four semesters. Three years (six semesters) after matriculation meets the 150% criteria for full-time students. A part-time student is expected to graduate in 4 years. Six years (twelve semesters) meets the 150% criteria for part-time students. Both full-time and part-time students were included in these analyses. The analyses for RQ3 and RQ4 included data for only those students who met the full-time (within three years) or part-time (within six years) graduation criteria. The number of full-time and part-time students included in the hypotheses analyses RQ3 and RQ4 is summarized in Table 2.

Table 2

Number of Full-time/Part-time Students Meeting Graduation Criteria and LS 176

Enrollment status	LS enrollment status	Did not graduate	Graduated
Full-time	Non-Participant	5694	1391
	Successful	102	54
	Unsuccessful	17	4
Part-time	Non-Participant	1763	295
	Successful	10	5
	Unsuccessful	10	2

Enrollment Status for RQ3 & RQ4 Hypothesis Testing

Note. Graduation was defined for this study as up to six semesters after matriculation for full-time students or up to twelve semesters for part-time students

Hypothesis Testing

Four hypotheses were tested to address four research questions. Archival data were utilized to ascertain the effect of participation in a Learning Strategies (LS 176) course on short-term cumulative GPA, persistence, long-term cumulative GPA at graduation up to six semesters after matriculation for full-time students or up to twelve semesters for part-time students), and graduation rates (up to six semesters after matriculation for full-time students or up to twelve semesters for part-time students) of degree-seeking community college students.

RQ1. To what extent is there a difference in first semester of matriculation cumulative GPA among successful (course grade of C or higher), unsuccessful, and non-participant degree-seeking full and part-time freshmen in a Learning Strategies course (LS 176)?

H1. There is a statistically significant difference in first semester cumulative

GPA among successful (course grade of C or higher), unsuccessful, and non-participant freshmen in a Learning Strategies course (LS 176).

A one-factor ANOVA was conducted to test *H1*. The level of significance was set at .05. The independent variable of LS 176 participation status was used to determine statistically significant differences in first semester cumulative GPA. There was a statistically significant difference in short term GPA between at least two means based on LS 176 status, F(2, 14705) = 40.358, p < .001. The follow-up Tukey's HSD indicated that each group was significantly different from every other group (p < .001). The mean first semester cumulative GPA for successful participants in LS 176 (M = 3.06) was significantly different from the mean first semester cumulative GPA for non-participants (M = 2.25). The mean first semester cumulative GPA of unsuccessful LS 176 participants (M = 0.89) was the lowest cumulative GPA of the three groups.

It was important to note that there was a slight violation of the assumption of homogeneity of variance among the groups, Levene's statistic F(2, 14705) = 40.358, p < .001. As presented in Table 3, there was slightly less variation in the cumulative GPA of successful participants than the unsuccessful participants and non-participants. ANOVA is robust to this violation (*SD* of non-participants and *SD* of unsuccessful participants was less than twice than the *SD* of successful participants) of the assumption of homogeneity of variance and the results of the statistical analysis are minimally affected by this violation (Keppel, 1991). There was support for H1 that successful participation in LS 176 was associated with higher short-term cumulative GPA.

Table 3

Short Term Cumulative GPA

Participant Status	М	SD	Ν
Non-Participant	2.25	1.30	14,534
Successful Participant	3.06	.80	144
Unsuccessful Participant	0.89	1.01	30

RQ2. To what extent is there a difference in persistence (fall re-enrollment after matriculation) among successful (course grade of C or higher), unsuccessful, and non-participant degree-seeking full and part-time freshmen in Learning Strategies course (LS 176)?

H2. There is a statistically significant difference in persistence (re-enrollment fall following matriculation) among successful (course grade of C or higher), unsuccessful, and non-participant degree-seeking full and part-time freshmen in a Learning Strategies course (LS 176).

