Self-Directed Learning Characteristics of First-Generation, First-Year College Students

Participating in a Summer Bridge Program

by

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DEDICATION

This is for those who dare to be the first in their family to earn a college degree; the ones who people say are not ready for college, or who may not have enough money, support, or a multitude of other reasons why others believe they cannot do it. This is for those who discover their talents, persevere despite the odds, and remind us that America is still a land of opportunity for those willing to work hard and overcome obstacles.
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ABSTRACT

The purpose of this study was to advance understanding of self-directed learning characteristics of first-year, first-generation college students participating in a summer bridge program. Understanding the experience of these students in higher education can lead to the development of programmatic and pedagogical strategies to better meet the needs of this at-risk student population.

This study was conducted at the University of South Florida (USF), a large, public research university in Tampa. Participants were recruited from the Freshman Summer Institute (FSI), a summer bridge program for first-generation students at USF.

Theoretical frameworks from higher education and adult education literature merged to provide an understanding of self-direction for the context of this study. Student retention and social integration theories from Tinto and Astin were studied, as they have been widely used to assist higher education professionals in understanding the reasons students leave college and to assist administrators in the development of strategies and programs to aid in the retention of at-risk students. An example of a retention strategy is the summer bridge program, used by a variety of colleges and universities to increase persistence of at-risk student populations.

The adult education theory of self-directed learning complemented Tinto and Astin’s theories. The Personal Responsibility Orientation (PRO) Model (Brockett & Hiemstra, 1991) served as a theoretical framework for understanding self-direction
among the participants in the study. The PRO Model posits that learners utilize personal responsibility through the characteristics of the teaching-learning transaction along with their own personal learning characteristics to achieve self-directed learning within a broader social context.

The Personal Responsibility Orientation to Self-Direction in Learning Scale (PRO-SDLs), based on a conceptualization of the PRO Model, was used to quantitatively measure self-directed learning among participation in the FSI Program. A series of correlations, dependent means t-tests, and factorial ANOVA’s were conducted to examine the relationship between scores on both pre-test and post-test administrations of the PRO-SDLs. In addition to an investigation of the change in self-direction, relationships between academic achievement, gender, and ethnicity was also examined in the study.

Measured increases in overall self-directedness as measured by the pre-test and post-test administrations of the PRO-SDLs were not considered statistically significant, however, significant correlational relationships (p<.01) were found between academic achievement and total PRO-SDLs scores. Subcomponent measurements of learner control and self-efficacy were also highly correlated to both admissions GPA and university GPA. No significant relationships were found between ethnicity, gender and scores on the PRO-SDLs.

An implication for practice indicates that a shift in teaching pedagogy may be an integral component to increasing the academic success of first-year college students. Higher education faculty should be challenged to design curriculum that relies less on
rote memorization and “spoon feeding” information to students. Instead, a learner-centered curriculum which gives control of the learning process to students is vital to instilling the habits of highly self-directed learners. In addition to revamped pedagogical strategies, this study calls for the development of national benchmarks and guidelines to more effectively evaluate the quality and impact of summer bridge programs.
CHAPTER ONE
INTRODUCTION TO THE STUDY

Increased access to higher education over the past forty years has resulted in an influx of new populations seeking postsecondary education. Legislation such as the G.I. Bill of 1944 and Higher Education Act of 1965 opened doors to a more diverse student body than ever before (Robert & Thompson, 1994). As a result, the number of high school students with aspirations of attending college has been on the rise. Between 1972 and 1998, the percentage of 16 to 24-year-old high school graduates immediately entering college increased from 49% to 66% (U.S. Department of Education 2000). According to Venezia, Kirst, & Antonio (2003), students’ educational aspirations are due in part to the success of parents, teachers, and educational leaders in communicating the importance of college. One group of high school students with increasing collegiate aspirations is those who are first in their immediate family to attend college. Referred to as “first-generation,” these students now represent between one quarter and one half of all college attendees (Berkner & Choy, 2008; Horn & Nunez, 2000; Pascarella, Pierson, Wolniak, & Terenzini, 2004).

First-generation college students face challenges associated with access to higher education and experience disadvantages and possible deficits compared to those students whose parents are college educated (Choy, 2001; Coles, 2002; Lohfink & Paulsen, 2005; Swail, Cabrera, and Lee, 2005; Terenzini, Springer, Yeager, Pascarella, & Nora, 1996).
Compared to their counterparts, first-generation students tend to be minority, come from lower-income families, and have lower educational aspirations in high school (Choy, 2001; Kuh, Kinzie, Buckley, Bridges, & Hayek, 2007; Swail et al., 2005; Terenzini et al., 1996).

Ishitani (2003, 2006) found that regardless of demographic and personal differences, first-generation status remained a statistically significant indicator of difficulty in adjusting to and succeeding in college. When controlling for characteristics that distinguish first-generation students from their peers, first-generation status is also negatively related to persistence and degree attainment in college (Ishitani, 2003, 2006; Nunez & Cuccaro-Alamin, 1998; Pascarella et al., 2004; Warburton, Bugarin, & Nunez, 2001).

Additional research concluded that the absence of a college degree within the immediate family results in inadequate information regarding the college experience (Harrell & Forney, 2003; Pascarella et al., 2004; Somers, Woodhouse, & Cofer, 2004; Terenzini et al., 1996; Thayer, 2000). First-generation students receive less assistance in preparing for college, feel less supported for attending college and lack a sense of belonging to the institution they attended (Choy, 2001; Terenzini et al., 1996).

Increased accountability, driven by politicians and legislators, has motivated educational institutions to take a serious look at how services are being provided to assist with the transition of at risk populations in higher education. Language written into the No Child Left Behind Act of 2001 and reauthorizations of the Higher Education Act of 1965 have forced institutions, both at the K-12 and postsecondary levels, to consider
retention issues and how students persist through graduation at an acceptable rate. The move toward accountability has fallen squarely on the shoulders of educational institutions to demonstrate progress and measure results toward closing identified achievement gaps (Colyar, 2011; Kezar, 2000).

