EFFECTIVENESS OF A SUMMER BRIDGE PROGRAM AT MCLENNAN COMMUNITY COLLEGE

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by

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ABSTRACT

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McLennan Community College (MCC) created a developmental summer bridge program in an effort to increase students' Texas Success Initiative (TSI) exam scores and persistence in postsecondary education, decrease their developmental course sequences, and prepare students for college level coursework. In this quantitative research study, student performance data were collected from 2014-2016 summer bridge program participants to examine the relationship between participation in the MCC summer bridge program and selected student outcomes by comparison to a matched group of students who did not participate in the program. The research questions addressed in this study were as follows: To what extent did participation in a summer bridge program improve participants' TSI scores? To what extent was participation in a summer bridge program related to developmental education placement results? To what extent did the average number of credit hours accumulated differ between students who participated in a summer bridge program and those in a comparison group that did not?

KEY WORDS: TSI score, Summer Bridge Program, Developmental Education, Affective skills

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DEDICATION

I would like to dedicate this study to my wonderful family and classmates. To my husband, I would like to say that I love you and appreciate your support through this entire process. I know it wasn't always easy, but you cheered me on through the good days and bad. To my children, I encourage each of you to reach for the stars and never settle for anything less than your dreams. To my dad, thank you for always being there for me and believing in me even when the odds were against me. For as long as I can remember, you have been my pillar of hope and strength, and I thank God that He made you my father. To my classmates I say thank you for being such a wonderful support system. You truly understood the challenges, struggles, and rewards that came with the completion of this dissertation. I was blessed with a solid network of support and dedicate this work to everyone who helped me through this process.

CHAPTER I

Introduction

After graduation, high school seniors face difficult decisions concerning their postsecondary education. Postsecondary education is defined as education occurring after high school including 4-year universities, 2-year higher education institutions, or trade schools. The importance of obtaining a college education is evident in the projected difference in income between individuals who hold a high school diploma and those who hold a postsecondary degree (Baum & Payea, 2013). However, the challenge of being ill prepared for the rigors of college level work is a barrier that many students must overcome before they even begin college courses. Students who are considered ill prepared or underprepared are those who do not have the academic and affective skills needed to succeed in college level courses. Affective skills are those needed for students to control their emotions during the learning process (Vermunt, 1996). The gap in preparedness between secondary and postsecondary education causes approximately 40% of graduating seniors who enter college to require developmental courses before starting college level courses (Adams, 2012), and the number of students who enter postsecondary education requiring developmental education is a challenge for both 2- and 4-year universities (Pretlow & Wathington, 2012). According to ACT (2015), students not considered college ready at the beginning of their freshman year are less likely to succeed in reaching their educational goals by comparison to those who are. Researchers at a California institute found that approximately 72% of students identified as college ready graduated, while only approximately 39% of underprepared students did so (Allen, 2015). The attrition rate among underprepared students is a driving force that has led 2-

and 4-year universities to create summer bridge programs to increase the academic and affective skills students need to be successful in college. These programs focus on decreasing the length of students' developmental course sequences, and increasing academic preparedness and the affective skills needed to be successful at the college level. The components of summer bridge programs vary across institutions, but all attempt to reduce the number of underprepared students entering postsecondary institutions.

Several summer bridge programs have an infrastructure that supports a holistic approach by incorporating both academic and affective skills (Barnett, Bork, Mayer, Pretlow, Wathington, & Weiss, 2012; Cabrera, Miner, & Milem, 2013; Slade, Eatmon, Staley, & Dixon, 2015; Tomasko, Ridgway, Waller, & Olesik, 2016; Walpole, Simmerman, Mack, Mills, Scales, & Albano, 2008; Zhang & Smith, 2011). These holistic bridge programs include academic skills components, such as tutoring, test taking strategies, and study skills and the development of affective skills through components such as advising, mentoring, and counseling. Many developmental students also are minority, low-income, and first-generation students, for whom research has shown need assistance in learning the expectations of a college student and how to access resources needed to reach their higher education goals (Cabrera et al., 2013). Tinto (2010) discussed the importance of taking a holistic approach by providing the student with academic support, guidance, clear expectations, and additional resources. Developmental summer bridge programs typically are designed to attempt to meet the needs that Tinto identified as central to student success.

Statement of the Problem

As a growing population of underprepared students now seeks postsecondary education (Maggio, White, Molstad, & Kher, 2005; National Center for Education Statistics, 2012; Provasnik & Planty, 2008), researchers at institutions of higher education are looking for alternative ways to help them become college ready in a timely manner. Traditionally, students identified as developmental have been required to take from one semester to two years of non-credit developmental courses before beginning college level courses (Bailey, Jeong, & Cho, 2008, 2010). Findings from a nationwide sample of 2-year postsecondary institutions reported that, as of fall 2000, institutions offered, on average, over 3 levels of developmental math and almost 3 levels of developmental reading, with each level equal to a one semester course (Bailey et al., 2010). Each level of developmental coursework represents the number of courses a student must complete before beginning college level studies. According to these data, a student might require up to seven developmental education courses before being able to enroll in college-level courses. One study indicated that, as the levels of developmental courses required increase, student success rates decrease because of the numerous exit points in course sequences that contain three and four levels before college level coursework (Jaggars, Edgecombe, & Stacey, 2014). The number of developmental courses students are required to complete also is referred to as their developmental course sequence. Bailey et al. (2008) found that fewer than one-third of students who begin a developmental sequence complete it, and fewer than one-fifth of students required to complete more than three levels of developmental classes ever finish. Research that showed the poor performance of students placed in developmental education has led to an increase in

developmental programs designed to decrease or eliminate the time students spend in these programs (Brancard, Baker, & Jensen, 2006; Sheldon & Durdella, 2010). The format and specific focus of these programs vary from one institution to another based on the perceived needs of students at that institution, but pre-freshman summer bridge programs created for developmental education students tend to focus on enabling them to demonstrate college-level readiness before beginning their first year of college.

Several approaches have been used to decrease the number of developmental education courses students are required to take before entering their postsecondary education. Some colleges use a course structure called “mainstreaming” (Jenkins, Speroni, Belfield, Jaggars, & Edgecombe, 2010), which allows students who almost reached the cut off placement score to enroll in college level courses as long as they complete the attached noncredit course that takes the place of the traditional developmental course (Jones, 2012). Others use compressed developmental courses that condense the content taught in 14 to 16 weeks to a shorter period that permits students to move on to higher level courses more quickly (Sheldon & Durdella, 2010). Although research has indicated that both of these options decrease the amount of time in developmental education courses, summer bridge programs are the only option that allows developmental education students to decrease or complete developmental education requirements before they begin their freshman year.

Summer bridge programs have been implemented across the nation to address students’ need to improve their academic and affective skills before being able to enroll in college level courses. Their structure is versatile and flexible, allowing institutions to implement a program that fits the needs of the campus population best. One of the main

benefits associated with summer bridge programs that other types of reformed developmental education programs do not provide is the opportunity for students to eliminate developmental education requirements before beginning their postsecondary education. Data from previous studies support the use of bridge programs as a strategy to provide students who are difficult to retain, such as developmental students, underrepresented groups, and first-generation students, the opportunity to learn how to be successful in college before entering an institution (Bir & Myrick, 2015; Strayhorn, 2011; Tomasko et al., 2016; Walpole et al., 2008). These students all face additional challenges that traditional college ready students do not, and summer bridge programs give them the chance to overcome those challenges. Although additional research on summer bridge programs is required, the results of studies to date indicate that they are a promising option (Bir & Myrick, 2015; Strayhorn, 2011; Tomasko et al., 2016; Walpole et al., 2008).

Theoretical Framework

The theoretical framework for this study was Tinto's (1988) Model of Student Departure, which was is based on Van Gennep and Caffee's (1960) "rite of passage" model that addressed the process individuals undergo when they move from one community or group into a new one. Van Gennep and Caffee's study suggested that individuals go through three stages during this period (Tinto, 2006): separation, transition, and incorporation (Tinto, 1988). Tinto applied these three stages of Van Gennep and Caffee's model to those that students experience when moving from secondary to postsecondary education, and used them to help explain why students leave college before completing their degrees. Each stage poses unique challenges to students'

retention, and the strategies to increase retention at each stage have led to the creation of different program interventions. Tinto's model reflects the three stages above. He discussed each stage separately and offered postsecondary institutions programming ideas that could help decrease student departure during each stage.

Separation

The extent to which students are required to separate from their previous community depends upon the postsecondary institution they choose to attend. Tinto (1988) discussed the fact that commuter students initially do not detach completely from their previous community by comparison to residential students who live on campus and become immersed fully in college life; thus, these latter students may struggle initially with adjustment to their new environment. However, longitudinally, Tinto (1988) found that although commuter students face fewer challenges during the initial separation process, outside factors that could decrease retention, such as former peer groups or family members who do not support their pursuit of a postsecondary degree, pose risks for them.

Tinto (2006) provided institutions with several components that could be implemented in a summer bridge program to help students overcome the challenges associated with separation. Orientation, advising, counseling, and mentoring programs are all components of summer bridge programs intended to support students during and after the separation stage (Tinto, 1988, 2006).

Transition

After students have begun to separate from their previous communities and connect to the new college environment, they experience stress in developing new

relationships within that environment. Helping students create connections with faculty and peers at the postsecondary institution is vital in increasing the likelihood that they will transition successfully. Tinto (1988) warned that if students are unable to create bonds within the new environment, the stress associated with disconnect could influence their ability to persist in college. Although some students are able to cope with the pressures that accompany the transition, many need assistance to complete the process successfully. Students who do not adjust have a greater probability of withdrawing within the first year of college (Tinto, 1988), which is one reason higher education institutions implement programs that help students transition into campus life both academically *and* socially. Social and academic components that assist in transition include tutoring, learning communities, and continual advising (Tinto, 2006).

Incorporation

The last step that Tinto (1988) discussed as vital in decreasing students' departure after they transition into the new college community is incorporation. During this stage, students must integrate into the new community by building further relationships with peers and faculty. One problem new college students face is that many are not given a direct path to create the new connections necessary to become integrated into the higher education community and must learn it on their own instead. The task of learning to build the connections needed for integration can be overwhelming, especially for developmental students who begin their postsecondary education lacking academic skills and potentially facing other barriers, such as being a first generation student. First generation students, as well as other at-risk populations, may find it too difficult to learn the complexities of the higher education environment and decide to leave college as a

result (Tinto, 1988). Tinto (1999) recommended using the classroom as a place in which incorporation can occur, as many students commute to school and have outside responsibilities that prevent them from being included in campus activities that would promote incorporation (Tinto, 1999).

Incorporating Tinto's Model of Student Departure to Summer Bridge Programs

Summer bridge programs take place during a short time in a student's life and normally are unable to help students through all three stages in Tinto's model. However, several summer bridge programs indicate that they use Tinto's model of student departure to determine the structure of the program and which components they will offer to help students negotiate the separation and transition stages that occur prior to incorporation in the educational institution (Castleman, Arnold, & Wartman, 2012; Maggio et al., 2005; Slade et al., 2015). Summer bridge programs can include some of the components that Tinto suggested will decrease the likelihood that students will leave college without completing their educational goals.

Separation

With respect to the separation stage, summer bridge programs can include orientation, advising, counseling, and mentoring. The duration and focus of each component vary, but all are intended to support students while they adjust to their new environment. With respect to orientation, this component normally is not long enough to help students establish themselves in their new communities (Tinto, 1988); however, orientation can teach students how to accomplish important tasks, such as applying for financial aid or locating campus support services. The intent of orientation is to help students separate from their previous communities and begin to learn about the ways in

which the higher education community functions.

Advising also can help students begin to attach to their college community (Tinto, 2006). Advising is an important element that can keep students focused on their goals, and advisors can provide students the support needed to determine how to reach those goals. Students who do not receive advice during the beginning of their college careers, or who decide to change majors, have a greater probability of leaving the institution (Tinto, 2006). Advising can reduce this by increasing students' motivation and providing them with a clear academic pathway to success.

Once students have received advising, counseling and mentoring are longer-term components that work together with advising to help during the separation stage. These components offer students the opportunity to build a support system in their new communities and are important elements on which students can rely in times of stress. Although building an effective mentoring program can be a challenging task (Tinto, 2006), the benefits students receive from a positive mentoring relationship can provide the support they need to adjust well.

Transition

Once students have begun the separation process, summer bridge programs can help them during their transition by using select social and academic components, such as tutoring, learning communities, and continual advising (Tinto, 2006). Learning communities form when the same group of students are enrolled in more than one course together and are encouraged to interact outside of the classroom (Zhao & Kuh, 2004). Providing academic and social support, such as tutoring and collaboration with other students outside of the classroom, can help struggling students transition into their new

roles as college students. Tinto (2006) discussed the use of learning communities as effective academic and social support systems, because students are able to connect the class content from one course to another, while also building peer relationships. Such communities help them learn the expectations of a college student, and become integrated socially and academically, which increases their persistence (Tinto, 1988).