A chi-square test of independence was conducted to test *H2*. The level of significance was set at .05. The two categorical variables included in the analysis were persistence (re-enrollment the next fall following matriculation or did not re-enroll fall following matriculation) and participation in the LS 176 course (did not participate, participated successfully, participated unsuccessfully). Observed frequencies were compared to those expected if re-enrollment were independent of LS 176 participation. The results of the chi-square test of independence indicated a statistically significant difference in student persistence to the next fall depending on participation and success in LS 176, $\chi^2 = 70.81$, df = 2, p < .001. The students who participated in LS 176

successfully reenrolled more than expected by chance. As summarized in Table 4, nonparticipants in the LS 176 course had higher rates of failed re-enrollment (n = 7728) than expected (n = 7655.82). In contrast, the successful participants in LS 176 re-enrolled the next fall after matriculation (n = 202) more than expected by chance (n = 135.77). Students who participated and were unsuccessful reenrolled the next fall after matriculation (n = 36) more than expected by chance (n = 30.96). The finding supports H2.

Table 4

Cross Tabulation of Course Status by Persistence Status

Course Status	Persistence	Observed	Expected
Non-Participant	Not Enrolled	7728	7655.82
	Enrolled	8162	8234.18
Successful	Not Enrolled	60	126.23
	Enrolled	202	135.77
Unsuccessful	Not Enrolled	22	27.94
	Enrolled	36	30.96

RQ3. To what extent is there a difference in long term (at graduation or up to six semesters after matriculation for full-time students or up to twelve semesters for part-time students) cumulative GPA (GPA) among successful (course grade of C or higher), unsuccessful, and non-participant freshmen in a Learning Strategies course (LS 176)?

H4. There is a statistically significant relationship between long term (at graduation or up to six semesters after matriculation for full-time students or up to twelve semesters for part-time students) cumulative GPA among successful (course grade of C or higher), unsuccessful, and non-participant freshmen in a Learning Strategies course

(LS 176).

A one-factor ANOVA was conducted to test H4. The level of significance was set at .05. The independent variable of students' LS 176 status (successful participation, unsuccessful participation, did not participate) was used to determine statistically significant differences in long term (at graduation or up to six semesters after matriculation for full-time students or up to twelve semesters for part-time students) cumulative GPA. As delineated in Table 5, data for full-time and part-time students with sufficient time to achieve 150% of expected time to graduation (up to six semesters after matriculation for full-time students or up to twelve semesters for part-time students) were included in the sample. There was not a statistically significant difference in long term cumulative GPA based on LS 176 status, F(2, 1681) = .288, p = .781. The finding does not support H4. There were no statistically significant differences in long term cumulative GPA among non-participants, successful, and unsuccessful participants in the LS 176 course.

Table 5

Long Term GPA for Participants at Graduation

Status	М	S	n
Non-Participant	3.27	.49	1620
Successful Participant	3.28	.47	59
Unsuccessful Participant	3.12	.55	5

RQ4. To what extent is there a difference in graduation (up to six semesters after matriculation for full-time students or up to twelve semesters for part-time students) among successful (course grade of C or higher), unsuccessful, and non-participant

degree-seeking full and part-time freshmen in a Learning Strategies course (LS 176)?

H4. There is a statistically significant difference in graduation (up to six semesters after matriculation for full-time students or up to twelve semesters for part-time students) among successful (course grade of C or higher), unsuccessful, and non-participant degree-seeking full and part-time freshmen in a Learning Strategies course (LS 176).

A chi-square test of independence was conducted to test *H4*. The level of significance was set at .05. The two categorical variables included in the analysis were graduation (up to six semesters after matriculation for full-time students or up to twelve semesters for part-time students) and participation in the LS 176 course (did not participate, participated successfully, participated unsuccessfully). Observed frequencies were compared to those expected if re-enrollment were independent of LS 176 participation. Observed frequencies were compared to those expected frequencies were compared to those expected if graduation rates were independent of LS 176 participation.