In response to calls for accountability tied to funding, decreasing graduation rates, greater diversity of incoming students, and expanded access to higher education, retention programs at higher education institutions have grown exponentially. One such program is the summer bridge program, designed to expose and help newly admitted students to make the transition to college level coursework and campus resources in the summer before they start their college careers (Kezar, 2000). Inspired by decades of research on student retention and persistence, summer bridge programs have been developed to help improve the overall retention rates of first-generation and at risk college students (Gandara, 2001; Myers & Schirm, 1999; Nelson, Dunn, Griggs, Primavera, Fitzpatrick, Bacilious, & Miller, 1993; Terenzini, & Wright, 1993).

Although there is wide variation in the specifics of summer bridge programs, they have demonstrated the ability to address academic preparation and social adjustment issues experienced by many incoming first-year college students (Kezar, 2000; Pantano, 1994; Santa Rita & Bacote, 1996). These programs have existed for some time, but in the recent past a larger number of institutions began to realize their powerful potential for enhancing academic preparation and educational motivation (Kezar, 2000).

The adult education theory of self-directed learning (SDL) is an additional component germane to first-generation college student success. While there is no universally
accepted definition of SDL, Malcolm Knowles’ definition is the most widely cited in the literature. Knowles (1975) defined SDL as “a process in which individuals take the initiative, with or without the help of others, in diagnosing their learning needs, formulating learning goals, identifying human and material resources for learning, choosing and implementing appropriate learning strategies, and evaluating learning outcomes” (p. 18).

Assisting first-year college students in the transition from spoon-fed high school students to autonomous, self-directed learners who take responsibility for their learning is a major goal of academic support units in higher education (Kreber, 1998; Maher, 2005). Brockett and Hiemstra (1991) proposed that self-directed learners experience “increased retention, greater interest in continued learning, greater interest in the subject, more positive attitudes toward the instructor and enhanced self-concept” (p. 13). This study examined potential relationships between SDL and first-generation college student success.

**Problem Statement**

Investigations of the relationship between SDL readiness and first-generation college student success are notably missing in the literature. Institutional efforts to foster the development of personal responsibility for learning may have an impact on academic success and persistence of first-generation college students but have yet to be studied. Compounding the problem is limited research concerning the implementation of summer bridge programs as a tool to augment academic success and retention of first-generation students.
Purpose

The purpose of this study was to investigate the change in self-direction among first-generation, first-year college students participating in the Freshmen Summer Institute (FSI), a summer bridge program at the University of South Florida (USF). Students chosen to participate in the FSI program reported on their admissions applications that neither parent had graduated from college. Additionally, expected family contribution figures from the Free Application for Federal Student Aid (FAFSA) were used to categorize students as “low-income” in addition to “first-generation.”

During the summer 2009 semester, a one-credit course called Strategic Learning was required of all FSI students and was completed during an intensive, six-week period. Strategic Learning is a seminar style course based on a model of developing autonomous learners through their understanding of concepts related to motivation, attitude, goal planning, and the process of learning. The attributes of a self-directed learner are discussed throughout the course curriculum with the course based on a belief that learning is a personal, individual, and interactive process. Through the process of reflective practice, students had the opportunity to develop a deep understanding of themselves as learners, and then intentionally apply that understanding to the development of the most effective strategies for success in both college learning and beyond. Typically, Strategic Learning is not part of the FSI summer curriculum and the inclusion of this course provided an opportunity to research first-generation college students’ use of self-direction in learning. In addition to Strategic Learning, FSI participants also completed eight additional credit hours of coursework in English.
composition and social science as well as a *University Experience* course, designed to orient students to the social and academic culture of USF.

The catalyst for the proposed research study stems from Maher’s (2005) qualitative study with a similar group of FSI students at USF. A report of reflective feedback from students in a *Learning Strategies* course was analyzed and yielded promising insights. Study participants described multiple examples of their growing ability to meet their academic challenges through a new understanding of themselves as learners and their ability to analyze tasks and use an informed approach in the selection of the most appropriate strategies for success (Maher, 2005).

While Maher’s results were promising because students appeared to grow in their ability to use a process to analyze their immediate academic demands, the broader goal of increasing self-direction and responsibility for learning was not measured. Maher (2005a) stated that there was “limited evidence supporting the broader goal of helping students increase their overall sense of responsibility and self-direction in learning” (p. 6). A pre and post-test measurement of self-direction was not conducted, resulting in an absence of evidence that students became more self-directed. Maher (2005a) recommended the use of a “validated instrument designed to measure self-efficacy for academic success in college and utilize it as a pre-test and post-test assessment” (p. 12). Additionally, variables such as previous academic performance (high school GPA), gender, ethnicity, and university GPA were not reported.

In order to address the limitations of Maher’s study, the current research investigated the change in self-direction among FSI students utilizing pre and post-test
data. In addition to measuring self-direction through administration of a quantitative instrument, this research further built on Maher’s work by including variables such as previous academic achievement (high school GPA), gender, ethnicity and university GPA.

**Research Questions**

This study was designed to answer the following research questions:

1. What is the relationship between pre-test scores of the Personal Responsibility Orientation to Self-Direction in Learning Scale and previous academic achievement as measured by university admissions grade point average?

2. What differences in scores were measured between pre-test (given July, 2009) and post-test (given January, 2010) administration of the Personal Responsibility Orientation to Self-Direction in Learning Scale?

3. What is the relationship between post-test scores of the Personal Responsibility Orientation to Self-Direction in Learning Scale and academic achievement as measured by university grade point average at the end of the third full semester?