Continuing the advising component of summer bridge programs after the program has ended also helps students transition. Continual advising provides students with a source of advice when they become overwhelmed with the choices associated with which degree to pursue and what requirements they must fulfill to finish their degree of choice. The advising component institutions employ in summer bridge programs can continue after the student has completed the program to create an early alert system to provide interventions at the first sign that a student is struggling (Tinto, 2006). Without continual advising and monitoring after students finish the summer bridge program, institutions may not be aware of the difficulties students are having transitioning into the college classroom until they are half way through the semester, which leaves less time to implement interventions. For institutions that wish to increase retention among summer bridge students, early warning systems and continual advising after the programs have ended support students' success during the transition to higher education by providing intervention and assistance at the first sign of difficulty.

Incorporation

The last phase in Tinto's Model of Student Departure is incorporation. The process students go through to become incorporated fully into the new higher education community is normally outside the scope of a summer bridge program because of time

constraints. The process of incorporation can occur over months or years and normally is beyond the scope of a short-term a summer program. However, such programs can help students negotiate this stage by increasing collaboration among program participants through group projects and class discussions that promote increased connections. Tinto (1997) stressed that the process of learning is key to student success, because it leads to increased student effort and ultimately helps them connect better to their institution. Summer bridge programs that attempt to help students become incorporated can use curricula that create a student-centered environment that encourages connections between peers and instructors.

Applying Tinto's Model of Student Departure to Summer Bridge Programs

It is central to highlight that the stress connected with student integration into postsecondary education is not necessarily the reason students do not persist; instead, the students' responses to that stress determine whether they will continue (Tinto, 1988). Students who come from families and communities that differ greatly from the college community struggle more during the transition to college than do those who come from educated families (Tinto, 1988). Because many developmental students also may be members of at-risk populations, summer bridge programs give them an opportunity to receive the additional support they need for successful transition to higher education before they begin their freshman year. For these reasons, it is essential to highlight that summer bridge program components are usually more effective in helping students during the first two stages of Tinto's Model of Student Departure, separation and transition.

Educational Significance of Study

Research conducted on the effectiveness of summer bridge programs has yielded promising results overall. Several studies of these programs have shown that students benefit from them, as measured by higher GPAs and retention rates with respect to a comparison group (Bir & Myrick, 2015; Buck, 1985; Meyers & Drevlow, 1982; Walpole et al., 2008). In the past several decades, researchers have conducted studies and literature reviews that have analyzed the effectiveness of summer bridge programs; however, few quantitative studies have focused on the influence that these programs have on students' Texas State Initiative (TSI) scores, developmental course sequences, and their average number of credit hours in postsecondary education. This quantitative study attempted to fill this gap by analyzing data from an 8-day developmental summer bridge program to examine the relationship between participation in the MCC summer bridge program and students' TSI scores, developmental course requirements, and the average number of credit hours accumulated during their postsecondary education. Examining the relationship between participation in the MCC summer bridge program and selected student outcomes provided the institution with data it can use to increase program effectiveness. MCC is developing and modifying the summer bridge program to create one that fits the needs of its student population best. The data from this study provided the institution with a secondary data analysis of student performance to help them determine ways to improve the program.

Purpose Statement and Research Questions

The purpose of this non-experimental, secondary data analysis was to examine the relationship between participation in the MCC 8-day summer bridge program and

participants' TSI scores, developmental education placement, and the average number of accumulated MCC college level credit hours. The 8-day summer program offered at the MCC campus served as the intervention or independent variable in this study. The dependent variables examined were TSI scores, developmental education placement, and the average number of accumulated MCC college level credit hours. The dependent variable of developmental education placement was defined as students' placement level in the developmental education course sequences. Students at MCC can be placed in one to three levels of developmental math and one to two levels of developmental reading and writing. The dependent variable of accumulated MCC college level credit hours was the average number of college-level credit hours students received. The research questions for this study were as follows:

1. To what extent did participation in a summer bridge program improve participants' TSI scores?
2. To what extent was participation in a summer bridge program related to developmental education placement results?
3. To what extent did the average number of credit hours accumulated differ between students who participated in a summer bridge program and those in a comparison group that did not?

Null Hypotheses

1. There is no statistically significant improvement in summer bridge participants' TSI scores after students completed the summer bridge program.

2. There is no statistically significant change in students' developmental education placement decision after summer bridge participants completed the summer bridge program.
3. There is no statistically significant difference in the average number of accumulated MCC college level credit hours between students who participated in a summer bridge program and those in a comparison group.

Delimitations

This study was limited to data collected on students in the summer bridge program at MCC between the summers of 2014 and 2016. This study did not include data from summer bridge programs at other institutions, nor did it include a control group of students to compare with the treatment group.

Limitations

There were several limitations inherent in this research. The location was limited to one community college in central Texas. Only a small number of students participated in the summer bridge program, which limited the ability to generalize the results to other locations. The final limitation was that no qualitative data were collected to support the quantitative data. Without the collection of qualitative data, the researcher was unable to determine whether the quantitative data collected matched the perspectives of the participants with respect to the program's effectiveness.

CHAPTER II

Review of Literature

The growing number of developmental students entering postsecondary education has made it essential for institutions to implement programs designed to decrease the number of such students. Several studies have indicated that low retention and graduation rates for developmental students or high-risk student populations are important reasons to implement such programs (Buck, 1985; Meyers & Drevlow, 1982; Slade et al., 2015). Because of the dismal numbers of developmental students who graduate, 2- and 4- year colleges around the country have implemented summer bridge programs as a potential solution to the rising attrition and low graduation rates. These programs vary in length, focus, and structure; however, one commonality is that all are designed to help underprepared students achieve their postsecondary goals.

The study of summer bridge programs can be traced back to Myers and Drevlow's (1982) and Buck's (1985) studies, in which low-income and minority students received an intensive four-week residential summer program designed to increase their academic and affective skills. The results of these studies showed that students who participated in the program had increased retention rates by comparison to four other student populations with similar demographics (Meyers & Drevlow, 1982). These two studies helped create the foundational body of research on the effects summer bridge programs' have on students' academic and affective skills. Since then, the number of studies of summer bridge programs has grown and the variability in the format of such programs has increased.

Designing a Summer Bridge Program

Administrators engage in several strategic steps while designing and implementing a summer bridge program to ensure that they create a program with high quality and value. Creating a well-structured summer bridge program takes time and resources that institutions must obtain and evaluate before implementation. Because the goals and structures of summer bridge programs are tailored to the campus population, the planning process and choice of implementation procedure vary across campuses. However, some commonalities shared among institutions that have implemented summer bridge programs include: identifying the target student population, examining other summer bridge programs, and creating an implementation committee to determine program components and length, timeline, plan, and assessment components (Bhattacharya & Hansen, 2015; Cowan, 2015; Lytle & Gallucci, 2015).

Student population

During the development of a summer bridge program, one key factor institutions address is which student population will benefit from the program and in what ways. Bhattacharya and Hansen (2015) implemented a summer STEM bridge program at Louisiana State University (LSU) designed to increase the support provided to underrepresented student populations, such as first-generation students. The target student population was identified through a retention study conducted in 2011. Other summer bridge programs, such as those Cowan (2015), and Lytle and Gallucci (2015) discussed, did not use such formal methods to determine the target student population. The University of Connecticut's (UConn) First Summer program discussed in Cowan (2015) identified the target student population for a summer bridge program drafted by

the vice provost for Academic Affairs. The goal was to create a program that gave freshman and transfer students a head start in coursework and integration into college life. As Lytle and Gallucci (2015) discussed, the University of California Santa Barbara's (UCSB) Freshman Summer Start Program identified its target student population and decided to implemente a summer bridge program because the institution expected a surge of students around the turn of the century, and wished to accommodate their needs.

Examination of other summer programs

During the design phase, those responsible for some summer bridge programs have examined data that supported the successful implementation of other programs (Bhattacharya & Hansen, 2015; Cowan, 2015; Lytle & Gallucci, 2015). For example, Bhattacharya and Hansen (2015) examined several science summer bridge programs, but narrowed their focus to two that they felt fit their goals best, while Cowan (2015) examined a wide range of summer programs to determine the way in which their design and student needs fit the other models used across the nation. Ultimately, researchers at institutions examined other summer bridge programs to obtain ideas and direction, but still designed and implemented their summer bridge programs with components that met the needs of their identified population.

Implementation committee

Several authors have stated that an implementation committee is essential in the creation of a summer bridge program (Bhattacharya & Hansen, 2015; Cowan, 2015; Lytle & Gallucci, 2015). At one institution, the committee consisted of one department that worked together to create and implement a science-based summer bridge program, while at UCSB, the committee—which was created shortly after senior-level

administrators decided to support the program—was selected from various areas and given the task of developing and implementing the program (Lytle & Gallucci, 2015). Over 13 years later, the advisory committee remains an important component of the summer bridge program because it continues to be involved in developing the curriculum, budgeting, and marketing, coordinating efforts between departments, and engaging in other support activities (Lytle & Gallucci, 2015).

The director and assistant director of marketing who designed UConn's summer program create a committee after an initial seven-month design process when they realized that they would need administrators from several departments across campus to make it a success (Cowan, 2015). The team of two expanded the implementation committee to include representatives from admissions, several academic divisions, the honors program, registrar, dining hall, and residential living department (Cowan, 2015). By creating this committee, the institution was able to connect departments that had been involved little in collaborative efforts before that time.

Program Assessment Component

During the design process, administrators typically develop a program assessment component to determine the programs' effectiveness to improve them based on data (Bhattacharya & Hansen, 2015; Cowan, 2015; Lytle & Gallucci, 2015). The administrators of one program used feedback from students, faculty, and the campus advisory team to determine what changes should be made to the program (Lytle & Gallucci, 2015), while others have focused on collecting quantitative data, such as dropout rates, to determine ways to enhance program effectiveness (Bhattacharya & Hansen, 2015). The administrators of the LSU STEM summer bridge program used

quantitative data and analyzed the results to determine the program's effects (Bhattacharya & Hansen, 2015). The results showed that summer bridge participants had low dropout rates and high STEM course completion rates (Bhattacharya & Hansen, 2015). The science department faculty used the results of its assessment to gain support for the program, which is viewed now as an important addition to the department.

Multi-Institutional Summer Bridge Studies

Retention among developmental students is an issue that plagues postsecondary institutions across the nation. Tinto (1993) discussed the link between students' level of campus involvement and retention rates. Historically students who fail to persist tend to be disconnected from campus life (Tinto, 2006). Thus, administrators at postsecondary institutions that wish to increase the persistence and completion of developmental students implement holistic developmental summer bridge programs that provide both academic and nonacademic components that give students opportunities to become connected to campus.

Several researchers have presented data on multiple summer bridge programs to determine their influence on retention and other measures of student success (Kallison & Stader, 2012; Maggio et al., 2005). Maggio et al. (2005) collected data from six institutions that followed 397 bridge participants for three years. The program components varied from one institution to another and allowed the researchers to compare them to determine the effect that each had on student retention and college GPAs. The optimal length of a successful summer bridge program is one factor that institutions must consider when establishing such a program. Maggio et al. (2005) compared the retention rates and GPAs of six summer bridge programs that varied in

length from 4-7 weeks. Results from their study indicated that the longer the program, the lower the students' GPAs (Maggio et al., 2005). The authors also found that class size had a negative effect on GPA, although peer tutoring had a positive effect. The negative relationship between the length of the program and students' GPAs is counterintuitive, and requires additional data to determine the cause of these results. However, the results that showed the positive effects of peer tutoring are consistent with Tinto's (1987) Model of Student Departure, which highlights the importance of students building a relationship with the institution to foster a sense of belonging.

In 2007, Kallison and Stader (2012) conducted a study on 14 pre-freshman summer bridge programs in Texas institutions. Community colleges implemented seven of the programs, while a 4-year university implemented the other seven; 12 summer bridge programs were located on college campuses and the other two were housed at high school campuses. All programs included classroom instruction, but several used computers for the majority of the instruction, or utilized supplementary computer-based instruction. Kallison and Stader (2012) found that all 14 summer bridge programs took a holistic approach by providing both academic and affective skills components. The study lacked the key information necessary to determine student growth, but did find that students at two of the community colleges increased their placement test scores by the end of the program. The study was unable to determine which components affected students' increased test scores directly, but the researchers compared program components between the two institutions that experienced growth to determine the ways in which a holistic approach to a summer bridge program that includes advising, tutoring outside of the class, and other support services may have affected student success.

During the summer of 2009, Wathington, Pretlow, and Mitchell (2011) conducted another multi-institutional study that focused on the effects of developmental summer bridge programs located at six community colleges and two 4-year institutions in Texas on a cohort of bridge students. Students selected for participation had placement test scores that indicated they needed developmental courses before beginning college level courses (Barnett et al., 2012). The length of the programs ranged from 4 to 5 weeks and included academic assistance in math, reading, and writing according to the students' needs (Wathington et al., 2011). Additional components varied from one institution to another; however, all included academic and affective components that focused on college transition. One strength of this study was that it used an experimental design, which decreased the degree of selection bias present when control groups are not selected randomly (Barnett et al., 2012). The study selected approximately 60% of the student population as summer bridge participants and the other 40% was assigned to the control group. Preliminary data showed no statistically significant differences between bridge participants and the control group with respect to fall enrollment or the number of credits students attempted. However, the numbers of college credits earned by bridge participants and the control group differed significantly, in that the control group earned fewer college level credits and more remedial level credits than did bridge participants. The structure of the summer programs may have affected this statistically significant difference between the two groups. Four of the eight programs did not award remedial credits for the developmental coursework students completed during the summer. Therefore, it is possible that summer bridge participants and the control group actually spent the same amount of time in developmental courses (Wathington et al., 2011).