The results of the chi-square test of independence indicated a statistically significant difference in student graduation among successful participants in LS 176, unsuccessful participants in in LS 176, and non-participants, $\chi^2 = 28.46$, df = 2, p < .001. As summarized in Table 6, the observed frequencies of successful participants in LS 176 for graduation (n = 59) were higher than expected by chance (n = 32). Observed frequencies of successful participants than expected (n = 139). The observed frequencies of students who did not participate in the learning strategies course graduated (n = 1686) less than expected by chance (n = 7457) were more than

expected by chance (n = 7430). The observed frequencies of non-participants who did not graduate (n = 7457) were more than expected (n = 7430). For unsuccessful participants, the observed frequencies of student graduation (n = 6) were not statistically different than those expected by chance (n = 6). The finding supports *H4*.

Table 6

Course Status		Observed	Expected
Non-Participant	Graduated	1686	1712
	Did not graduate	7457	7430
Successful Participant	Graduated	59	32
	Did not graduate	112	139
Unsuccessful Participant	Graduated	6	6
	Did not graduate	27	27

Cross Tabulation of Course Status by Graduation Status

Summary

Chapter 4 included descriptive statistics and the results of the tests of the four hypotheses associated with the four research questions for the study. Students who participated successfully in a Learning Strategies course (LS 176) were found to have statistically significant higher cumulative GPAs at the end of the fall semester after matriculation. In addition, LS 176 enrollment was associated with re-enrollment in college the next fall (persistence). Long term GPA at graduation (up to six semesters after matriculation for full-time students or up to twelve semesters for part-time students) was not significantly different based on participation in LS 176. The observed frequencies of graduation of successful participants in LS 176 were higher than expected by chance. The graduation of unsuccessful students in LS 176 was no different than that expected by chance.

Chapter 5 includes the interpretations and recommendations based on the results of the current study. The chapter contains a summary of the study, an overview of the problem, a review of the purpose statement, research questions, and methodology, and the major findings, including findings related to the review of the literature. The chapter ends with implications for action, recommendations for future research, and concluding remarks.

Chapter 5

Interpretation and Recommendations

While community college students include nearly half of the undergraduate population (AACC, 2016), success for community college students remains a significant hurdle (Kraemer, 2017). One strategy to equip students with fundamental academic study skills for college level work is college success course completion (Crisp & Taggart, 2013; Grunder & Hellmich, 1996; Hatch, 2005; Kimbark, et al., 2017; Tuckman & Kennedy, 2011). This chapter provides a summary of the study including an overview of the problem, purpose statement, research questions, review of the methodology, and major findings from the hypothesis testing. The major findings are then related to the literature identified in Chapter 2. The chapter concludes with implications for action and recommendations for future research. Concluding remarks close the chapter.

Study Summary. There is limited research to explain the relationship between student success programs and student achievement, particularly in the community college environment. This section provides a summary of the study including an overview of the problem. The purpose statement and research questions that guided the study are identified. The methodology is reviewed and major findings of the hypothesis testing are presented.

Overview of the problem. It is crucial to understand the value of academic study skills courses in equipping community college students to succeed in college. Community colleges are the beginning point for nearly 45% of American college students (Ma & Baum, 2016). Despite the economic benefits of college degree attainment, only 31% of community college students graduate within three years of matriculation (U.S. Department of Education National Center for Education Statistics, Institute of Education Sciences, 2017a). Academic interventions to improve student outcomes have resulted in improvements in persistence and retention (Cho & Karp, 2012; Fowler & Boylan, 2010; Mcintosh & Rouse, 2009; Roark, 2013; Wernersbach, et al., 2014). The completion of an academic success course is an intervention that has had a positive effect for student use of campus resources, relationships with faculty, and implementation of effective study skills (Cho & Karp, 2013; Mcintosh & Rouse, 2009). Denton et al. (1988) analyzed the effects of an academic success course, the Strategic Learning System (LS 176), on course completion and cumulative GPA at a large Midwestern community college (MCC). Denton et al.'s (1988) results demonstrated the college's LS 176 course improved outcomes for student course completion and grade, as well as Introductory Psychology course completion rates.

The limited recent research at the community college level for classes that provide academic skill development is insufficient to implement effective policy and recommendations for student academic enrollment (Bailey, et al., 2015). The Learning Strategies 176 course at MCC is a class that offers academic skill building for community college students. At the time of this study, the researcher had not identified any recent studies regarding the effectiveness of the LS 176 course at MCC.