4. How are participants’ levels of self-direction following involvement in a summer bridge program, as indicated by post-test scores of the Personal Responsibility Orientation to Self-Direction in Learning Scale, different for participants' based on gender and ethnicity?

5. How is the impact of a summer bridge program, as indicated by a change in self-direction scores on the Personal Responsibility
Orientation to Self-Direction in Learning Scale, different for participants’ based on gender and ethnicity?

**Theoretical Framework**

Theoretical frameworks from higher education and adult education guide this study. Higher education theories include Tinto’s Model of Institutional Departure, Astin’s Theory of Student Involvement, and Astin’s Inputs-Environment-Outcomes (I-E-O) Model. Among the most cited theories in the literature, each theoretical model is useful in the discussion of first-generation student integration, retention, and academic success. From adult education literature, Brockett & Hiemstra’s Personal Responsibility Orientation Model provided a framework for the study of self-directed learning.

Tinto’s (1975, 1987, 1993) Model of Institutional Departure (see Appendix A) describes personal and environmental influences that affect students’ successful integration into the college environment. Tinto’s model is based on the premise that academic and social integration is essential to student retention. Tinto (1993) argued that institutions attempting to increase student retention should focus on the following six components: students’ pre-entry attributes, goals/commitments, institutional experiences, integration, re-evaluation of goals/commitments and outcomes.

Tinto’s research on student retention has assisted higher education professionals in understanding the interaction between academic and social elements that often cause students to voluntarily withdraw from the institution. According to Tinto (1993), “some degree of social and intellectual integration and therefore membership in academic and social communities must exist as a condition for continued persistence” (p. 120). Tinto
stressed that students were less likely to drop out when they were integrated academically and socially. Academic integration includes intellectual needs while social integration is concerned with meaningful relationships with faculty and other students (Tinto, 1993). Summer bridge programs are one example of how an institution can help promote integration to the university environment, making Tinto’s theory important in the current study.

Astin’s Theory of Social Integration is similar to Tinto’s retention model. Instead of promoting full integration, Astin (1975, 1984) emphasized student involvement and asserted that student development occurs through engagement in college activities and that full integration is not required for persistence. Astin’s involvement theory is rooted in a longitudinal study of college student persistence from which Astin (1975) concluded that factors contributing to persistence were associated with student involvement in college life. Conversely, factors contributing to departure from college were associated with students’ noninvolvement. Astin believed that students who physically and psychologically involved themselves in the academic and social opportunities in the college environment were more likely to persist (Astin, 1975).

Astin’s model of student involvement is important to the study of first-generation college students for two reasons. First, Astin’s model has served as a foundation upon which institutions of higher education have developed student retention interventions (Seidman, 2005). Second, Astin’s model (1985) conceptually refers to “vigilance or time on task” (p. 518) and is important to the study of first-generation college students as these terms are often associated with habits of self-directed learners.
Astin built upon research in student involvement and persistence and developed the Inputs-Environment-Outcomes (I-E-O) Model as a framework for assessment in higher education (Astin, 1993; Thurmond & Popkess-Vawter, 2003). The premise of the I-E-O Model (Figure 1) is that educational outcomes are evaluated in terms of the characteristics of students (inputs) in the broad context of the college or university setting (environment). This model suggests that students are not actively developed by faculty and university programs, but passively through interactions with the institutional environment (Hutley, 2008).

Figure 1. Inputs-Environment-Outcomes (I-E-O) Model (Astin, 1985).

In the current study, the environment component of Astin’s model is of particular interest. The single most important environmental factor, according to Astin, is student community (Astin, 1993). Astin stated “the lack of student community has stronger direct effects on student satisfaction with overall college experience than any other environmental measure” (Astin, 1993, p. 352). In order to foster a sense of community for first-generation college students, institutions have turned to residential summer bridge programs (Kezar, 2000). According to Hicks (2003), a significant component of student
success is how well first-generation students connect with the institution and its student body, making the environmental component of Astin’s model particularly important to the current study of first-generation student success.

Tinto and Astin’s research on student retention and involvement has inspired colleges and universities to launch recruitment and retention programs geared toward improving the success rates of first-generation and other at risk groups (Swail, Redd, & Perna, 2003). Summer bridge programs, in particular, have gained popularity as institutions respond to calls for accountability in meeting the needs of increasingly diverse student populations (Kezar, 2000).

The adult education concept of self-directed learning provides the final theoretical framework for this study. Brockett & Hiemstra’s (1991) Personal Responsibility Orientation (PRO) Model (Figure 2) creates clear delineations between SDL as a teacher driven instructional process and as a characteristic of the learner.

![Figure 2. Personal Responsibility Orientation Model (Brockett & Hiemstra, 1991).](image)
The PRO Model views knowledge, skills, and experiences as transferable to other situations and that learning may or may not occur in isolation (Hiemstra, 1994).

The ‘self-directed learning’ component of the PRO Model emphasizes the teaching-learning transaction in which the student assumes the primary responsibility for planning, implementing, and evaluating the learning experience with the teacher facilitating the process. The ‘learner self-direction’ component, on the other hand, refers to the characteristics of individuals that contribute toward their taking personal responsibility for their own learning. The combination of the teaching-learning transaction (self-directed learning) and personality characteristics of the learner (learner self-direction) contributes to the outcome of ‘self-direction in learning’ within the broader social context (Brockett & Hiemstra, 1991).

The PRO model is a viable and relevant conceptual framework for which to understand SDL. In the context of first-generation college students, the PRO Model is an especially good choice as a theoretical framework given the possible relationship to student retention and development theories. Astin’s Inputs-Environment-Outcomes (I-E-O) model (1993) is of particular interest in regards to possible relationships between ‘social context’ in the PRO Model and the ‘Environment’ component of Astin’s model. Currently, research has not been conducted utilizing these two theories collectively to investigate the relationship of SDL and first-generation student success.