Barnett et al. (2012) conducted a follow up study on the same eight programs to determine their effect on the number of students' credits, completion of math and writing courses, and student persistence after two years. At the end of the two years, Barnett et al. (2012) found no statistically significant differences between the summer bridge participants and control group in persistence, credit accumulation, or completion of math and science courses. Developmental programs are intended to give students deemed underprepared an opportunity to acquire the academic and affective skills needed to be successful at the college level. Although this study found no statistically significant differences in three areas of interest after two years, the study did find that after one and a half years, more summer bridge participants than control group participants passed their college level courses in math and writing (Barnett et al., 2012). These results indicated that it may be difficult to determine the effect that developmental summer bridge programs have on retention and graduation, but it also supports the use of such programs as an option that institutions can use to increase students' academic and affective skills.

Residential Summer Bridge Programs

It is challenging to determine which structure and components of a summer bridge program will be most effective in increasing students' performance. Some 4-year universities require students to become campus residents for the duration of the program (Buck, 1985; Meyers & Drevlow, 1982; Walpole et al., 2008), while others offer commuter programs (Bir & Myrick, 2015; Cabrera et al., 2013; Kallison & Stader, 2012; Tomasko et al., 2016). Postsecondary education institutions that require students to live on campus during the bridge program believe the residential aspect gives the institution more opportunities to provide a holistic approach to student development (Meyers &

Drevlow, 1982). Tinto (1988) discussed the importance of separating students from their previous communities and transitioning them into the new college community. Buck (1985) also emphasized the importance of supporting students through the transition by ensuring that they become attached to the institution by building relationships with peers and faculty. Institutions that require residency during their programs use social events during the weekends and peer group meetings in the evenings to create opportunities for students to build connections to campus (Bir & Myrick, 2015; Buck, 1985).

Bir and Myrick (2015) conducted a study on a residential bridge program that used weekends to integrate freshman students into their new college environment through affective skills seminars and social networking events. The program included seminars on conflict management, financial responsibility, and interpersonal relationships. The program also contained learning communities as an additional component designed to increase students' connection to campus. Bir and Myrick (2015) found that bridge students had higher GPAs and first and second year retention rates than did the comparison group. Program administrators valued building students' connection to campus and were able to show an increase in retention rates among those at-risk (Bir & Myrick, 2015).

The effect these programs have on students' sense of belonging and other affective skills can be difficult to measure; however, many summer bridge programs include such components. Strayhorn (2011) analyzed data from a five-week residential bridge program designed to increase the academic self-efficacy, sense of belonging, and academic and social skills of incoming freshman from underrepresented populations. Like others, this program had structured academic coursework during the day, and

workshops and social events in the evening (Buck, 1985; Walpole et al., 2008). Students also received college credit for English I and credit for a course focused on building academic skills and planning their careers. This study was based on pre- and posttest surveys given to 55 participants. The survey data showed that students felt that the bridge program increased their academic skills and self-efficacy (Strayhorn, 2011). Because one of the main reasons that institutions implement summer bridge programs is to increase academic performance, these results indicated that the program was successful in achieving its goals. Two areas in which students did not experience statistically significant increases were social skills and a sense of belonging (Strayhorn, 2011). These mixed results indicate the challenges associated with building students' connection to campus. Even in this residential program, which purposefully added components to increase students' sense of belonging and social skills, the students did not report that they grew in those two areas.

Even among residential summer bridge programs, student requirements vary. Walpole et al. (2008) conducted a study on a 4-year university's five-week residential bridge program, during which students were required to live on campus during the week, but allowed to return home during the weekends. During the week, students had structured activities day and night in an effort to increase their sense of belonging. The study included 115 summer bridge participants, with 73 students in a control group. The control group was not ethnically as diverse as were the bridge participants, but the data collected found higher retention rates for bridge students than for those in the control group (Walpole et al., 2008). The students in the bridge program also reported increased social and academic engagement in the institution by the end of their sophomore year.

Increased student engagement is important, because Tinto's (1987) model of student departure emphasizes the importance of student engagement as a factor in retention.

The work of Tinto and other theorists guided North Carolina A&T State University officials during the development of their summer bridge program. Institution administrators wanted to address three specific areas of student growth: academic engagement, affective skills, and exposure to what it is like to be a college student (Slade et al., 2015). Grant funding for this program also affected its components and structure. The six-week residential program was required to offer credit-bearing courses to continue to receive federal funding (Slade et al., 2015). They offered students who participated in the program college level math and English and participants received college credit for their coursework. The program administrators placed heavy emphasis on classroom instruction and lab tutoring. Tinto (2006) discussed the importance of innovative classroom techniques as a strategy to increase student engagement. The bridge program administrators implemented a "flipped classroom" approach in which students were required to read outside of the classroom and complete activities in class based on those readings. The program administrators strived to implement such innovative teaching techniques to increase student engagement and accountability. One of the main goals of the program was increased retention among first-year, high-risk students, and 93% of participants in the 2011 summer bridge cohort, and 94% in the 2014 summer bridge cohort achieved good academic standing at the college.

Developmental Summer Programs with Undefined Components

Not all studies that focus on developmental summer bridge programs explain the program components. A number of factors influence the decision not to discuss the

length, academic support, or other affective components of these programs, including accessibility of the information and the focus of the study. Douglas and Attewell (2014) wanted to determine whether summer bridge programs affected retention and graduation rates by reviewing survey results of 15,000 undergraduates who participated in such programs from 2004-2009. The researchers assessed program participation by reviewing data from a national database and were interested only in determining whether a student participated in a bridge program. The authors conducted this longitudinal study on a large sample to determine the collective effects of many summer bridge programs. However, because they did not discuss the individual program components, it is difficult to determine their influence and those of other factors on graduation rates. The authors did state that increased academic skills in math, reading, and writing were an aspect of several of the programs community colleges offered. The data showed that bridge program participants had a 10% higher graduation rate by comparison to students with similar demographics who did not participate in the program. This longitudinal study allowed the research to be conducted on a large sample and showed promising results, but the degree to which the results are applicable to other institutions is unclear because of the undefined program components.

Johnson-Weeks and Superville (2014) also did not discuss program components in their analysis of data from a summer bridge program in Texas. Their study included 202 students, 101 of whom were bridge program participants; the other 101 were assigned to a control group. The study found no statistically significant differences between the control group and program participants in GPA, or math and English grades. However, although the data did not find that bridge participants performed better than did

the control group, the bridge participants did have similar GPAs to students in the control group. This similarity could imply that the program helped the students acquire the same skills needed to be as successful as those who did not require the program (Johnson-Weeks & Superville, 2014).

Non-developmental Summer Bridge Programs

Not all summer bridge programs are developed to increase retention rates among developmental students; however, if developmental students are not their primary focus, the target populations typically are at-risk student populations, including minorities and those with low socioeconomic status (Buck, 1985; Cabrera et al., 2013). Buck (1985) described a four-week residential bridge program that began at the University of California, San Diego (UCSD) in 1978. This program was not intended to be a remedial program, but instead, targeted high-risk students who historically had low retention rates. The residential program included a large academic component to increase students' reading, writing, math, and science skills (Buck, 1985). The program also emphasized student integration in campus life, and thus, the students spent time developing relationships with faculty and peers, and attending social events. The goal of the program was to increase retention rates among high-risk student populations, and the results indicated that the cohort of bridge students in 1978 had a retention rate of 61%, which was remarkable when compared to the non-bridge participants' retention rate of 25%. The university cited the increased retention among program participants as the reason it intended to continue to offer all entering freshmen an opportunity to participate in the program (Buck, 1985).

Cabrera et al. (2013) completed a longitudinal study of the summer bridge program at the University of Arizona, which is open to all incoming freshman. This program was established in 1969 and was not designed as a developmental summer bridge program, but instead was intended to facilitate at-risk students' successful transition into their postsecondary education. The program's original target populations were racial minorities, as well as low-income and first-generation students, although any freshmen could participate. The program was 6 weeks long and required the students to reside on campus for the duration. The longitudinal study included results from 6,570 students who participated in the program over the 17-year period from 1993 to 2009. Integrating the students into campus life was an important program component, and students had opportunities to connect with peers and faculty through various social and academic supports. Cabrera et al.'s (2013) goal was to determine the effect the program had on students' first year GPAs and retention. In the first analysis, the researchers found a positive correlation between participation in the bridge program and students' GPAs and retention. However, after the researchers added the survey data collected to control results for the first-year experiences, the results became insignificant. The inability to determine definitively the influence the summer bridge program had on the outcomes because of confounding effects, such as that of the first year program experience and the students' personal development, led the researchers to conclude that the program's positive effects on retention and GPA might be indirect and difficult to determine (Cabrera et al., 2013).

Components of Summer Bridge Programs

Although all developmental summer bridge programs contain an academic component, many also include additional components that focus on increasing the students' level of preparation, such as building affective skills, advising, and many other nonacademic components that vary across programs. The components found in several developmental summer bridge programs are discussed below.

Advising

One of the first connections a student will make to a postsecondary institution is through his/her advisor, and this relationship can influence developmental students' connection to campus and their retention rates. Kallison and Stader (2012) noted that offering academic advising to students, together with seminars on the ways in which to complete college applications and obtain financial aid, were a few of the methods needed to enhance student success. By giving students opportunities to meet with advisors and learn how to navigate college applications and financial aid, these summer bridge programs helped connect students to the campus. Advising components varied from one bridge program to another based on the needs of the institution's student population.

North Carolina A&T State University created an advising component in its six-week residential summer bridge program because previous studies had shown that students were dissatisfied with the amount of advising they received (Slade et al., 2015). The negative experience associated with one of the first connections students will have to their institution is one reason that this program emphasized continuous advising and monitoring by faculty and the director. Advising was a high priority in implementing the bridge program to ensure that students received counseling and advice at the first signs

that they were struggling. This helped program participants establish relationships with faculty and increased their sense of belonging to the institution. The institution administrators implemented the program in an effort to meet its institutional goal of raising the retention rate from 72 to 85% by 2020 (Slade et al., 2015). The 2011 cohort of program participants showed promising retention rates of 95% as the students entered their sophomore year, and 97% of the 2012 cohort students persisted into their second semester. Graduation rates are not yet available, but it is an institutional priority to track summer bridge students to determine graduation rates and any longitudinal program effects.

Wathington et al. (2011) also studied several institutions that incorporate support services, such as advising, to increase students' understanding of institutional resources. The advisors in these programs discuss and interpret degree plans and financial aid, and teach students how to navigate through the system of services to obtain additional resources.

An experimental study conducted in Rhode Island highlighted the effect of implementing advising into a summer intervention program for low-income entering freshman students. Although this study did not address a holistic summer bridge program, the summer intervention was designed to provide low-income students with college counseling during the summer before they started their postsecondary education. The experimental study included a treatment group of students that were graduates from seven high schools in Providence, Rhode Island who were randomly assigned a counselor for summer advising. The study also included a control group of students from the same population who did not receiving counseling services. The counselors worked with the

treatment group throughout the summer to provide students guidance in areas such as applying for financial aid, and completing college applications and other required paperwork, and also discussed any concerns and answered any questions students had about their transition into college (Castleman, Arnold, & Wartman, 2012). The study found that the treatment group had higher rates of enrollment when compared with the control group, and higher rates in achieving the postsecondary goals they identified during their senior year (Castleman et al.,2012). This study emphasized the importance of including an advising component in summer bridge programs as a strategy to assist students during the separation and transition stages of Tinto's (1988) Model of Student Departure.

Counseling

Several studies have noted the use of counseling services as a program component (Bir & Myrick, 2015; Kallison & Stader, 2012; Slade et al., 2015; Walpole et al., 2008; Wathington et al., 2011). Those who provided these services varied, but several studies used advisors, faculty, and program directors as counselors (Kallison & Stader, 2012; Slade et al., 2015; Walpole at al., 2008). Kallison and Stader (2012) addressed several methods used to counsel students, such as guest speakers, mentors, and career planning and counseling services, while Slade et al. (2015) noted that the programs they studied required continuous advising and monitoring by faculty and the director to ensure that students received counseling and advice at the first sign of difficulty. Kallison and Stader's (2012) findings suggested that these services had a positive effect on student success.

Like Kallison and Stader (2012), the institutions in Bir and Myrick's (2015) study provided a structured mentoring program to all summer bridge participants. The mentors normally were alumni of the summer bridge program and lived in the residential halls with the students to guide them through the program. Mentoring is one component that programs use to assist students during their transition from secondary to postsecondary education and facilitate their social integration.

Study Skills

Increasing student confidence through academic success is a component of several bridge programs, and can include group and individual tutoring, learning communities, or a course designed to increase students' academic skills, such as study and test taking skills (Bir & Myrick, 2015; Kallison & Stader, 2012; Slade et al., 2015; Strayhorn, 2011; Wathington et al., 2011). In their multi-institutional study, Wathington et al. (2011) found that all of the programs but two used tutors. The tutors were either in classes or in the study lab and were available on a regular basis to increase students' comprehension and help them develop effective study habits. One challenge the authors noted is that the institutions found it difficult to recruit and train tutors and mentors to function effectively, which may influence the effectiveness of this component.