Purpose statement and research questions. This study was a replication with extension of Denton et al.'s (1988) study to determine the effect of a Learning Strategies course on community college student academic success. The first purpose of this study was to determine the impact a Learning Strategies course had on short term cumulative

GPA (semester enrolled in LS 176). The second purpose of this study was to determine the relationship between successful completion of a Learning Strategies course and persistence after the course (re-enrollment the next fall). A third purpose of this study was to determine the impact a Learning Strategies course had on long term GPA (at graduation or up to six semesters after matriculation to the community college for fulltime students, or up to twelve semesters after matriculation for part-time students). The final purpose of this study was to determine how a Learning Strategies course (LS 176) affected students' abilities to persist in community college courses and programs, as measured by graduation rate within the 150% timeline (at graduation or up to six semesters after matriculation to the community, or up to twelve semesters after matriculation for part-time students, or up to twelve semesters after matriculation for part-time students, or up to twelve semesters after matriculation for part-time students. Four research questions were specified to address the purposes.

Review of the methodology. A quantitative approach utilizing archival data was chosen for the research design. The first dependent variable was student short term success (RQ1) as measured by cumulative GPA (at the end of the semester of matriculation to MCC in which a student enrolled in LS 176). The second dependent variable was persistence (RQ2) as measured by re-enrollment in the community college the fall following matriculation. The third dependent variable was student long term success (RQ3) measured by cumulative GPA at graduation (up to six semesters after matriculation for full-time students or up to twelve semesters for part-time students). The fourth dependent variable was retention (RQ4) as measured by graduation (up to six semesters for part-time students). The independent variable categories were non-participation in the LS 176

course, successful participation in the learning strategies course and unsuccessful participation in the LS 176 course. RQ1 and RQ3 were each analyzed using a one-way ANOVA to address the relationship between dependent and independent variables. RQ2 and RQ4 were each analyzed using chi-square analyses to address the relationship between dependent and independent and independent variables.

Major findings. The current study indicated an association between short term (first semester cumulative GPA and next fall re-enrollment) and successful participation in the LS 176 success course. The mean first semester cumulative GPA for successful participants of the LS 176 course was 0.71 higher than students who did not elect to take the course. Results of the hypothesis testing revealed there is a statistically significant relationship between successful participation in the college success course (LS 176) and community college student cumulative GPA at the end of the semester of matriculation. Persistence to the fall after matriculation was also associated with successful participation in the LS 176 success course. Successful participants re-enrolled in classes at MCC the fall after matriculation more than what was to be expected. There was no evidence that successful participation in LS 176 influenced cumulative GPA at graduation (up to six semesters after matriculation to the community college for full-time students, or up to twelve semesters after matriculation for part-time students). Retention, as measured by graduation, was also associated with successful participation in a Learning Strategies 176 course. Students who successfully participated in the learning strategies success course tended to graduate more than expected by chance. Those who did not participate tended not to graduate. The data for unsuccessful students was inconclusive.

Findings Related to the Literature

Grunder and Hellmich (1996) stated that success courses could serve students by helping to "reinforce the importance of the relationship between study skills, time management, career goal assessment, and academic success" (p. 21). However, Fain (2012) noted that despite positive outcomes from success course participation, few community colleges require course participation due to the open access imperative of these institutions, as well as other concerns. Grunder and Hellmich (1996) also found the success course was not required, but encouraged community college administrators to pursue mandatory enrollment for first-semester freshmen and transfer students to increase success in the community college. Roark (2013) highlighted the lack of community college student enrollment in success courses when not required and posited that success course participation should be mandatory to increase student success rates. Similar to Fain's findings, the current study noted a disparate number of non-participants when compared with the number of students who elected to enroll in the success course. The current study supported findings by Fain (2012), Grunder and Hellmich (1996), and Roark (2013). The LS 176 course at MCC is an elective (vs required) course and there were a disparate number of non-participants (n = 15,890) compared to participants (n = 252).