Significance of the Study

Despite a growing body of literature pertaining to first-generation and low-income college students, no research has been found that examines the relationship between self-
directed learning and academic success among this group of students. This study provided quantitative data identifying possible relationships between participation in a summer bridge program and self-direction in learning among first-generation college students participating in the Freshman Summer Institute at the University of South Florida. In addition to measuring change in self-direction, this study examined the relationship between gender, ethnicity, academic achievement and self-direction.

Furthermore, gaps in the literature reveal a possible relationship between theoretical frameworks in the fields of adult and higher education. Additional research is needed and may inform university administrators in developing strategies to retain and promote academic success among at risk student populations. This study is among the first to investigate the relationship between SDL readiness and academic success of first-generation, first-year college students.

**Research Design**

This study examined secondary data obtained by the Tutoring and Learning Services (TLS) Department at USF. During the summer 2009 semester, the Director of TLS partnered with the Director of FSI to offer all incoming FSI students a one-credit hour course called *Strategic Learning*. With consent from the USF Division of Research Integrity & Compliance (see Appendices B, C, & D), an instrument designed to measure SDL was given to all participants in the FSI program. The instrument chosen was the Personal Responsibility Orientation to Self-Direction in Learning Scale (PRO-SDLS). The PRO-SDLS (see Appendix F) was developed by Stockdale (2003) and was the product of an attempt “to develop a reliable and valid instrument to measure self-
directedness in learning among college students based on an operationalization of the PRO Model of self-direction in learning” (Stockdale & Brockett, 2010, p. 1).

Completed PRO-SDLS instruments were entrusted to the students’ academic advisor in the FSI program. The advisor scored and coded each instrument so that the researchers could not identify students. In addition to PRO-SDLS scores, the advisor entered additional non-identifying student information including variables such as gender, ethnicity, high school GPA, and admissions GPA into the database.

In order to answer the research questions proposed in this study, a quantitative, correlational research design was used to determine if statistically significant differences exist in variables measured. Descriptive statistics, including measures of central tendency, variability, standard deviation, minimum/maximum values, skewness, and kurtosis were reported for all variables in this study. In addition, a series of Pearson Product Moment Correlation Coefficients, a dependent means t-test, and a factorial ANOVA was conducted to answer the research questions. Finally, a Cronbach’s Alpha was conducted to confirm reliability of the PRO-SDLS scores.

**Limitations**

The primary limitation to this research is that the data gathered is self-reported data from the survey participants. Participants may have answered the PRO-SDLS survey based upon what they believed to be the most socially acceptable answer or the answer that they believed the surveyor wanted the participant to report. An additional concern is that the data being analyzed is secondary data. Secondary data analysis is the process of statistically examining data collected by some other organization, group, or
individual at some prior time. Secondary data analysis is often chosen by researchers because of the data quality and increased sample size (McMillan & Schumacher, 2010). A drawback of utilizing secondary data is the lack of control over the data collection process, however, this concern is mitigated in the current study due to the researcher’s status as co-investigator during the initial data collection.

This study was conducted at the University of South Florida, a large, metropolitan, public, multi-campus research university. Results of this study can only be generalized to one group of first-generation students participating in a summer bridge program. It is not assumed that results of this research can be generalized to subsequent groups of students at the same university or to those attending other institutions of higher education. Though problems of generalizability exist, researchers have suggested that single institution studies may contribute to a better understanding of the issues of student retention and degree attainment (Nora, Barlow, and Crisp, 2005).

In addition to generalizability, changes in level of self-direction as measured by the PRO-SDLS may be attributable to factors outside participation in the FSI program. Some of these factors include:

1. Natural growth and maturity of first-year college students over the span of data collection, leading to higher scores on the PRO-SDLS.
2. The addition of the Strategic Learning course to the summer 2009 curriculum may have had an effect on changes in self-direction. Historically, this course has not been included in the curriculum.
3. Coursework undertaken during the second semester of college.
4. In-class experiences not shared by all participants, leading to a change in self-direction.

5. Out-of-class experiences not shared by all participants in the FSI program, leading to a change in self-direction.

**Definition of Terms**

The following definition of terms offers the reader a context for understanding the terminology in relationship to the current research.

**First-Generation College Student.** Neither parent possesses more than a high school education.

**Freshman Summer Institute (FSI).** A summer bridge program for first-generation college students at the University of South Florida.

**Grade Point Average (GPA).** Cumulative grade point average earned in academic courses completed by the student. For the purpose of this study, High School GPA refers to the admissions GPA in core subject areas computed by the Office of Admissions at the University of South Florida. Admissions GPA does not include bonus points given for Advanced Placement (AP), honors, or dual enrollment coursework. University GPA refers to course grades earned by the student while enrolled at USF.

**Personal Responsibility Orientation (PRO) Model of Self-Direction in Learning.** Brockett and Hiemstra's (1991) conceptual model that recognizes differences and similarities between self-direction as a teaching and learning transaction and as a personal orientation internal to the individual. In this model the "personal responsibility of the learner in both
actions and thoughts is paramount in determining their level of self-directedness" (Brockett & Hiemstra, 1991, p. 27).

**Personal Responsibility Orientation to Self-Direction in Learning Scale (PRO-SDLS).**


**Self-Directed Learning (SDL).** “A process in which individuals take the initiative, with or without the help of others, in diagnosing their learning needs, formulating learning goals, identifying human and material resources for learning, choosing and implementing appropriate learning strategies, and evaluating learning outcomes” (Knowles, 1975, p. 18).

**Summer Bridge Program.** Programs that provide comprehensive support to assist first-year college students in preparation for the rigors of university work.

**Organization of Dissertation**

Chapter One, as written above, contains an introduction to the study, statement of purpose, research questions, theoretical frameworks, significance of the study, research design, limitations, and definition of terms.