Not all programs mandate tutoring and Maggio et al.'s (2005) study found that only voluntary, rather than mandatory tutoring, had a negative effect. The authors stated that this finding was consistent with previous research that focused on mandatory versus voluntary tutoring. In Slade et al.'s (2015) study, a mandatory study skills component was included that created a seamless path between learning new content and new study skills. This format was intended to increase students' academic confidence by using study

skills actively in the classroom (Slade et al., 2015). At their institution, Strayhorn (2011) found that students received credit for an academic skills course designed to increase skills such as studying and test taking. These examples show the various formats of the study skills component that are found in several summer bridge programs, and the way in which each component varies based on the student population and perceived need.

Orientation

Tinto (2006) discussed the importance of supporting student success during periods of transition from one community to another by orienting them to their new environment and the expectations associated with it. The orientation component can include a pre-admittance interview in which students must sign a contract to complete the entire six-week program (Slade et al., 2015), or campus tours that introduce students to campus services (Kallison & Stader, 2012). Orientation is intended to enhance students' understanding of the way in which the campus operates, and familiarize them with support services and resources they can use as needed (Slade et al., 2015). Tinto (2006) supported the use of orientation programs as an institutional component that can increase student success. When students are aware of resources available and understand how to obtain them, they will be more inclined to seek assistance when needed.

Summer Bridge Program Challenges

It is challenging to implement summer bridge programs. An effective bridge program requires institutional commitment, and with that commitment, the institution must be willing to use the resources available to ensure the program's successful implementation. Slade et al. (2015) stated that the availability of funds is a challenge, because programs cannot increase student capacity without funding. Wathington et al.

(2011) also discussed the challenge they experienced in developing their developmental bridge program and recruiting participants. Tinto (2006) emphasized the importance of having institutional leaders who support the implementation of institutional programs designed to increase student success. If the institutional leadership is interested in an effective student success initiative, they can create policies and procedures to support them by allocating extra funding or looking for alternative ways to obtain funding, such as grants.

Other challenges that were discussed included the difficulty of continuing students' growth throughout their entire postsecondary educational experience, challenges in collaborating with other departments to track student success, small sample sizes, the use of self-assessment surveys for data collection, and the difficulty of creating effective tutoring and mentoring programs (Slade et al., 2015; Strayhorn, 2011; Wathington et al., 2011). Tinto (1988) discussed the importance the incorporation of students into the higher education environment has on student retention, and the fact that it can be challenging for developmental summer bridge programs to employ this step due to the brevity of the programs. Collaboration between bridge program faculty and other departments in order to continue tracking the progress of summer bridge students is another challenge. To facilitate incorporation, institutions must track and support students during their entire higher education experience. Between the lack of funding and communication barriers among departments, helping students become incorporated into college has no easy solution.

The challenges associated with implementing a summer bridge program do not have simple solutions, but are areas in which institutions try to improve continually.

Slade et al. (2015) recognized the challenge associated with tracking and monitoring students' progress throughout their entire postsecondary education to ensure that they maintain the structure needed for student success. Recognizing the challenges and areas that need to be improved to ensure that students experience success in developmental summer bridge programs is the first step in creating solutions to these challenges.

Summary of Literature Review

The literature on the effectiveness of summer bridge programs has revealed the need to continue to add to this body of research. The variability in structure and focus of summer bridge programs leaves many questions unanswered with respect to the specific program components, or combinations thereof that contribute to increased persistence and other measures of student success. The literature review included studies that demonstrated the possible range of outcomes, including statistically significant positive effects of summer bridge programs, mixed results, inability to determine whether there was any effect on student performance, and no effects.

The results of several studies were contradictory and some even found mixed results within the study itself. For example, Strayhorn (2011) found that students' academic skills and self-efficacy improved, but their social skills and sense of belonging did not, although these were two main competencies the institution was trying to increase based upon the components they implemented in the program (Strayhorn, 2011). These results indicate the challenges associated with fostering students' integration into campus life, even when an institution attempts explicitly to implement a holistic summer bridge program.

Although some studies failed to yield statistically significant effects in certain areas of interest, such as GPA, math and English grades, social skills, or the students' sense of belonging (Barnett et al., 2012; Johnson-Weeks & Superville, 2014; Wathington et al., 2011), others supported the effectiveness of summer bridge programs by yielding higher GPA and retention rates (Bir & Myrick, 2015; Walpole et al., 2008). The way in which data are interpreted can affect whether or not the study appears to support the use of summer bridge programs. For example, in Johnson-Weeks and Superville' (2014) study, there were no statistically significant differences in GPAs or math and English grades between the control group and those who participated in the summer bridge program. However, the GPAs of students in the bridge program were comparable to those of students who were not required to take developmental courses; this suggests that the program may have increased bridge students' abilities to be as successful as those who were not required to take such courses. Some researchers have focused on retention rates, and several studies demonstrated that students who participated in summer bridge programs had higher retention rates than those who did not (Bir & Myrick, 2015; Slade et al., 2015; Walpole et al., 2008).

The study of summer bridge programs has increased in the past decade and has created a body of research that can help institutions understand the successes and failures experienced by previous institutions that have implemented such programs. Because each program contains components and has a structure designed to serve the institution's target student population, researchers should consider the differences in these populations, as they may influence the results obtained. Although the literature revealed mixed results among the studies analyzed, available research has still demonstrated clear evidence that

summer bridge programs do increase the skills that developmental students need to succeed in college courses.

CHAPTER III

Method

Introduction

The method section below describes the process used to collect the data for this study, followed by an explanation of the design and procedure. The instrument used in the study was analyzed for effectiveness, and the data collected from the resources were assessed. The researcher then describes the specifics of the program, such as context, participants, and instrumentation. The researcher's role in the study is followed by the data collection and analysis sections.

Statement of Purpose and Research Questions

The summer bridge program at MCC is intended to increase the preparedness of students identified by the TSI as needing developmental education. The level of preparedness is determined by participant's TSI scores. Summer bridge programs include various structures and components, and data have indicated that some programs are more successful than are others (Barnett et al., 2012; Bir & Myrick, 2015; Johnson-Weeks & Superville, 2014; Walpole et al., 2008; Wathington et al., 2011). This study examined data from the initial year of the redesign in 2014 through 2016. MCC's department of institutional research, together with the administrators who organize and run the summer bridge program, worked with the researcher to provide data from the 2014-2016 cohorts of summer bridge participants.

The purpose of this non-experimental, secondary data analysis, descriptive study was to examine the relationship between participation in the MCC summer bridge program and participants' TSI scores, developmental education placement, and the

average number of accumulated MCC college level credit hours received. The independent variable was participation in the 8-day summer program offered at the campus. The dependent variables included the students' TSI scores, developmental education placement, "defined as students' placement level in the developmental education course sequences", and the number of college level credit hours accumulated at MCC. The research questions for this study were as follows:

1. To what extent did participation in a summer bridge program improve participants' TSI scores?
2. To what extent was participation in a summer bridge program related to developmental education placement results?
3. To what extent did the average number of credit hours accumulated differ between students who participated in a summer bridge program and those in a comparison group that did not?

Research Design

This study adopted a quantitative, non-experimental, retrospective, descriptive research design. As described by Johnson and Christensen (2010), a non-experimental study is one in which the researcher does not manipulate the independent variable. The independent variable in this study that was applied to all three research questions was participation in the summer bridge program. This study qualified as a secondary data analysis because the researcher used archived data from summer bridge students who participated in the program from 2014 through 2016. Because the data were derived from several periods in the past, the study qualified as a retrospective study. Lastly, the study was considered descriptive because such a study is one that depicts a situation or

phenomenon (Johnson & Christensen, 2010). In this study, the situation described was students' participation in the summer bridge program and to examine the relationship between participation in the MCC summer bridge program and elected student outcomes. A comparison group with student characteristics, including demographics and TSI scores, similar to those of the boot camp participants was selected to determine to what extent there was a statistically significant difference in the average number of college level credit hours the two groups received. The theoretical and conceptual basis for this study was framed within Tinto's Model of Student Departure.

Participants and Sampling Procedures

The study was conducted at MCC, a community college with an average enrollment of 8,385 students per semester. Approximately 65% of the students are female and 35% are male. The students self-identified as approximately 62% White, 18% African-American, 18% Hispanic, and 2% other ethnicity. Among the 2014-2016 cohort, approximately 12% of students self-identified as first generation, and 60% were deemed to have low socioeconomic status. First generation was defined as a student whose mother and father did not hold a bachelor level or higher degree. Low socioeconomic status was determined by the percentage of students who qualified for Pell Grants. Students identified as needing developmental courses entered MCC with TSI scores below college ready. From the 2014 cohort of first time students identified as needing developmental coursework, the percentage of students who completed all developmental coursework by gender and race was as follows: 42% of females, 33% of males, 47% of African-Americans, 26% of Hispanics, 37% of Whites, and 45% of students identified as "other".

This was a non-probabilistic study that used criterion-based sampling to select the participants. Johnson and Christensen (2010) indicated that criterion-based sampling is most appropriate when a researcher selects a sample based on specific characteristics desired. The researcher then selects participants in the population that match the characteristics desired. The criterion-based sample in this study consisted of all students who participated in, and completed the MCC summer bridge program between 2014 and 2016 timeframe. The reason that only students who participated in, and completed the summer bridge program were included is because if they did not complete the program, it would be impossible to examine the relationship between participation in the MCC summer bridge program and outcomes of interest. Participants chose to enroll in the MCC summer bridge program after being invited to participate by MCC advisors who identified them based on interest and TSI scores. The 2014-2016 period was chosen because it included all boot camp sessions completed up to the time of this study, and data from programs that were offered after 2016 were not yet available for analysis. The 2014-2016 time period was analyzed aggregately. This was done because the sample size was too small to analyze each year individually. Approximately 30 students participated in the summer bridge program across all years. Demographic data were collected, including the participants' gender, race, first-generation status, and socioeconomic status.

Description of MCC's Summer Bridge Program

MCC redesigned its developmental education program, and added a summer bridge program. In 2014, MCC implemented the redesigned 8-day developmental summer bridge program as an option for students whose TSI test scores indicated that they needed developmental education courses. Students were recruited through the MCC

test center and local school counselors, both of which identify potential student participants based on TSI scores and student interest. The goal of the boot camp was to enable students to acquire the academic and affective skills needed to increase their TSI scores, and the academic skills essential to complete college level coursework successfully. During the boot camp, students completed academic tutorials in math, reading, and writing, discussed emotional intelligence, learned test preparation and testing strategies, and received advising and college preparation. The boot camp program was designed to contain a one-hour orientation, three hours of assessments in PLATO Version 1.0.41 (PLATO, 2014), a one hour emotional intelligence session, seven hours of test-taking strategies and test preparation, one hour college preparation seminar, fifteen hours of academic tutorials, three hours to retake the TSI, and one hour of academic advising. On the last day of the boot camp, students took the TSI again to see whether their scores increased or decreased, and the effect their new scores had on course placement. If students achieved a college ready TSI score, they were able to begin their freshman year in college level courses. The next sections describe the process MCC administrators used to design the program, as well as the daily schedule and components of each day of the boot camp. Although academic sessions were tailored to meet each student's individualized needs, several components were designed to allow administrators to take a broad approach and offered generalized support where needed.

Creation of the MCC Summer Bridge Program

During March 2012, one MCC board member contacted the school to discuss offering some form of remediation for high school students who were identified by ACCUPLACER (ACCUPLACER, 2012) scores as those who would require

developmental college courses. The board member worked in a local high school and had identified 50 students who were close to, or far below, college ready whom he believed would benefit from some type of remediation. The board member worked with MCC administrators to develop a summer program that help students improve the skills needed to increase students' scores on the ACCUPLACER (ACCUPLACER, 2012) test. The summer program for the 50 high school students was a computer-based instruction program that included teaching students academic and affective skills. The program created would later be named the MCC summer bridge program.

In May 2012, results from the remediation program created for the 50 high school students were analyzed and a summer program was proposed and created to increase students' placement scores. It was not until approximately September 2012 that the Developmental Education Steering Committee was asked to help design and implement the program. The committee, which was comprised of the testing coordinator, division chairs, deans, and instructors, met to discuss questions they had concerning the structure and components that should be included in the program. During September and October, the administrators received the new legislation stating that developmental education needed to be redesigned. At that time, the summer bridge program began to shift from a high school-based remediation to a developmental summer program.

In November 2012, one committee member attended a conference that addressed ways in which to implement the new legislation as it related to developmental education, during which several examples, ideas, and rules pertaining to summer bridge program programs were presented. The committee member then presented that information to the Developmental Education Steering Committee and, based on examples given at the

conference, the committee determined the specific components and length of the MCC summer bridge program.

Day 1

Day 1 of the summer bridge program includes several components intended to help students transition into their new roles as boot camp participants. This program marks the beginning of students' separation from their old community and that of their connection to the new higher education community. Tinto (1988) acknowledged that commuter students, such as those who attended the MCC summer bridge program, do not experience the same type of separation that residential college students do. However, students need to understand the expectations of their new environment and prepare for the program ahead, as this remains an important factor in helping them separate from their high school community and begin to attach to their new higher education community. The components of day 1 are listed below.

Orientation

Orientation is included in several developmental summer bridge programs to help students transition to the new higher education community (Kallison & Stader, 2012; Slade et al., 2015). MCC understands the importance of this element and day one of the summer bridge program during the study period began with a 50-minute orientation to the program, which covered what the students could expect during the program, explained their TSI score and placements results, and gave students an opportunity to ask questions.