With a foundation based on educational psychology learning principles, students who participate in college success courses may be more effective in their first semester in college (Tuckman & Kennedy, 2011). Kimbark et al. (2017) found that there was a relationship between community college student participation in a college success course and academic success in English and mathematics, as well as increased student engagement. Students also reported that participation in the course positively altered their social and study skills, and was viewed as a promising practice for improving community college student outcomes (Kimbark et al., 2017). Fowler and Boylan (2010) also found a significant GPA effect (M = .648 higher) for students who participated in a college success course at a community college. The current study provided evidence that first semester cumulative GPA was statistically significantly higher for students who successfully participated in the MCC college success course.

Persistence is another significant measure of college success (Kansas Board of Regents, 2017). Tinnesz, Ahuna, and Kiener (2006) found that success course learning strategies increased student persistence in subsequent semesters. Kimbark et al. (2017) found that re-enrollment was increased when students completed the community college success course when compared to non-participant peers. Kimbark et al. (2017) found similar outcomes for re-enrollment to spring and semester following the success course, as well as improved academic achievement in gatekeeper courses in English and math. In the current study, successful LS 176 course participation was found to increase student persistence, as measured by re-enrollment the next fall semester after matriculation to MCC.

A topic less explored in the literature is GPA at graduation and the relationship to college success course participation. Tuckman and Kennedy (2011) found students who completed a success course had significantly higher cumulative GPAs in their first four semesters. The current study investigated the relationship between successful LS 176 completion and cumulative GPA at graduation (up to six semesters after matriculation for

full-time students or up to twelve semesters for part-time students). The relationship was not found to be statistically significant in the current study.

Graduation is a commonly used measure of college success (Kansas Board of Regents, 2017). Zeidenberg et al. (2007) found that success course participation positively affected graduation rates. The current study also found that successful completion of the LS 176 college success course was significantly associated with graduation within the 150% timeline (up to six semesters after matriculation for full-time students or up to twelve semesters for part-time students) from the community college.

The previous study of the LS 176 course at MCC by Denton et al. (1988) explored the relationship between participation in the success course and course grades in Psychology. In contrast, the current study explored cumulative GPA at the end of the first semester of community college matriculation. Both studies found significantly improved short term academic success for students who successfully participated in the LS 176 course. Denton et al. (1988) did not examine the re-enrollment of students who had participated in the course, or graduation outcomes. This study extended the Denton et al. (1988) study to include both short term (short term cumulative GPA at the end of the initial semester of enrollment and re-enrollment the fall semester after matriculation) and long-term effects (cumulative GPA at graduation and graduation rates up to six semesters after matriculation for full-time students or up to twelve semesters for part-time students).

Conclusions

Findings from the current study demonstrated a statistically higher cumulative GPA for successful learning strategies course participants at the end of the semester in

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which enrollment in a success course was completed in comparison to unsuccessful LS 176 participants and those who did not enroll in the LS 176. Successful participants were also significantly more likely to re-enroll in classes at MCC the fall after matriculation than expected. There was no evidence that successful participation in LS 176 influenced cumulative GPA at graduation within the 150% timeline (up to six semesters after matriculation for full-time students or up to twelve semesters for part-time students). A statistically significant relationship was found between successful college success course completion and graduation within the 150% timeline (up to six semesters after matriculation for full-time students or up to twelve semesters for part-time students). Previous research produced similar findings for measures of academic success when analyzing the efficacy of academic skill building courses (Fowler & Boylan, 2010; Kimbark et al, 2017; Tuckman & Kennedy, 2011; Roark, 2013) for community college students.

Roark (2013) advised that success courses should be mandatory for first semester freshmen, and Grunder and Hellmich (1996) proposed first semester success course participation may be advisable for students who may be at risk for academic difficulty. Students in Kimbark et al.'s (2017) study showed quantitative improvement in academic achievement, persistence, retention, and self-reported improved time management and coping techniques with difficult college level material after participation in a college success course. The current study supports previous research that successful participation in a college success course improves student outcomes, both in the short term and the long term. **Implications for action.** The results from the current study have implications for initiatives to support student academic success course enrollment at MCC. Academic success courses may be the answer to some of the difficulties that community college students encounter. Participation in an academic skill building college success course with strategies applied to relevant co-requisite course content was found to positively affect short term cumulative GPA for first semester degree-seeking full and part-time students. Re-enrollment at MCC the next fall was statistically more likely after successful participation in a learning strategies course. Successful participation was also found to positively influence graduation rates within the 150% timeline (up to six semesters after matriculation for full-time students or up to twelve semesters for part-time students).