In the remaining body of this study, Chapter Two provides a comprehensive review of the literature and integrates the literature to form a foundation for new research. Chapter Three describes the general methodological approach, research setting, population and sample, instrumentation and data gathering strategies, and analytical procedures to be used. Chapter Four provides the results of the statistical analyses conducted to answer the research questions. Finally, Chapter Five summarizes the study
and reports the findings for each research question. The second part of the chapter discusses implications for practice and future research.
CHAPTER TWO

REVIEW OF THE RELATED LITERATURE

The relevant literature related to this research is divided into several components. First, research on first-generation college students is discussed and is highlighted by pertinent retention and student involvement theories that have achieved significant attention in the literature over the last thirty years. The second phase of the literature review describes summer bridge programs for first-generation students and presents specific programmatic examples. The final component of the literature review provides an overview of self-directed learning and discusses specific theoretical conceptualizations. The chapter concludes with an overview of instrumentation designed to measure self-directedness.

First-Generation College Students

A strong relationship exists between a parent’s education level and the likelihood that his or her children will enroll in college (Choy, 2001). Among high school students with at least one parent earning a bachelor’s degree, 93% enrolled in college. This number decreased to 75% for high school graduates whose parents had some college experience. For those who had neither parent attend a college of university, only 59% had enrolled in some form of higher education. This population is referred to as “first-generation college students” and is an under-represented population in America’s four year colleges and universities (Choy, 2001).
The U.S. Department of Education, Center of Education Statistics (2001) defined first-generation students as “neither parent had more than a high school education” (p. 153) and classified ‘first-generation’ as a subgroup of the at risk student population. Currently, first-generation students represent between one quarter and one half of college attendees (Berkner & Choy, 2008; Horn & Nunez, 2000; Pascarella, Pierson, Wolniak, & Terenzini, 2004). These students face challenges associated with access to higher education and experience disadvantages and possible deficits compared to those students whose parents are college educated (Choy, 2001; Coles, 2002; Lohfink & Paulsen, 2005; Swail, Cabrera, and Lee, 2005; Terenzini, Springer, Yeager, Pascarella, & Nora, 1996).

Compared to their counterparts, first-generation students tend to be minority, come from lower-income families, and have lower educational aspirations in high school (Choy, 2001; Kuh, Kinzie, Buckley, Bridges, & Hayek, 2007; Swail et al., 2005; Terenzini et al., 1996). According to Horwedel (2008), the rapidly growing Hispanic population across the nation has increased the first-generation population in higher education. First-generation students are more likely than their non-first-generation peers to be Hispanic (18% versus 7%) and African American (14% versus 8%). These facts are a concern because Hispanic and African American students earn college degrees at lower rates than Caucasian and Asian students (Hochlander, Sikora, Horn, & Carroll, 2003; Sengupta & Jepsen, 2006). Carey (2004) noted that 63% of all students enrolled in college graduated in six years, however, only 47% of Hispanics and 46% of African Americans complete 4-year degrees within the same timeframe.
In addition to minority status, Chenoweth and Galliher (2004) asserted that lower family income makes the college-going process particularly challenging for students whose parents did not attend college. Statistics indicate 29% of first-generation students come from low-income families compared to 9% of their peers (Warburton, Bugarin, & Nunez, 2001). First-generation students are more likely to start their collegiate careers at a two year rather than a four year school and in a public rather than private institution (Tinto, 2004). Striplin (1999) contended that first-generation students are often counseled and placed in vocational, technical and/or remedial programs. Higher income students are also more likely to earn degrees and lower-income students are more likely to earn certificates (Adelman, 2005; Carroll, 1989; Hochlander et al., 2003; Kuh et al., 2007).

First-generation students who enroll at traditional four-year universities are less likely to succeed academically and persist to graduation than their non-first-generation counterparts. Even when controlling for characteristics that distinguish these students from their peers, first-generation status is negatively related to persistence and degree attainment in college (Ishitani, 2003, 2006; Nunez & Cuccaro-Alamin, 1998; Pascarella, Pierson, Wolniak, & Terenzini, 2004; Warburton, et al., 2001).

In addition to socioeconomic status, researchers have argued that students with college-educated parents have other distinct advantages over their first-generation peers. Incorporating the theory of cultural and social capital, researchers have demonstrated that a better understanding of higher education culture leads to increased access to essential knowledge and information (Pascarella et al., 2004; Thayer, 2000). Several studies have
concluded that the absence of a college degree within the immediate family resulted in inadequate information regarding the college experience (Harrell & Forney, 2003; Pascarella et al., 2004; Somers, Woodhouse, & Cofer, 2004; Terenzini et al., 1996; Thayer, 2000). First-generation students reported less assistance in preparing for college, felt less supported for attending college and lacked a sense of belonging to the institution they attended (Choy, 2001; Terenzini et al., 1996). Ting (2003) contended that first-generation students and their families were typically unfamiliar with the college admission and financial aid processes. Because of a limited understanding of what higher education entails, first-generation students are disadvantaged when it comes to level of family support, degree expectations, planning, and college preparation in high school (Nunez & Cuccaro-Alamin, 1998; Pascarella et al, 2004). Regardless of demographic, socioeconomic, and personal differences, first-generation status remained a statistically significant indicator of difficulty in adjusting to and succeeding in college (Ishitani 2003, 2006).