PLATO Assessment

The remainder of day 1 was devoted to the tests students completed through PLATO Version 1.0.41 (PLATO, 2014), which assesses their skills in math, reading, and writing. The number of assessments students are required to complete is based on the number of areas in which the TSI score showed that the student did not receive a college ready score. For example, if a student came in with a college ready TSI score in math, but not in reading and writing, the student took only the PLATO Version 1.0.41 (PLATO, 2014) assessments in reading and writing.

PLATO Version 1.0.41 (PLATO, 2014) is a computer based instructional program that creates an individualized curriculum based upon students' performance on an initial placement test. The individualized learning program created by PLATO Version 1.0.41 (PLATO, 2014) breaks math, reading, and writing into units and subunits that the student needs to master to reach college level readiness. The program includes pretests, lessons, practice problems, and unit tests. The students were given up to three hours to complete the PLATO Version 1.0.41 (PLATO, 2014) assessments, and were allowed to leave early if they finished before the time allotted. If a student did not finish during that time, s/he was responsible for finishing the assessments later.

Day 2

On day two, the students began to learn more about the academic skills, in the areas of either math, reading, and/or writing, on which they would focus during the remainder of the boot camp, and also learned certain affective skills that are important to student success. Students began by learning about the meaning of the "prescription" of work they were assigned by the PLATO Version 1.0.41 (PLATO, 2014) program. It is

important for students to understand why they were prescribed particular lessons and to help them create a plan to learn as much of the content as possible. The exact list of tutorials a student was assigned was based on his/her answers on the diagnostic test, such that the student was assigned one tutorial for every wrong answer. Often, students who scored at a basic level on the TSI test were prescribed a large number of lessons that would be difficult or impossible to finish within the time allotted on campus. The summer bridge program staff discussed the need for students to work at home so that they had the best possible chance of receiving a TSI score that indicated college readiness. The components of day 2 are discussed below.

Emotional Intelligence

The study of emotional intelligence can be traced back to the 1920s, when researchers began to examine "social intelligence" and the effect it has on success (Liff, 2003). Emotional intelligence is defined as one's ability to understand one's emotions, as well as those of others, and how to use the meanings of those emotions to solve problems or acquire more knowledge (Liff, 2003). Several studies have supported the idea that emotional intelligence is an important factor that affects students' academic success. MCC recognized the need to include a component that helps the boot camp participants learn more about their own emotional intelligence and its importance.

The emotional intelligence component requires approximately one hour and took place at the beginning of day 2. During this hour, students learned what the concept means, reflected on their own level of emotional intelligence, and learned strategies to increase it. The presenter discussed specific aspects of emotional intelligence, such as the difference between assertiveness and aggression. The students were able to reflect on

what they have learned during a question and answer period, scenarios, and role-playing activities.

Academic Tutorials

The last three hours of day 2 were devoted to giving students time to work on the tutorials they were assigned through PLATO Version 1.0.41 (PLATO, 2014). Students who were trying to increase their skills in all three content areas worked on each area for approximately one hour each. If a student only needed to complete tutorials in math, they could spend all three hours working on the math tutorials alone. During the tutorials, faculty circulated to assist students and answer any questions that arose.

Days 3, 4, and 5

The next three days included the same components with the same amount of time allotted for each. The only difference between the days was that the two-hour morning workshop focused on a different content subject each day. Each content area in the TSI test is associated with different strategies, which is one reason the program presented the TSI test-taking strategies on different days.

These three days focused intensively on increasing academic skills in all three areas. The components for each day are listed below.

Day 3: Math Test Taking Strategies

On day three, the students began with a two-hour math workshop in which they learned TSI test-taking strategies specific to the math portion of the exam. Students received tips on how to answer questions best and had the opportunity to ask questions related to the test, as well as to other math content. The workshop also addressed math anxiety and informed students that they could not use calculators during the test. The

students spent the remaining two hours completing the reading and writing tutorials in the PLATO Version 1.0.41 (PLATO, 2014) program.

Day 4: Writing Test Taking Strategies

On day four, the students began with a two-hour writing workshop where they again learned TSI test-taking strategies for that portion of the test. This workshop provided tips related to the importance of word count and explained the way in which the students' writing scores are calculated. These strategies are intended to help students learn how to improve their writing and learn skills they can apply to achieve a higher score on the TSI test. The remaining two hours of the day were spent working on math and reading tutorials.

Student Expectations

During the last 15 minutes of day 4, the faculty told the students of their expectations for weekend preparation and stressed the importance of continuing to complete tutorials over the weekend to increase success. The faculty emphasized that halting progress for just one day would set them back and make it harder for them to achieve a college ready TSI score. Many students come into college without understanding fully how to meet the expectations required in their new environment. Explaining these expectations helps students transition into their new community by increasing their understanding of what is required to be successful during their postsecondary education.

Day 5: Reading Test Taking Strategies

On day 5, the students began with a two-hour reading workshop in which they learned TSI test-taking strategies related to the reading portion of the test. This workshop

was structured the same as those on days 3 and 4. Students were able to ask questions and had the opportunity to apply the tips explained in examples and practice problems. During the last two hours, students worked on math and writing, unless they only had reading tutorials left, in which case they continued to work on those.

Day 6: Test Preparation

Day 6 began with a one-hour workshop on strategies for test preparation and included general tips to help students maximize their test scores. Staff from the testing center came in and discussed test protocols and how to schedule a test. The faculty also discussed the schedule they suggested the students use when taking the TSI tests, and recommended that students break up the test so they only completed one content area per day. The faculty suggested further that those students who were required to take all three content areas take one each on days 6, 7, and 8. This schedule decreased the cramming and fatigue associated with long exams. During the last three hours, students worked on any tutorials they still lacked.

Day 7: College Preparation

Day 7 began with a one-hour workshop on general college preparation. Instructors discussed basic college knowledge that students should understand as they enter their freshman year, including the purpose of a syllabus, how to navigate campus resources, higher education terminology, test-taking strategies, ways in which to take notes effectively during lectures, metacognition, and general studying strategies, such as the ways in which to read a textbook and study for a test. Students also could ask any questions they had concerning their transition into postsecondary education. The last

three hours were open for students to continue tutorials if needed, or to take one of the TSI tests.

Day 8: TSI Testing and Advising

During the first three hours of day 8, students took another section of the TSI test, and the last hour was spent advising students based on the test results. The advising process is meant to be a holistic experience in which students are placed not only according to their TSI scores, but also according to the progress they made in increasing their TSI score and developing the academic skills they need to be successful in a college level course. For example, if a student showed no progress and obtained a TSI score similar to that obtained prior to the program, they would be advised to take traditional developmental courses. However, if a student's TSI score after boot camp was close to the college ready mark, they might suggest that the student continue to use the PLATO Version 1.0.41 (PLATO, 2014) program and then retest after a few weeks. Alternatively, if the student was hard working and motivated highly, the advisors might place him/her in a college level course with additional support, such as tutoring. The goal of advising is to ensure that students are placed in the highest-level course in which they can succeed. The institution completed this task by providing a holistic advising approach that included options such as redesigned developmental courses that vary to accommodate students with various educational needs.

Measures Section

The primary measures used in this study were derived from archival data, specifically, student records in the MCC database. The MCC database is a student information system that contains Estudias Version 6.16.2, which is a product of Zogotech

(Estudias, 2017). The data were declassified by the vice president of institutional research at MCC before being given to the researcher. The data were stored on a personal, password protected computer that could only be accessed by the researcher.

The MCC database contained all student information collected. This database consisted of official student reports certified by every institutional department from admissions to financial aid. Although clerical errors were possible, check systems were in place to ensure accurate reporting. The information obtained from student records included demographics, TSI scores, and transcript data. The TSI is the State of Texas assessment test that is used to determine what level of educational courses a student should be placed in when entering post-secondary education. The TSI tests students in the areas of reading, writing, and mathematics. The test is a computerized test that adapts to student responses. The test provides institution with cut off scores that are used to determine if students are college-ready in the tested area. The student demographics collected were gender, ethnic origin/race, and first-generation and socioeconomic status. Student's socioeconomic status was determined according to whether or not the student qualified for the Pell grant. The Pell Grant information was obtained from the Coordinating Board's financial aid database. Transcript data collected included students grades in developmental courses and the number of credits earned. Student outcomes of interest were collected for all students who participated in the summer bridge program from 2014-2016. Further, a group of students from the same period who had student demographics and initial TSI scores similar to the summer bridge participants was selected to compare the average number of credits earned between the two groups of interest.

Data Collection Procedures

This dissertation was a nonexperimental study that utilized archived data stored at MCC. The purpose of, and research questions for the study were submitted first to the research approval committee at MCC. The committee approved the study and provided a letter of support. The approval letter was submitted together with the IRB application through Sam Houston State University (SHSU). Once approval was received from the SHSU Institutional Review Board (IRB), the vice president of institutional research was contacted to obtain the data needed to complete the study. Student level data that were requested included ethnicity, gender, first-generational status, and TSI scores, which were used to determine the student population that attended the summer bridge program. The demographic information was requested for all summer bridge program participants between the years of 2014 and 2016. The researcher also requested selection of the comparison group comprised of 30 students that attended MCC during the same timeframe and had characteristics similar to that of the summer bridge participants. The vice president of institutional research collected the summer bridge participants' demographics, TSI scores, grades in developmental courses, and the number of credits earned. The student demographic characteristics of gender, ethnicity, and first-generation status were used to determine what student population used the summer bridge program. The same student characteristics also were used to select the comparison group to analyze the outcome of credit hours accumulated. The vice president of institutional research selected a comparison group comprised of 30 students with similar demographics, gender, ethnicity, and first-generation status, and TSI scores to those of the summer bridge participants. The comparison group was created by inputting selected conditions

and then randomly selecting 30 students who enrolled in the same semester as the participants. The select conditions that were inputted into the Estudias (Version 6.16.2) data warehouse included TSI scores below college ready and student demographics that were similar to the participants in the summer bridge program group (Estudias, 2017). After inputting conditions, the computer randomly chose 30 students from a compiled list of over 200 students who fit the conditions entered. The comparison group contained students that were from year 2014, 2015, and 2016. The number of students chosen from each year equaled the number of participated in the summer bridge program. Student placement in developmental course sequences was determined through the TSI scores, which were used as well to identify any changes in TSI that occurred between the beginning and end of the summer bridge program. All info that could be used to identify particular students was removed prior to the researcher receiving it.

Analytical Strategy

The statistical analysis test chosen for this study overall was correlation. Lamax (2013) described a correlation study as one that determines the relationship between variables. Statistical correlation techniques include the bivariate, extensions of the bivariate, and the regression model. Correlational research is an important quantitative method in the field of education and was the analysis of choice for this study because it allowed evaluation of several variables simultaneously to determine the effect each had on the other. This study qualified as a correlation study, specifically of the bivariate relationship, because its purpose was to evaluate the magnitude and degree of the relationship present among the variables, including summer bridge participants' TSI scores, developmental education requirements, and average credit hours and those of a

comparison group. The analysis used to address research question one was the paired *t*-test; research question two was evaluated with the Chi-square and odds-to-ratio test, and research question three was tested with an independent *t*-test. Examining the relationship between participation in the MCC summer bridge program and the variables associated with each research question increased the understanding of the relationship between participation in the MCC summer bridge program and the student outcomes selected.

Research Question 1

The first research question addressed the extent to which students' TSI scores improved after they participated in the summer bridge program. All participants entered the program with TSI scores in math, reading, and/or writing that were below college ready, and the goal of the program was to increase their scores to a college ready level. To determine to what extent the participants' scores improved, a paired *t*-test was used to assess the significance of the mean difference between students' TSI scores before and after participation in the summer bridge program. Students TSI scores in math, reading, and writing were analyzed together. The paired *t*-test was the appropriate statistical test for this research question because it determines whether there is a statistically significant difference between the means of a dependent variable tested at two different times, which in this case, was the participants' TSI scores before and after participation. The effect size, or Cohen's *d*, will also be reported to determine the strength of the effect size. The two assumptions that were met to perform the *t*-test were that the study included a continuous dependent variable and that the independent variable included the same participants in both test groups ("Paired Samples," 2016). First, the data were run through SPSS, Version 20 (SPSS, 2011) and boxplots were examined to determine the presence

of any outliers. The Shapiro-Wilk test was performed to determine whether the assumption of a normal distribution was met. If the data violated this assumption, the Wilcoxon signed-rank test was used instead.

Research Question 2

The second research question examined the relationship between participation in the MCC summer bridge program and participants' initial developmental education placement. The participants' test results indicated that they were below college ready and needed one to two levels of developmental courses. The TSI scores that determined how many reading/writing developmental courses a student needed to take were 347-350 (one level), and 346 or lower (two levels). The scores that determined how many math developmental courses a student would need to take were 342-349 (one level) and 341 or lower (two levels). Research question two asked whether participation in the program affected the number of developmental courses participants were required to complete. The Chi-square test was chosen for this research question to determine the independence between the two variables, students' placement in their developmental course sequence, and their participation in the summer bridge program. The Chi-square test was most appropriate because it determined whether students' participation in the program affected their developmental course requirements. The three assumptions that were met to use the Chi-square test were that the two variables were categorical, observations were independent, and each cell had a value greater than five. If the last assumption was violated, the data would have been analyzed with Fisher's Exact test. Further, the odds-to-ratio test was performed to determine how much more likely it was that students would change their developmental course sequence if they participated in the program. This test

used a 2x2 contingency table for analysis. The requirements that were met before running the odds-to-ratio test were that the data included one independent and dependent dichotomous variable and observations were independent.