As MCC plans effective support and delineates pathways for advising freshman students, it is relevant to understand how the development of academic skills can positively affect students, both in the short term (first semester after matriculation to the community college cumulative GPA and re-enrollment in the community college the next fall after matriculation) and the long term (graduation within the 150% timeline, up to six semesters after matriculation for full-time students or up to twelve semesters for part-time students). Community college students are unlikely to enroll in non-required courses. Therefore, it is suggested that this one credit hour LS 176 course be mandatory for all first semester degree-seeking freshmen in college level courses.

Recommendations for future research. Adding to the body of knowledge related to the efficacy of college success courses for community college students, it is recommended that future studies explore the effect of LS 176 on applications to

discipline-specific content. The study by Denton et al. (1988) focused on psychology grades while enrolled in LS 176. Investigating the effects of a student success course on other discipline course grades (e.g., history, sociology, career programs, etc.) may inform counselor recommendations for student enrollment when advising.

The current study followed a quantitative research design. There were significant differences in sample sizes of those who successfully completed a success course, those who enrolled but were unsuccessful, and those who elected not to enroll. Future quantitative studies should utilize more equal sample sizes for these three participant groups. Qualitative studies could also add to understanding about the effectiveness of learning strategies courses for community college students. Perceptions of successful and unsuccessful participants related to strategies course enrollment may facilitate course modifications that could facilitate success for all enrollees. Instructor perceptions about factors they believe facilitate student success in strategies courses could also be studied using a qualitative research design. This study focused on full and part-time degree seeking students in a community college environment. Future studies should also be conducted with non-degree seeking students, transfer students, high school students participating in college level classes and those who are required to enroll in developmental reading and writing classes. Similar studies could be conducted in other higher education settings including technical colleges and university settings that enroll traditional aged students.

Success course delivery mode is also an area for future research. With the current growth of online students, web-based courses are attractive to students (Tuckman & Kennedy, 2011). All of the success courses in the current study were taught face-to-face.

A comparison between the efficacies of online versus face-to-face success course delivery would add to the knowledge base.

Concluding remarks. The purpose of this study was to examine the effect of a learning strategies course on the academic success of first semester degree-seeking freshmen. College success learning strategies courses have previously been identified to help students cope with the demands of college. Results of successful participation in college success courses are associated with higher cumulative GPAs (Kimbark et al., 2017) and increased retention (Fowler & Boylan, 2010). The current study confirmed that successful participation in a LS 176 academic success course earned a statistically significant higher first semester cumulative GPA. In addition, students who successfully completed a learning strategies academic success course were significantly more likely to re-enroll in college the fall semester following initial matriculation to the community college. Results of the current study found that successful learning strategies participants were also more likely to graduate with a degree. No differences were found for nonparticipants, successful participants, and unsuccessful participants in cumulative GPA at graduation. Community colleges should encourage students to enroll in elective learning strategies courses. However, students may not elect to enroll in courses that are not required. Consideration should be given to requiring college success learning strategies courses as part of academic requirements to enable students to be more successful in college. College performance outcomes (e.g., persistence, retention, and graduation) will likely become even more imperative as higher education becomes more costly. Performance-based funding is a reality for many community colleges. With increased

pressures to help students be successful, student academic success is a high priority for many institutions.

The current study contributed to an existing gap in the literature by establishing both short term and long term effects of a college success course (LS 176) for first semester degree-seeking freshmen at a large suburban community college in the Midwest. The findings of this study may be of interest to community college administrators as they pursue student success measures intended to increase persistence and graduation. A college success course may be a useful initiative to encourage a successful transition to higher education for community college students, empowering them to be more accomplished in their academic journeys.