Culturally, first-generation students find themselves in a process of identity renegotiation as they gain familiarity with a world that was previously unknown in their culture (Chickering, 1969; London, 1992). Chickering (1969) described multifaceted obstacles and barriers to success confronted by college students and developed seven vectors to address the emotional, interpersonal, ethical, and intellectual aspects of development. Of Chickering’s seven vectors, Lemons and Richmond (1987) identified four that were of particular concern to first-generation college students: achieving competence, desiring autonomy, establishing identity, and developing purpose.
Researchers have linked the “achieving competence” vector of Chickering’s framework to Bandura’s concept of self-efficacy. Bandura (1977) described self-efficacy as a reflection of the student’s ability to successfully accomplish certain tasks. According to Bandura (1977), “…people tend to avoid what they believe exceeds their coping skills and behave assuredly when they judge themselves capable of handling situations” (p. 193). Researchers have found that first-generation students tend to have lower self-efficacy, causing them to discredit their own abilities and potential as inferior (Choi, 2005; Hellman, 1996; Pajares & Schunk, 2001; Ramos-Sanchez & Nichols, 2007). Further empirical data indicate a correlation between academic self-efficacy and perceived college stress for first-generation students (Solberg & Villarreal, 1997). First-generation students tend to enter the classroom with lower self-efficacy than other students and are more likely to succeed in college if they begin to develop their own professional identity early in the undergraduate experience (Speirs-Neumeister & Rinker, 2006).

Research has linked the absence of information about the college experience and lower self-efficacy to decreased academic performance of first-generation students. These students will earn lower grades and are more likely to drop out of college altogether before the end of the first semester when compared to other first-year students (Riehl, 1994; Hoffman, 2003; Nunez & Cuccaro-Alamin, 1998; Strayhorn, 2006; Ting, 2003). Further research by Ishitani (2006) demonstrated that first-generation students were also more likely to drop out during the sophomore year of college, indicating that attrition of first-generation students is an important concern beyond the first year of college.
Researchers have cited the need to understand first-generation student attrition and have called for higher education professionals to be vigilant in meeting the needs of first-generation students (McMurray & Sorrells, 2008).

A review of the literature indicates that first generation students enter college at a disadvantage in comparison to their peers. After admission and enrollment in classes, first-generation students have to negotiate the difficult transition into academia and may experience difficulty remaining enrolled and attaining a degree (Horn & Nunez, 2000). A review of student retention and involvement theory is an important next step in the discussion of first-generation college students in higher education.

**Retention and Involvement Theories**

The study of retention and student involvement is vital to the study of first-generation student persistence. Nearly 50% of all attrition takes place during the first year of college and more than 40% of first-year students never obtain a degree (Tinto, 1993, 1998). The situation is particularly dire for first-generation students who have greater difficulty transitioning into higher education and experience higher departure rates (Choy, 2001; Dennis, Phinney, & Chuateco, 2005; Tym, McMillon, Barone, & Webster, 2004). First-generation college students tended to complete fewer credit hours, take fewer humanities and fine arts courses, and study fewer hours while also working more hours per week (Terenzini, Springer, Yaeger, Pascarella, & Nora, 1996). In addition, first-generation students also had less knowledge about educational processes, receive less family support, and are more likely to take remedial courses (Berkner & Chavez, 1997). Researchers found that student engagement, involvement, and peer
support systems both inside and outside of the classroom have helped retain students at the university (Dennis et al., 2005; Kuh, Kinzie, Buckley, Bridges, & Hayek, 2006; McCarthy & Kuh, 2006; Tinto, 1993).

This section of the literature review describes pertinent theories related to student retention and involvement. Theories reviewed include Tinto’s Model of Institutional Departure, Astin’s Theory of Student Involvement, and Astin’s Inputs-Environment-Outcomes (I-E-O) Model. Among the most cited theories in the literature, each theoretical model is useful in the discussion of first-generation student retention.

**Tinto’s Model of Institutional Departure**

Tinto’s (1975, 1987, 1993) Model of Institutional Departure (see Appendix A) describes personal and environmental influences that affect students’ successful integration into the college environment. Tinto’s model is based on the premise that academic and social integration is essential to student retention.

Tinto’s theory was inspired the van Gennep’s (1908) rites of passage and Durkheim’s (1897) suicide theories. van Gennep’s (1908) rites of passage theory describes the process involved in establishing membership in traditional societies. Tinto (1987) suggested that, although a student’s collegiate experience may not be marked by ceremonies and traditions as illustrated in van Gennep’s theory, there are some subtle and unofficial ceremonies that must take place for a student to establish his or her membership into the new collegiate community. Integration, according to Tinto (1993), influences a student’s decision to leave or depart from an institution. Tinto (1998) contended that students achieve integration after successfully navigating the states of
separation, transition, and incorporation. Separation is described as the ability of students to remove themselves from the norms of past community, families, friends, and other associations. Transition occurs next as the student experiences academic and social cultures but has yet to take on the norms of the new collegiate environment. The last step is incorporation, which takes place when a student has become fully involved in the academic and social communities of the new institution (Tinto, 1998).

The second theory that inspired Tinto’s (1987) departure model is Durkheim’s (1897) theory of suicide. Durkheim (1897) found that suicidal tendencies were pronounced in those who were not socially integrated into the existing social system. In incorporating Durkheim’s theory, Tinto did not suggest that departing students literally committed suicide, but instead used it as an analogy in that individuals committing suicide are voluntarily withdrawing from the community in the same way students voluntarily withdraw from an institution. Tinto (1993) looked at both formal and informal academic and social experiences, including contact with professors, membership in student groups, interpersonal relationships with other students, and academic performance.

Tinto’s research on student retention has assisted higher education professionals in understanding the interaction between academic and social elements that often cause students to voluntarily withdraw from the institution. According to Tinto (1993), “some degree of social and intellectual integration and therefore membership in academic and social communities must exist as a condition for continued persistence” (p. 120). Tinto stressed that students were less likely to drop out when they were integrated academically
and socially. Academic integration is concerned with intellectual needs while social integration is concerned with meaningful relationships with faculty and other students (Tinto, 1993).