Research Question 3

The third research question asked to what extent the average number of accumulated MCC college level credit hours differed between students who participated in the summer bridge program and the comparison group of students who did not. Students in the comparison group were matched with summer bridge participants who had similar TSI scores, ethnicity, gender, and first-generation and socioeconomic status. There were approximately 30 participants in each group. The independent *t*-test was chosen to determine whether there was a statistically significant difference between the mean number of accumulated MCC college level credit hours earned by summer bridge students and the comparison group. The assumptions associated with the independent *t*-test are that there is one continuous dependent variable, one independent dichotomous variable, independence of observations, no significant outliers, a normal distribution, and homogeneity of variances (Morgan, Leech, Gloeckner, & Barrett, 2004). The first three assumptions were met. To determine whether there were outliers, boxplots of the data were examined as above. The Shapiro-Wilk test also was conducted to determine whether the assumption of a normal distribution was met. If the data violated this assumption, the Mann-Whitney U test was used. With respect to the final assumption of homogeneity of variances, Levene's test for equality of variances was performed to determine whether this assumption was met. If the test showed that homogeneity of variances was violated, then a modified version of the *t*-test, the Welch *t*-test, was performed.

CHAPTER IV

Results

In this chapter, the researcher discusses the results from this study. The chapter includes the process that was used to collect and analyze the data, followed by an explanation of results. The explanation of results contains a description of the participants in this study and those in a comparison group, including select student demographics and TSI scores, along with the statistical technique used to create the comparison group. The chapter concludes with an explanation of the results obtained to address each research question.

Summer Bridge Program Demographics

This study included 30 participants who completed the summer bridge program between the summers of 2014-2016. Out of the 30 participants, 21 were female (70%) and 9 were male (30%). The number of students by ethnicity was 12 White, 17 Hispanic, and 1 classified as 2 or more races. There were no African American students who completed this program. There were several students who enrolled but did not finish the program. This population of student is likely to be over represented in developmental education, but did not have any participants in this study. In terms of age, 23 participants were under the age of 21 and 7 participants were over 21 years old. Eighteen of the 30 students qualified for Pell-grants (60%). Nineteen were first time students in college (63%).

Comparison Group Demographics

The comparison group include 9 males (30%) and 21 females (70%). The number of students over the age of 21 was 12 (40%) and 18 (60%) were under 21. The researcher

grouped students as under 21 or over 21 because the National Center for Education Statistics made a point that any student older than 21 who was considered either a freshman or sophomore in college could be considered non-traditional because they are older than the age of someone who entered college fresh out of high school (Nontraditional Undergraduates, n.d.). All students were first-time in college and 19 (63%) Pell-grant eligible. The demographic characteristics of both groups were then compared on demographic characteristics to ensure no systematic differences existed prior to the intervention. Chi square tests were used to compare categorical variables including gender, age, and Pell grant status. Minimum expected frequencies for all levels of the categorical variable were examined and determined to be sufficient prior to conducting all chi-square tests. An independent samples *t*-test was used to compare groups on the interval level variable of TSI scores. The results indicated there were no statistically significant differences in gender ($\chi^2 = 0.000$[1], $p < 1.00$), age ($\chi^2 = 1.93$, $p < 0.17$ or Pell Grant status ($\chi^2 = 0.71$, $p < 0.79$). There were also no statistical differences between the groups on TSI scores ($t_{(44)} = -0.20$, $p = 0.84$). See Table 1 for the comparison of TSI scores between the groups. Overall, this suggested that both groups were similar prior to the intervention.

[1] There sample included the exact same number of males ($n = 9$) and females ($n = 21$) in both groups.

Table 1

TSI Comparison between Participants and Comparison Group

								95% Confidence Interval of the Difference	
	F	Sig.	*t*	df	Sig. (2-tailed)	Mean Diff.	SEM	Lower	Upper
Equal variances assumed	0.83	0.37	-0.20	44.00	0.84	-6.52	3.22	-7.15	5.85

Results

Research Question 1

The first research question addressed the extent to which students' TSI scores improved after they participated in the summer bridge program. All participants entered the program with TSI scores in math, reading, and/or writing that were below college ready, and the goal of the program was to increase their scores to a college-ready level. To determine the extent to which participants' scores improved, a paired *t*-test was used. This assessed the significance of the mean difference between students' TSI scores before and after participation in the summer bridge program. Groups were compared on math, reading, and writing separately because it was possible for a student to be college ready in one subject area while not college ready in another

Students' math TSI scores were extracted from the excel worksheet to determine if assumptions of the test were met and to conduct the analysis. Out of the 30 total participants, 15 had both pre- and post-TSI math scores. Any students who were deemed college ready (351 or higher) or were missing either a pre- or post-TSI score were

excluded from analysis. One outlier was detected that was more than 1.5 box-lengths from the edge of the box in a boxplot. Inspection revealed that the value was not extreme and it was retained in the analysis. The assumption of normality was not violated, as assessed by Shapiro-Wilk's test ($p = 0.32$). Results indicated that TSI scores for participants in the summer bridge program increased from the pre- to post-test ($t_{(14)} = 5.02$, $p < 0.01$). Students who participated in the summer bridge program scored approximately standard deviation higher on their TSI math exam than those who did not participate in the summer bridge program. The effect size was considered to be large ($d = 1.29$). Therefore, the researcher rejected the null hypothesis and accepted the alternative hypothesis. See Table 2 for the results of the math paired *t*-test.

Table 2

T-test for TSI pre- to post-math scores

	Mean Diff.	SD	SEM	Lower	Upper	*t*	*df*	***p***	***d***
Post TSI –Pre TSI	10.4	8.03	2.07	5.96	14.84	5.02	14	<.001	1.29

Next, students' reading TSI scores were extracted from the Excel worksheet to determine if statistical assumptions of the test were met prior to conducting the analysis. Out of the 30 total participants, nine were analyzed that had both pre- and post-TSI reading scores. Any students who were deemed college ready (350 or higher) or were missing either a pre- or post-TSI score were excluded from analysis. Three outliers were detected that were more than 1.5 box-lengths from the edge of the box in a boxplot.

Inspection of the values revealed two were not extreme and one was extreme. After investigation all three outliers were retained. The case identified to be an extreme outlier based on TSI score still matched the other participants in terms or race, gender, age, and socioeconomic status. The assumption of normality was not violated, as assessed by the Shapiro-Wilk's test (p = .074). Results indicated participants' scores increased from the pre to post test (M = 3.33, SD = 5.634). Results indicated that the magnitude of the difference between the two groups was very large (d = 1.77) but this difference was not found to be statistically significant. It is important to note that the sample size used for this comparison was small. These statistical results should be interpreted with caution to avoid type II error. Therefore, the researcher failed to reject the null hypothesis. See Table 3 for the results of the reading paired *t*-test.

Table 3

Results of the *t*-test for TSI pre- to post-reading scores

	Mean Diff.	SD	SEM	Lower	Upper	*t*	*df*	*p*	*d*
Post TSI – Pre TSI	3.33	5.63	1.88	-9.998	7.665	1.775	8	114	1.77

Finally, students' writing TSI scores were pulled from the Excel worksheet to determine if assumptions of the test were met and to conduct the analysis. Out of the 30 total participants, 11 were analyzed that had both pre- and post-TSI reading scores. Any students who had a score deemed college ready (363 or higher) or were missing either a pre- or post-TSI score were excluded from analysis. After inspection of the boxplot, it

was determined that the sample did not contain any outliers. The assumption of normality was not violated, as assessed by Shapiro-Wilk's test ($p = 0.24$). Results indicated participants' scored increased from the pre- to post-test ($M = 5.18$, $SD = 5.231$), a statistically significant increase of 5.18, (SE = 1.577), $t(10) = 3.285$, $p < .008$. The mean difference was statistically significantly different from zero. The effect size was considered to be large ($d = .990$). Therefore, the researcher rejected the null hypothesis and accepted the alternative hypothesis. See Table 4 for the results of the reading paired *t*-test.

Table 4

T-test for TSI pre- to post-writing scores

	Mean	SD	SEM	Lower	Upper	*T*	*df*	***p***	***d***
Post TSI – Pre TSI	5.18	5.23	1.58	1.668	8.696	3.29	10	.008	.990

Research Question 2

The second research question examined the relationship between participation in the MCC summer bridge program and the number of developmental courses participants were required to complete. The participants' test results indicated that they were below college ready and needed one or two levels of developmental courses. The Chi-square test was chosen for this research question to determine the independence between the two variables, students' placement in their developmental course sequence, and their participation in the summer bridge program. The students were first grouped according to how many levels of developmental education they were required to take based on their

entering TSI scores. To assess progress, these same students where then then were classified by how many levels of change they had based upon the final TSI score. Students were placed into three categories: no change, improved one level of developmental education, and improved two levels of developmental education. After running the Chi-square test with the 35 participants' pre- and post-TSI's, it was determined that the assumptions of the Chi-square were violated. To run the Chi-square, the assumption of each cell having a minimum of 5 entries must be met. In this study, one cell only contained 3 occurrences which violated this assumption. Consequently, the data were changed to a 2 X 2 format in which students were grouped into those who changed in their developmental course placement and students who did not change in their developmental course placement. However, this transformation of the data continued to result in violations to assumptions of the analysis. Therefore, a Fisher's exact test was used to compare groups on changes in course placement. The results of this test indicated that 17 (48.6%) changed at least one developmental course level and 18 (51.4%) did not change the number of developmental courses. There was no statistically significant association between participation in the MCC summer bridge program and change in participants' developmental education placement as assessed by Fisher's exact test, (p = 0.47). However, the odds ratio of changing the number of developmental courses revealed that students who participated in the summer bridge program were twice as likely to improve their level of developmental course placement. (0.524; 95% CI, 0.12 to 2.34). See Table 5 for the odds to ratio test results.

Table 5

Odds Ratio Test for Changing Developmental Placement

	Odds Ratio	95% Confidence Interval	
		Lower	Upper
Odds Ratio for Placement Change	0.52	0.12	2.33
Participants with no change in placement	0.71	0.31	1.65
Participants who changed placement	1.36	0.70	2.67
N	35		

Research Question 3

The third research question asked to what extent the average number of accumulated MCC college level credit hours differed between students who participated in the summer bridge program and the comparison group of students who did not. The number of accumulated credit hours was within four semesters of completing the program. There were 30 participants in each group. The independent *t*-test was chosen to determine whether there was a statistically significant difference between the mean number of accumulated MCC college level credit hours earned by summer bridge students and the comparison group. After examining the data, it was determined that the assumption of a normal distribution was violated as assessed by the Shapiro-Wilk test. Thus, the Mann-Whitney U test was used to compare groups. The Mann-Whitney U test is a nonparametric test that can be used when data violates the assumption of normal distribution associated with the independent *t*-test. A Mann-Whitney U test was run to determine if there were differences in the median number of accumulated MCC college level credit hours between participants and the comparison group. The median number of

accumulated MCC college level credit hours was not statistically significantly different between the summer bridge program (*Mdn* = 14.00) and the comparison group (*Mdn* = 12.00), *U* = 321.5, *z* = -1.91, *p* = 0.06, *r* = 0.35, using an exact sampling distribution for *U* (Dineen & Blakesley, 1973). See Table 6 for the results of the Mann-Whitney U test and other results.

Table 6

Accumulated MCC college level credit hours between participants and the comparison group

	Accumulated Credit Hours
Mann-Whitney U	321.50
Wilcoxon W	786.50
Z	-1.91
p	0.06

Conclusion

This study focused on the effectiveness of the MCC summer bridge program as determined by analyzing select student outcomes. The results from the three research questions revealed that students who participate in the MCC summer bridge program experience some success in select outcomes, although other outcomes still need to be improved to increase student achievement in all objectives.

One of the main objectives of the program was to raise students' TSI scores to college ready levels in all areas. Research question one addressed whether students had a statistically significant increase in their pre- to post-TSI scores. The results showed that students' math and writing scores had a statistically significant increase, but the

difference in means of the reading scores were not statistically significant. The magnitude of the difference between groups was large (d = 1.77) but this finding was not statistically significant. Statistical significance is affected by the power to detect such differences and the sample size in this study was small. Caution should be used when interpreting this non-significant result in order to avoid type II error (false negative).

Research question two asked whether participation in the program affected the number of developmental courses participants were required to complete. The Fisher's exact tests revealed no statistically significant results; however, it is important to note that even though the results are not statistically significant, approximately half of the TSI scores improved enough to reduce the number of developmental courses students were required to take before enrolling in MCC for their freshman year which is of practical significance.

Research question three focused on how many college level MCC credit hours participants acquired compared with a comparison group comprised of students who had similar demographics and TSI scores after the summer bridge program intervention. The results of the Mann-Whitney U test revealed that there was not a statistically significant difference between the number of accumulated credit hours earned between the two groups.