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Appendices

Appendix A: IRB Form for Baker University



Date _____

IRB Request

IRB Protocol Number _____

(IRB use only)

I. Research Investigator(s) (students must list faculty sponsor)

Department(s) School of Education Graduate Department

Name 1. Valerie Mann 2. Dr. Tes Mehring 3. Dr. Margaret Waterman	Valerie Mann Dr. Tes Mehring Margaret		Principal Investigator Check if faculty sponsor Check if faculty sponsor
4 Principal investigator contact information Note: When submitting your finalized, signed form to the IRB, please ensure that you cc all investigators and faculty sponsors using their official Baker University (or respective organization's) email addresses. Faculty sponsor contact information		Phone Email	Check if faculty sponsor Check if faculty sponsor anne 816.835.3588 valeriesmann@stu.bakeru.edu
		Address	11009 Northridge Drive Kansas City, KS 66109
		Phone Email	(913) 344-1236 tes.mehring@bakeru.edu
Expected Category of Review:	🖌 Exempt	Expedite	ed 🗌 Full 🗌 Renewal

II. Protocol Title

The Effect of a Learning Strategies Success Course on Community College Student Academic Success

Baker IRB Submission form page 1 of 4

III. Summary:

The following questions must be answered. Be specific about exactly what participants will experience and about the protections that have been included to safeguard participants from harm.

A. In a sentence or two, please describe the background and purpose of the research.

The purpose of this study is to determine the long and short term effects of a Learning Strategies course (LS 176) on freshman students in terms of graduation, persistence, and GPA at a large Midwestern community college.

B. Briefly describe each condition, manipulation, or archival data set to be included within the study. Archival data will be the focus of data analysis. There are no conditions or manipulations included in the study.

IV. Protocol Details

A. What measures or observations will be taken in the study? If any questionnaire or other instruments are used, provide a brief description and attach a copy.

Archival data from Johnson County Community College's student information system will be used for this study. the dependent variables were academic success, as measured by graduation, persistence, and GPA, both in the short and long term. Graduation was defined for the study as attainment of a degree or certificate within 3 years, or 150% of the published time. Persistence was determined by re-enrollment the following fall, and GPA was utilized both from the student short term (one semester following LS 176)) and long term (at oraduation)

B. Will the subjects encounter the risk of psychological, social, physical, or legal risk? If so, please describe the nature of the risk and any measures designed to mitigate that risk.

The use of archival data presents minimal risk to the student participants. Statistical analysis techniques will be used to analyze the data supplied by Johnson County Community College.

C. Will any stress to subjects be involved? If so, please describe.

No stress to student participants will be involved, due to the research design. This design comprised of statistical analysis of archival student data in terms of graduation, persistence, and GPA.

Baker IRB Submission form page 2 of 4

D. Will the subjects be deceived or misled in any way? If so, include an outline or script of the debriefing.

Deception will not be a component of this study.

E. Will there be a request for information which subjects might consider to be personal or sensitive? If so, please include a description.

Archival data will be collected from the student information system from Johnson County Community College, the site of the study. The data will include the student's name, graduation statistics, persistence status, and GPA. Once all data are provided form the site of the study, names will be deleted and provided an anonymous number for confidentiality purposes. No personal or sensitive data will be utilized for the purposes of this study.

F. Will the subjects be presented with materials which might be considered to be offensive, threatening, or degrading? If so, please describe.

No materials will be provided to the students which might be considered offensive, threatening, or degrading.

G. Approximately how much time will be demanded of each subject?

No time will be demanded of the subjects, due to the usage of archival data, which will be analyzed with statistical analysis.

H. Who will be the subjects in this study? How will they be solicited or contacted? Provide an outline or script of the information which will be provided to subjects prior to their volunteering to participate. Include a copy of any written solicitation as well as an outline of any oral solicitation.

I. What steps will be taken to insure that each subject's participation is voluntary? What if any inducements will be offered to the subjects for their participation?

Archival data of the students' graduation, persistence, and GPA (short term and long term) will be utilized for statistical analysis. No inducements will be offered to the study subjects. Once data are received, study participants' names will be deleted and assigned an identification number for confidentiality purposes.