In explaining the academic integration elements of his theory, Tinto stated that these elements often have little or nothing to do with academic success. Tinto (1993) stated that “positive integration serves to raise one’s goals and strengthens one’s commitments both to those goals and to the institution within which they may be obtained” (p. 116). Conversely, Tinto argued that “the lower the degree of one’s social and intellectual integration into the academic and social communities of the college, the greater the likelihood of departure” (p. 116). Tinto (1993) further enhanced the argument that academic success may have something to do with retention but that personality characteristics and cultural attributes may have more significant influence on student retention.

Tinto argued that institutions attempting to increase student retention should focus upon the following six components: students’ pre-entry attributes, goals/commitments, institutional experiences, integration, re-evaluation of goals/commitments and outcomes. These components are described in detail below.

The first component of Tinto’s model is concerned with pre-entry attributes of the student. These attributes include family characteristics, academic preparation, financial disposition, first-generation status, and cultural background (Tinto, 1993). Additional research has indicated that these attributes strongly influence whether a student fits within
the institution and relates to student interaction with the other components of Tinto’s model (Dennis, Phinney & Chuateco, 2005; Raley, 2007).

The second component of Tinto’s model described goals the student has about his or her academic major and career choices and how committed he or she is to reaching those goals and remaining at the institution (Tinto, 1993). Tinto states that external commitments such as family, financial, and other obligations may interfere with the student’s commitment to the goal of remaining at the university. In support of Tinto’s argument, Dennis, et al. (2005) studied 100 first-generation college students and found that these students often had additional responsibilities and obligations to their families that conflicted with their commitment to obtaining a degree.

The next component of Tinto’s model is concerned with academic and social interactions within the institution (Tinto, 1993). These formal and informal experiences typically occur between faculty, staff, and other students. Tinto’s research, along with the research of others in the field (Gloria, Kuprius, Hamilton & Wilson, 1999; Kuh, Kinzie, Buckley, Bridges, & Hayek, 2006) indicated that a balance of positive interactions in both academic and social settings within the university is vital for persistence. Positive, formal interactions with faculty members in classroom/laboratory settings increased students’ self-confidence outside the classroom (Tinto, 1993). Examples of informal interactions include participation in intramural sports and club activities on campus. Additional research has found that campus involvement and a feeling of belonging are essential for student transition in this stage of the model (Kuh, 2007; Kuh et al., 2006; Perez, 2006)
The fourth component, integration, is the most crucial component for student success. Integration occurs when the student begins negotiating a fit with the institution. Integration is seen as the summation of the student’s interactions and experience in the academic and social systems. If a student does not have positive experiences in both systems, the student may choose to depart from the institution (Tinto, 1993). Kuh (2007) suggested that it is the responsibility of the institution to create opportunities for student engagement both inside and outside of the classroom in order to support students’ academic and social pursuits.

The fifth component of Tinto’s model, re-evaluation of goals/commitments is important because students often change their original goals based on academic and social interactions experienced during college. If conflict exists during the re-examination of goals from within or outside the institution, there is a risk that commitment to completion of goals may lessen and lead to departure (Tinto, 1993).

The final component of Tinto’s model is outcome. During this stage, a student finalizes the decision regarding degree completion. This decision is based on the cumulative effects of academic and social interactions within the institution. During this final phase, students’ weigh their personal and professional goals against their external commitments and the level of support they have received from both academic and social communities in which they participate. This final juncture is where a student makes a final decision about departure from an institution (Tinto, 1993).

While Tinto’s model is one of most widely accepted models in student retention, there have been criticisms of his theory. Tierney (1999) believed that Tinto’s theory
missed the mark for minority students. Tierney argued that Tinto’s model suggested that minority students must assimilate into the cultural mainstream and abandon their ethnic identities in order to succeed on predominately white campuses. Tierney (1992) also faulted Tinto’s framework for overlooking the history of ethnic oppression and discrimination in the United States and asserted that “Tinto has misrepresented the anthropological notions of ritual, and in doing so has created a theoretical construct with practical implications that hold potentially harmful consequences for racial and ethnic minorities” (p. 603).

Another criticism of Tinto’s model is that it is devoid of any emphasis on the institutional contribution and responsibility to the withdrawal of the student (Yorke, 1999). While Tinto’s model does include some mention of the institutional contribution to student retention, Yorke believed that if an institution does not provide the necessary attributes for academic integration, as in the case of not providing an environment that encourages learning, the accountability of the institution is absent. Yorke (1999) contended that “if retention is seen in wholly student-centered terms then there is some risk of blaming the victims of circumstance which are not their own doing and of institutions failing to submit themselves to a level of self-scrutiny appropriate to the quality of assurance activity that is expected of them” (p. 10).

A final critique of Tinto’s theory (1993) is the predictive accuracy of the model within the context of commuter versus residential campuses (Braxton, Sullivan, & Johnson, 1997; Weissberg, Owen, Jenkins, & Ernest, 2003). In a review of research studies, Braxton et al. (1997) found robust support for Tinto’s construct of social
integration on persistence at residential campuses while finding only moderate affirmation at predominately commuter campuses. Tinto, however, acknowledged “student communities, academic or social, are neither as numerous or as pervasive on commuting campuses as they are on residential campuses” (Tinto, 1993, p. 192).

Despite imitations, Tinto’s theory is one of the mostly widely cited theories on student departure and is vital to the current study. Tinto’s research has inspired colleges and universities to launch retention programs geared toward improving the success rates of first-generation and other at risk groups. Student retention, however, is one piece of the puzzle. In order to increase persistence, higher education professionals must determine how to integrate at risk student groups into the culture of the institution (Swail, Redd, & Perna, 2003). Complementing Tinto’s Model of Student Departure is Astin’s Theory of Social Integration, discussed below.