CHAPTER V

Discussion

Because of the increased numbers of developmental students seeking postsecondary education (Pretlow & Wathington, 2012), the number of summer bridge programs has also increased as a strategy for students to acquire the skills needed to be college ready when they enter their freshman year of college. The information in this chapter includes an interpretation of the results of this quantitative study, which focused on the effectiveness of the MCC summer bridge program. The chapter addresses the results associated with each research question, recommendations for future research, and a summary of the study.

Research Question 1

The college administrators created the MCC boot camp as a holistic program that includes components to build academic skills with the ultimate goal of increasing students' post-TSI scores in reading, writing, and math to be at a college ready level. The results from research question one revealed that the MCC boot camp program demonstrated a statistically significant increase in students' math and writing scores. In terms of reading, the magnitude of the difference between groups was large (d = 1.77) but this finding was not statistically significant. Statistical significance is affected by the power to detect such differences and the sample size in this study was small. These results could have been a type 2 error because the effect size was almost two standard deviations. The results were positive, in that several students increased their TSI scores and thus benefited from attending the boot camp program. Through investigation of the program's structure, it appears that each area of the TSI is given the same amount of

preparation time. The results from the TSI reading results should be interpreted with caution and administrators should not assume that because the results were not statistically significant that the program did not have a positive impact on reading scores.

Research Question 2

The focus of research question two was the number of developmental courses a student was required to complete. Students who participated in the MCC boot camp placed either one or two levels below college ready. The Fisher's exact test revealed no statistically significant difference in the number of students who decreased the developmental courses they were required to take. The large difference is not statistically significant, but it is possible this is due to the size of the sample size. In this small of a sample, it is possible a type 2 error (false negative), which may of cause the statistical conclusions to be incorrect. However, although the results were not statistically significant, the odds to ratio test revealed that students who participated in the boot camp program were twice as likely to improve their level of developmental course placement. Decreasing the number of developmental courses required by almost half would have a positive effect on the MCC campus by reducing the number of students who are required to enroll in developmental courses and increasing those who can take college level courses. Of the 17 students who decreased their number of developmental courses, three began with pre-TSI scores two levels below college ready and ended with college ready TSI scores. These results were promising, in that they showed that several students made gains that allowed them to become college ready by the end of the MCC boot camp. A recommendation for the program is to continue to operate as it has been since 2014, continue to collect more data, and see if the same results persist.

The results showed that 17 students succeeded in reaching the goals of the boot camp program by either reducing or completing developmental course requirements before entering their freshman year. This allowed these students the chance to eliminate or reduce one barrier with which they presented originally. If MCC can implement strategies to increase enrollment in the boot camp program, it may be possible for the institution to reduce further the number of developmental students that enter the institution as freshmen. The reduction of developmental course requirements could save students hundreds of dollars per class and save the institution thousands by reducing the number of developmental course sections.

Although these results were promising, it is advisable to interpret them with caution because of the limitations of this study, which included only a small number of students at one location. This small sample size limited the ability to determine whether the results reflect a real difference or random fluctuations in the data. Further, the study was strictly quantitative, which limits the ability to determine whether other factors, such as the students' motivation or other personal differences influenced their performance in the program. Allen and Bir (2012) conducted a study focused on the link between academic confidence, student GPA, and persistence. The researchers found a connection between student's level of academic confidence and increased persistence and GPA's. Another study by Strayhorn (2011) set out to determine if participation in a summer bridge program effected students' level of academic self-efficacy and their sense of belonging. Strayhorn (2011) found positive results with increased self-efficacy and certain academic skills. This study should be replicated with a larger population and

would be strengthened by using a mixed methods design like the one used in the Strayhorn (2011) study.

Research Question 3

Research question three addressed the number of college level credit hours accumulated, which was used to determine whether the program had any longitudinal effects. The results obtained showed no statistically significant difference between the comparison group and boot camp participants. During the first analysis, it appeared that the MCC boot camp had no longitudinal effect on students' success in earning college credits; however, the participants in the summer bridge program did accumulate more college credit hours, which may be attributable to the fact that almost half of the participants reduced their developmental requirements. The participants in the summer bridge program group accumulated 14 college credit hours and the comparison group accumulated twelve. Although not statistically significant, the fact that the participants in the summer bridge program group accumulated more college credit hours than did the comparison group is promising, as one of the program's goal is to give developmental students the opportunity to complete their course requirements and enroll in college level courses sooner.

Implications

The results obtained from this study support the use of Tinto's Model of Student Departure as the theoretical framework. The MCC boot camp program was structured with components intended to help students negotiate the separation and transition stages that need to occur prior to their incorporation into a new educational institution (Castleman, Arnold, & Wartman, 2012; Maggio et al., 2005; Slade et al., 2015). The

incorporation stage was not well represented in this study due to the short nature of the MCC boot camp program.

In terms of the separation stage, the MCC boot camp program contains advising to help students develop an attachment to their college community (Tinto, 2006). The advising component of the program occurs at the end of the boot camp and is important in that it can keep students focused on their goals regardless of their progress during the boot camp. The advisors come in at the end of the camp to help students understand their education placement and provide them with the support needed to determine how to reach their educational goals. Encouraging students to build relationships with their advisors can influence developmental students' connection to a campus and increase their retention rates (Kallison & Stader, 2012).

The MCC boot camp was created to support students during their transition stage in Tinto's Model. The program includes orientation, student expectations, and college preparation. These components help students transition to their new higher education community by helping them become familiar with their new environment, while also conveying the behaviors students will need to exhibit in order to be successful in their college setting (Kallison & Stader, 2012; Slade et al., 2015). Increasing students' confidence through academic success is the reason for including components designed to increase their academic skills, such as studying and test-taking skills (Bir & Myrick, 2015; Kallison & Stader, 2012; Slade et al., 2015; Strayhorn, 2011; Wathington et al., 2011). The results indicate that 17 students became college ready in one or more areas tested by the TSI as they exhibited the skills needed to begin college-level courses.

The MCC summer bridge program is a program intended to provide support in both academics and affective skills for developmental students before beginning college and the findings of this study indicated that, at some level, the program does that for some students. The results provided several lessons that are important to consider as this program continues to be adjusted. The principal implication of this study was that even though the results were mixed with respect to student success, the program did help some students become college ready. This was the most important finding and one that administrators should strive to improve upon as the program moves forward. To help extend the validity of this research, administrators of the MCC summer bridge program should continue to run the program as it is, collect data, and see if the results are comparable to the results obtained from this study. It can be difficult to see large academic and personal changes in students during a short summer program such as the MCC boot camp program, but the results here indicate that these could be achieved to some degree. I believe it is important to note that addressing one challenge developmental students face as they enter a postsecondary institution can help build their confidence in their ability level and possibly even increase their motivation to meet their postsecondary goals. Although this study did not address the qualitative factors of student confidence or motivation, it is important to note that achieving small accomplishments at the onset of a student's postsecondary education can increase his or her self-efficacy and lead to increase student success (Schunk, 1991).

One follow-up question that was beyond the scope of this study was whether or not those students whose improved TSI scores placed them into college level courses were truly prepared for the rigors of such courses. Although it is possible that the MCC

boot camp prepared them completely for the rigors of college level coursework, the literature shows that many developmental students need continued support throughout their first year of college (Tinto, 1988). Students moved up to college courses after increasing TSI scores may realize that even though they were deemed college ready by the TSI test, they still need additional support to be successful in the college courses. Tinto (1988) discussed students' need to have the coping skills necessary to deal with the pressures that accompany the transition from secondary to postsecondary education. The MCC boot camp includes several components that focus on building the affective skills that support transition in hopes that students will leave the program with enhance academic and affective skills. However, additional supports that could help transition include a mandatory tutoring course and continual advising (Tinto, 2006). The mandatory tutoring course for a math course could be an attached math lab that required the student to go to the math lab twice a week to receive additional support.

This study did not examine students' performance in gateway courses, which may provide insight with respect to whether or not the program truly gave them the skills they needed to be successful in college courses. A gateway course is the first college-level course a student would enroll in after completing a developmental course (Matthews, 1996).

Researchers have analyzed the rate at which students enroll in and complete gateways courses after completing developmental education requirements (Barnett et al., 2012; Hodara & Jaggars, 2012). Boylan (2002) found that the best developmental programs monitor and evaluate student performance to improve programs and services. Administrators should use continual monitoring and evaluation, which is one of the "best

practices" as defined by Boylan (2002), to continue to improve the effectiveness of the MCC boot camp program.

Increasing enrollment and the number of students who become college ready by the conclusion of the program is another area administrators of the MCC boot camp program should consider addressing. The administrators of the boot camp program should encourage participation in, and completion of the program by increasing awareness and recruitment. Strategies to increase awareness could be community presentations, creating a page on the MCC website, and working with the student advisors to increase participation through the advising process. When approaching advisors to assist in recruitment, administrators of the boot camp program should first determine which students are likely to succeed in the summer bridge program. If administrators are able to target students who are likely to succeed based upon available data, the program may experience an increase in enrollment and completion. At present, the summer bridge program recruits poorly and many students who would benefit from the program do not know it exists.

Once administrators identify a target audience, they can then create a plan to allocate funding to expand this program. Currently, the MCC boot camp has no specific funding available and would benefit if the college could allocate additional resources for it. To justify additional funding to support the program, the administrators would need to create a plan that discusses the way in which the funds will be used and provide data that support the program as a way to retain developmental students. Another option for increasing funding could be the utilization of grants. Slade et al. (2015) created a grant based summer bridge program and structured the program around the requirements of the

grant. The administrators at MCC could create a committee to seek out grant funding in order to create more funding for the program.

Recommendations

The results of this study provided administrators of the MCC boot camp program with data they can use to increase the number of students who become college ready by the end of the program. The study found that, in this sample, the program increased MCC students' TSI math and writing scores and decreased by almost half the number of developmental courses students are required to take. However, this had a little effect on students' reading scores and the number of college credit hours accumulated. One recommendation is to continue with the existing approaches in math and writing while re-examining the reading curriculum. The program should be continued with the collection of more data to see if the same results persist.

Historically, the MCC boot camp program has struggled with low rates of enrollment and completion. The reasons for this are unknown and the question warrants further research. If administrators could determine the causes of this low enrollment, they could make the adjustments necessary to increase the number of participants in each session. If this is done, then the administrators could collect data on a larger group of participants. Increasing the number of participants would address one of the limitations associated with this study and strengthen the results obtained.

Future research in this area should also include qualitative data focused on intrinsic student characteristics to support the quantitative data. A mixed-methods study might identify the reasons why some students excel and become college ready, while others do not. There may be intrinsic differences in the students that contribute to their

success or relative failure in the boot camp program. To better understand retention rates in the program, qualitative data are needed on the students who signed up and began the boot camp program, but did not complete it. Focusing research on why some students finished, while others left the program may shed light on such factors as students' motivation and determination.

For community colleges that are looking to implement a summer bridge program, two recommendations based upon this study are for institutions to create a holistic program that incorporates academic and affective skill components and continually monitor and analyze program data. The type of holistic summer bridge program a campus creates depends upon its resources and student population. Tinto (1993) discussed how historically students who failed to be persistent tended to be disconnected from campus life. A residential summer bridge program is favored by some institutions because they believe it gives them more opportunities to connect students to their campus (Meyers & Drevlow, 1982). However, since many community colleges have a commuter population, a holistic summer bridge program that includes orientation, continual advising, and affective skill building may be a better option (Tinto, 2006).

A "best practice" in developmental education is continual monitoring and evaluation in order to determine ways to improve program outcomes (Boylan, 2002). This study gave MCC valuable data that can be used to determine what changes could be made to the program to increase students' success. Any summer bridge program that is being implemented should contain an evaluation piece to determine the impact of the program. Without this study, the program administrators of the MCC summer bridge program may never have known that students are making statistically significant

improvements in the areas of writing and math, but not reading. This type of knowledge is important when trying to build a successful summer bridge program.

Summary

MCC designed its summer bridge program to support students who entered college in need of developmental coursework by creating a holistic boot camp program intended to increase participants' TSI scores to make them college ready. The literature review revealed mixed results of previous studies and the results of this study were similar. The same caution that was discussed in the literature review should be applied to this study, in that the way in which the data are interpreted can affect whether or not the study appears to support whether the MCC boot camp is an effective program for developmental students or not. Johnson-Weeks and Superville's (2014) study found no statistically significant differences in GPAs or grades between the control group and those who participated in their summer bridge program; however, they did find results of practical significance in that participants had GPAs and grades comparable to students who entered their postsecondary educations college ready. The same type of reasoning can be applied to the results of this study, in that there were no statistically significant differences in several participant outcomes, but that does not mean their practical significance is any less important.

The results of this study added to a growing body of research over the past decade, as more institutions have implemented summer bridge programs and are trying to determine the reasons for their successes and failures. The MCC boot camp program has a unique structure and components, which can make it challenging to apply the results obtained here to any other institutions or populations. The purpose of this study was to

provide the administrators at MCC guidance in identifying the strengths of the program and areas that require improvement. The mixed results provide MCC with some evidence that they are influencing developmental students' lives in a positive way and directions for ways in which to increase the success of future students.