Baker IRB Submission form page 3 of 4

J. How will you insure that the subjects give their consent prior to participating? Will a written consent form be used? If so, include the form. If not, explain why not.

Archival data will be requested from the Johnson County Community College's student information system. Once all data is received, student names will be deleted and assigned an identification number for confidentiality purposes.

K. Will any aspect of the data be made a part of any permanent record that can be identified with the subject? If so, please explain the necessity.

No, the participation, or lack thereof, of the subjects in the study will not be made part of any permanent record available to a supervisor, teacher or employer. Once all data are received, student names will be deleted and assigned an identification number for confidentiality purposes.

L. Will the fact that a subject did or did not participate in a specific experiment or study be made part of any permanent record available to a supervisor, teacher, or employer? If so, explain.

No, the participation, or lack thereof, of the subjects in the study will not be made part of any permanent record available to a supervisor, teacher, or employer.

M. What steps will be taken to insure the confidentiality of the data? Where will it be stored? How long will it be stored? What will be done with the data after the study is completed?

After the request for archival data from the Johnson County Community College's student information system has been received, all identifying student names will be deleted and assigned identification numbers to protect student confidentiality. All data will be stored on a secure storage device and locked in the office of the principal investigator until after the study is completed. The data will be destroyed upon completion of the study.

N. If there are any risks involved in the study, are there any offsetting benefits that might accrue to either the subjects or society?

There are minimal risks or benefits to the subjects involved in the study, or to society.

O. Will any data from files or archival data be used? If so, please describe.

Yes, archival data from Johnson County Community College's student information system will be utilized for this study. Archival data of degree-seeking freshmen who matriculated to Johnson County Community College between fall 2010 summer 2014 will be retrieved and analyzed statistically

Baker IRB Submission form page 4 of 4

Appendix B: IRB Approval from Baker University



Baker University Institutional Review Board

December 13th, 2017

Dear Valerie Mann and Tes Mehring,

The Baker University IRB has reviewed your project application and approved this project under Exempt Status Review. As described, the project complies with all the requirements and policies established by the University for protection of human subjects in research. Unless renewed, approval lapses one year after approval date.

Please be aware of the following:

- 1. Any significant change in the research protocol as described should be reviewed by this Committee prior to altering the project.
- 2. Notify the IRB about any new investigators not named in original application.
- 3. When signed consent documents are required, the primary investigator must retain the signed consent documents of the research activity.
- 4. If this is a funded project, keep a copy of this approval letter with your proposal/grant file.
- 5. If the results of the research are used to prepare papers for publication or oral presentation at professional conferences, manuscripts or abstracts are requested for IRB as part of the project record.

Please inform this Committee or myself when this project is terminated or completed. As noted above, you must also provide IRB with an annual status report and receive approval for maintaining your status. If you have any questions, please contact me at npoell@bakeru.edu or 785.594.4582.

Sincerely,

Nathan D. Par

Nathan Poell, MA Chair, Baker University IRB

Baker University IRB Committee Scott Crenshaw Erin Morris, PhD Jamin Perry, PhD Susan Rogers, PhD Appendix C: IRB Approval for Site of Study

December 14, 2017

Dear Valerie Mann:

This letter is to notify you that the Research Participant Protection Program (RPPP) at

agrees to permit the collection of identifiable archival student data for your study, The Effect of a Learning Strategies Success Course on Community College Student Academic Success.

I understand this research is subject to oversight by the Institutional Review Board (IRB) at Baker University and will be carried out following sound ethical principles.

I further understand that **sector** involvement in the project is limited to the provision of archival student data, which will subsequently be stripped of all identifiers, as described in the protocol.

Therefore, as the Chair of the Research Participant Protection Program at **Example** I certify that you have been approved to conduct archival data collection activities for the above-named study.

If the RPPP can be of additional assistance, please do not hesitate to contact me.

Best wishes for a successful study.

Sincerely,

Eve M. Blobaun_

Chair, Research Participant Protection Program

The Research Participant Protection Program at (IRB # - IRB00006437) is registered with the U.S. Department of Health and Human Services, Office for Human Research Protections.