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APPENDIX

IRB Exempt Application (Thesis/Dissertation) #34127
Contact Information
Sam Houston State University
Office of Research and Sponsored Programs
Huntsville, TX 77341-2448
(936) 294-4875
sharla miles@shsu.edu
Title of Proposal:
EFFECTIVENESS OF A SUMMER BRIDGE PROGRAM AT MCLENNAN COMMUNITY COLLEGE
2 Personnel
2.1 Principal Investigator (PI)
Name:
Samantha Dove
University Status/Title:
Doctoral Student
Department:
Educational Leadership
College:
Education
2.2 Faculty Sponsor
Name:
Patrick Saxon
University Status/Title:
Associate Professor
Department:
Educational Leadership and Counseling
College:
Education
Phone Number:
936-294-1147
Email Address:
patrick.saxon@shsu.edu
2.3 Chair and Dean
3 Research
3.1 Research Eligibility
(1) The research only involves normal educational practices, such as effective teaching techniques done within established or commonly accepted educational settings.
(X) Yes
( ) No
(2) The research involves the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures or observation of public behavior.
(X) Yes
( ) No

(3) The research involves only the observation of public behavior, surveys, or interviews.
( ) Yes
(X) No
(4) The research involves the collection of existing data, documents, records, or Pathological specimens, if publicly available or unidentifiable.
(X) Yes
( ) No
(5) The study involves only research and/or demonstration projects that have been Approved by public agency officials and are designed to study, evaluate, or otherwise Examine public benefits or service programs.
(X) Yes
( ) No
(6) Research only involves taste or food evaluation and consumer acceptance studies of wholesome foods without additives are consumed or all ingredients are at or below safe levels set by the FDA.
( ) Yes
(X) No
3.2 Research Details
Statement of purpose and background information necessary to understand the study:
The attrition rate among underprepared students is a driving force that has led two- and four-year universities to create developmental summer bridge programs to fill the gaps in academic and affective skills that students present with during their transition to college. Developmental summer bridge programs focus on decreasing students' developmental course sequences, and increasing academic preparedness and the affective skills needed to be successful at the college level. Research conducted on the effectiveness of developmental summer bridge programs has produced promising results overall. Several studies on these programs have shown that students benefit from them, as measured by higher GPAs and retention rates by comparison to a control group (Bir & Myrick, 2015; Buck, 1985; Meyers & Drevlow, 1982; Walpole et al., 2008). In the past several decades, researchers have conducted studies and literature reviews that have analyzed the effectiveness of developmental summer bridge programs; however, few quantitative studies have focused on the influence that these programs have on students' TSI scores, developmental course sequences, and their persistence in postsecondary education. This quantitative study attempted to fill this gap by analyzing data from an 8-day developmental summer bridge program to determine how many students who enrolled in the summer bridge program completed the program, its effects on students' TSI scores between the beginning and end of the program, the number of developmental courses required, and persistence in postsecondary education. Determining the effects of the MCC summer bridge program will provide the institution with data it can use to increase program effectiveness. MCC is developing and modifying the summer bridge program to create one that fits the needs of its student population best. The data from this study will provide the institution with a longitudinal analysis of student performance and determine ways to improve the program.
Explain the procedures involved in the research:
My study does not directly involve participants as only archival data will be used. To obtain the archival data I will first obtain an approval letter from MCC giving me

permission to use the data. Then, after the SHSU IRB is approved, I will work with the Dean of Arts and Science along with the Director of institutional Research at McLennan Community College to obtain the archived data needed for this study. The archival data will be stored in a password-protected computer at 5409 Links Dr. Waco, TX 76708. The computer is a personal computer. Once data is received and stored on the password Protected computer, I will then analyze the data and write up the results.
Explain any known risks to human participants:
It is possible that data could be illegally accessed by others. However, the data will be kept on a password protected computer. The data will not contain identifying information such as names, emails, birthdays, or other sensitive information.
Explain how records will be kept:
The data used in this study will be archival data and will have no identifiers when given to the researcher. The data will be kept on a personal computer that is password protected. The data will be maintained for three years.
3.3 Data Collection Settings
A performance site for SHSU research is a location at which the investigator conducts the research. SHSU may be conducting research for another institution that receives federal funding, and therefore, the federal grant originates elsewhere. When this is the case, the originating grant holder's institution must be listed as the primary setting for SHSU and the PI on the grant must be listed as a co-investigator on the SHSU application. Additionally, the SHSU PHSC must review the portion of the grant that supports the Research at SHSU. Check all settings that apply:
( ) SHSU
( ) Schools *
( ) Community
( ) Prisons/Jails *
(X) Another University *
( ) Nursing Homes *
( ) Hospitals *
( ) Another State *
( ) Another Country *
( ) Web Survey/Chat
( ) Other *
( ) N/A
* If you selected a marked item above please provide specific details:
The research will take place at McLennan Community College in Waco, TX.
4 Additional Information
4.1 Cover Letter
A cover letter addressed to respondents must accompany any survey or questionnaire. The cover letter must be on your departmental letterhead and must include the following: a statement that the project is research being conducted in partial fulfillment of the requirements for a course, master's thesis, dissertation, etc. purpose of study a statement that participants' responses will be kept anonymous or confidential (explain extent of confidentiality if participants? names are requested)if audiotaping or videotaping, a statement that participant is being audiotaped or videotaped (explain how tapes will be stored or disposed of during and after the study)a statement that participants do not have

to answer every question statement that class standing or grades (or status on an athletic team, if applicable) will not be affected by refusal to participate or by withdrawal from the study statement that participation is voluntary
4.2 Attachments
Provide any additional documentation (such as questionnaires, surveys, cover letters, letters, etc.) by attaching the relevant documents.
I have attached:
( ) Questionnaire/survey to be used
( ) Telephone text (including introductory remarks as in a cover letter - see above)
( ) Cover letter
(X) Permission from external institution, on their letterhead (if applicable)
(X) Approval/Support Letter
5 Investigator Assurance
5.1 Investigator Assurance
Certification #1
(X) I certify that the information provided in this application is complete and correct. I Understand that as Principal Investigator, I am ultimately responsible for the protection of the rights and welfare of human subjects and the ethical performance of the research. I agree to comply with all applicable UIC policies and procedures and applicable federal, state, and local laws. I also agree to the following: The research will only be performed by qualified personnel as specified in the approved research application and/or protocol; No changes will be made to the research protocol (except when necessary to eliminate apparent immediate hazards to the subject), or the consent process (if one is required) without prior approval by the SHSU PHSC; Legally affective informed consent/assent will be obtained from all human subjects, unless this requirement is waived by the SHSU PHSC; and using only the recruitment materials and informed consent/assent documents that have been approved by the SHSU PHSC. The potential benefits of participation will not be overstated and reasonably anticipated risks will not be minimized. Subjects will be asked open-ended questions to try and ensure adequate comprehension of the information so as to allow for truly informed consent to participate. Unanticipated problems involving risks to subjects or others (including adverse events), other reportable events, and subject complaints will be reported to the SHSU PHSC in a timely manner. I certify that I have completed the required educational program on ethical principles and regulatory requirements in Human
Subject Protections.
Certification #2
(X) I further certify that the proposed research is not currently underway and will not begin until PHSC approval has been obtained.
I agree with the above:
(X) Yes
( ) No
Date Application Completed:
02-06-2017

VITA

Education and Certification

Doctoral Studies, Education, SHSU (Huntsville, TX), 2014 – Present
Master of Arts, Education Leadership, Principal Cert., UT at Permian Basin
Bachelor of Arts, Applied Science, University of Texas at Brownsville

Relevant Professional Experience

Educational Liaison Methodist Children's Home/UT Charter School, Waco, TX
September 2015 – present

Instructional Coach

Curriculum responsibilities: Lead the development and alignment of curriculum to state standards, while also developing teachers' ability to implement the curriculum effectively. Implemented the use of the D-MAC data system to track student progress to improve instructional techniques. Tracked testing data throughout the year to ensure curriculum resources met the needs of students as measured by an increase in students' academic performance.

Counselor responsibilities: Created graduation plans and explored students' educational and career options during graduation plan meetings for all students 8th-12th grade. Collaborated with MCC to create dual credit opportunities for all eligible students. Planned and prepared students to take the TSI, SAT, and SAT, which involved meeting with students one on one to discuss the importance of college placement tests and provided study materials and tutoring as needed. Enrolled and tracked student progress at GWAMA and GWAHCA. Collaborated with Region 12 and the P20 committee to implement a job-shadowing program for all interested 11th and 12th grade students.

Professional Development responsibilities: Provide teachers with professional development opportunities on an individual basis and in a group setting. Created and presented an initial D-MAC training for campus teachers, and provide ongoing training on how to use D-MAC data throughout the year. Work with teachers and principals to review performance data and development plans to identify teachers' strengths and determine the most pressing professional development needs to increase student achievement.

Program Development: Collaborated with Region 12 and was a member of the P20 committee to implement a job-shadowing program for students. Implemented the VOICE program after recognizing a need for drug awareness programming. Worked with students one on one and in small groups during drug awareness classes to promote healthy lifestyles. Implemented drug awareness curriculum into high school courses to establish ongoing drug prevention.

School Leadership responsibilities: Oversee the collaborative efforts of MCH with UT faculty to integrate, monitor, and support the students' learning experience. Developed and implemented the campus improvement plan (CIP) in conjunction with campus needs assessment. Monitor program progress, data

monitoring systems, policy changes, and new initiatives continually through interactions with the principal and other school officials.

Director of Food Services

Managerial responsibilities: Analyze and interpret financial and operational data and identify and correct areas of inefficiency to support the operation of a financially sound program. Established good communication and maintain cooperative and effective working relationships with staff and administration and those contacted in the course of work. Create records and reports that comply with TDA requirements. Responsible for interviewing and selecting food services personnel. Assign and evaluate performance of personnel regularly to determine training needs.

Program Manager, CIS/Indian Spring Middle School, Waco, TX
April 2015–September 2015

Managerial responsibilities: Managed and supervised more than 30 staff, including case managers, parent engagements specialists, AmeriCorp members, Baylor interns, mentors, tutors, and other volunteers who work for CIS on the school campus.

Case Manager responsibilities: Provided tutoring, mentoring, and workgroups to case-managed CIS students and students outside of CIS as needed. Ensured appropriate services were identified and delivered to CIS clients, such as pre-employment training, health and basic needs, drug and alcohol awareness and prevention classes, parental involvement, attendance and academic improvement, job placement referrals, and reduction in juvenile justice referrals.

School Leadership Team responsibilities: Oversaw the collaborative efforts of CIS with school faculty to integrate, monitor, and support the learning experience of qualifying students. Developed and implemented the campus service delivery plan (CSDP) in conjunction with campus needs assessment. Monitored program progress, policy changes, and new initiatives continually through interactions with the principal and other school officials.

Doctoral Education Experience, Sam Houston State University, Huntsville, TX
May 2014 – present

Doctoral Internship: 100 hours-Vice President of Instruction, Dr. Donnie Balmos at McLennan Community College- Participated in Dean meetings, bi-annual program report meetings, MCC board meetings, contextualized learning in the developmental education classroom (professional development), P20 meetings, and other shadowing opportunities as deemed fitting.

Conducted and presented a systematic review- Title: The Impact of Accelerated Developmental Programs on Student Performance. Course design project-designed an undergraduate first-year course using sound principles of design and instruction. Designed and presented an ADDIE training workshop- Characteristics of Developmental Students. Developed and presented course research presentation analyzing the types of research designs. Analyzed and interpreted data related to the effects of learning theories on instructional design. Conducted and presented a performance evaluation plan based on the developmental education department at McLennan Community College.

Teacher/Learning Specialist, China Spring Middle School, Waco, TX
August 2012 – March 2014

Created student-centered science curriculum, activities and lesson plans using the 5E model for 7th and 8th grades, both advance and regular. Structured collaborative demonstrations and labs that connected with students' daily lives. Establish acceptable classroom behavior guide. Campus improvement committee member. Modified curriculum for English language learners and special education students in the regular education classroom, explaining the concepts in simpler steps, modified tests and quizzes, modifying as needed. Prepared students for the science STAAR test in comprehensive ways, such as in-and-after-school tutoring.

Principal Internship, China Spring Intermediate, Waco, TX
January 2012 – April 2012

Engaged in the process of funding a project for new playground equipment. Observed problems and concerns from parents and other community members, gaining skills in conflict mediation between staff, parents, and students. Attended leadership meetings at district level. Participated in PDAS evaluations.

Teaching Internship, Connally Jr. High, Waco, TX
August 2011 – December 2011

Prepare and grade homework solutions, compiled and graded quizzes and tests, recording scores using district grade book. Instructed six science classes for 12-week period.

Professional Activities & Service

Board Member, VASA- VOICE COALITION, Waco, TX, 2015-2017

Conference Participant, TBRI- Training of Trainers, Austin, TX 2016; Restorative Discipline, Waco, TX, 2015; The Twice Gifted Learner, Region 12, TX, 2013; Gifted and Talented Training, Waco, TX, 2013.

Presenter, The Impact of Accelerated Developmental Programs on Student Performance, Texas Council of Professors of Educational Administration, Dallas, TX, 2014.

Secretary/Faculty Representative, Campus Improvement Committee, China Spring ISD, 2012 – 2014.

Faculty Mentor, Science Education Department, Waco, TX, 2014.

Faculty Representative, Campus Leadership Committee, Waco, TX, 2014

Facilitator, Science TEKS Training, China Spring ISD, Waco, TX, 2012.

Academic Papers Presented

Dove, S. (2014). *The Impact of Accelerated Developmental Education Courses on Student Performance.* Paper presented at Texas Council of Professors of Educational Administration conference in Dallas, TX.