**Astin’s Theory of Social Integration**

Astin’s Theory of Social Integration is similar to Tinto’s retention model. Instead of promoting full integration, Astin (1975, 1984) emphasized student involvement and asserted that student development occurs through engagement in college activities and that full integration is not required for persistence. Astin (1975) concluded that factors contributing to persistence were associated with student involvement in college life. Conversely, factors contributing to departure from college were associated with students’ noninvolvement. Astin believed that students who physically and psychologically involved themselves in the academic and social opportunities in the college environment were more likely to persist (Astin, 1975).
Astin (1984) defined involvement as “the amount of physical and psychological energy that the student devotes to the academic experience” (p. 297). Astin clearly intended involvement to be behavioral in nature (Berger & Milem, 1999). Astin (1984) asserted that “it is not so much what the individual thinks or feels, but what the individual does, how he or she behaves, that defines and identifies involvement (p. 298). According to Astin, factors contributing to persistence are associated with involvement in college life with an absence of involvement leading to departure from the institution (Astin, 1984). Astin’s model of student involvement is important to the study of first-generation college students for two reasons. First, Astin’s model has served as a foundation upon which institutions of higher education have developed student retention interventions (Seidman, 2005). Second, Astin’s model (1985) conceptually refers to “vigilance or time on task” (p. 518) and is important to the study of first-generation college students as these terms are often associated with habits of self-directed learners.

Astin (1993) discussed the need for a point of identification for the individual within the institution and believed that a student can be alienated from certain campus arenas but still persist due to relationships in other areas such as academics, Greek life, and athletics. These points of identification provide sufficient involvement to maintain a positive connection with the institution. Astin (1984) argued that student involvement is a behavioral manifestation of the psychological construct of motivation and offers five basic postulates:
1. Involvement refers to the investment of physical and psychological energy in various objects. These objects may be highly generalized (student experience) or highly specific (biology exam).

2. Regardless of its object, involvement occurs along a continuum. Different students exert different degrees of involvement in a given object and the same student manifests different degrees of involvement in different objects at the same time.

3. Involvement has both quantitative and qualitative features.

4. The amount of student learning and personal development associated with any educational program is proportional to the quality and quantity of student involvement in that endeavor.

5. The effectiveness of any educational policy or practice is directly related to the capacity of that policy or practice to increase student involvement.

Astin (1984) found that almost every factor that promoted persistence was one that would be likely to increase students’ involvement in their undergraduate experience. Conversely, factors likely to reduce students’ involvement had a negative effect on persistence. The single most important factor in persistence concerned the students’ place of residence. Students living on campus were more likely to persist than other students. The impact of living on campus is a positive predictor of persistence for all types of students, regardless of characteristics such as ethnicity, gender, socioeconomic status, and ability (Astin, 1984). This finding has likely inspired the residential component found in most summer bridge programs.
Astin’s Inputs-Environment-Outcomes (I-E-O) Model

Astin built upon his research in student involvement and persistence and developed the Inputs-Environment-Outcomes (I-E-O) Model (see Figure 1) as a framework for assessments in higher education (Astin, 1993; Thurmond & Popkess-Vawter, 2003). The premise of the I-E-O Model is that educational outcomes are evaluated in terms of the characteristics of students (inputs) in the broad context of the college or university setting (environment). This model suggests that students are not actively developed by faculty and university programs, but passively through interactions with the institutional environment (Hutley, 2008).

Described as a psychological developmental approach, Astin’s (1993) I-E-O Model described the inputs as having a double impact on the outcomes, both directly and indirectly via the environment. Inputs refer to personal characteristics the student initially brings to the educational program, including the students’ initial level of developed talent. Examples of inputs include demographic information, educational background, financial status, behavior pattern, degree aspiration, career choice, life goals, political orientation, reasons for attending the selected college, and academic major (Astin, 1993).

The environment component refers to the student’s actual experiences in educational programs. The environment includes everything and anything that happens during the collegiate experience that might impact the student. Items in the environment can include things such as educational experiences in and out of the classroom, interventions, programs, faculty, staff, curricula, facilities, institutional climate, teaching
style, friends, roommates, extra-curricular activities and affiliations with student organizations. The single most important environmental factor, according to Astin, is student community (Astin, 1993). Astin stated “the lack of student community has stronger direct effects on student satisfaction with overall college experience than any other environmental measure” (Astin, 1993, p. 352). According to Hicks (2003), a significant component of student success is how well first-generation students connect with the institution and its student body, making the environmental component of Astin’s model particularly important to the current study of first-generation student success.

Outcomes are the final component of Astin’s I-E-O Model. Astin (1993) referred to outcomes as the talents an institution is trying to develop in its educational programs. Outcomes are outcome variables, which may include grade point average, exam scores, post-tests, course grades, degree completion, curricula, classroom experience, and overall course satisfaction.

In applying his involvement theory and I-E-O model to the issue of student retention, Astin (1993) conducted an empirical study of his models through the Higher Education Research Institute (HERI) at the University of California, Los Angeles. In HERI’s annual survey of freshmen, Astin found that the three most important forms of student involvement were academic involvement, involvement with faculty, and involvement with student peer groups. Of the three, student peer group was found to be “the most potent source of influence on growth and development during the undergraduate years” (p. 398). Astin (1993) argued that implications for practice should be overarching and that institutions can solve the persistence issue by looking inward and
using existing institutional resources. Believing that the ongoing commitment of faculty and staff of an institution is paramount to student retention, Astin called for institutional change and new ways to actively involve students and faculty in their intellectual life. According to Astin, “institutional change requires a deeper understanding of the importance of educational community to the goals of higher education” (Astin, 1993, p. 212).

Tinto and Astin’s research on student retention and involvement has inspired colleges and universities to launch recruitment and retention programs geared toward improving the success rates of first-generation and other at risk groups (Swail, Redd, & Perna, 2003). Summer bridge programs, in particular, have gained popularity as institutions respond to calls for accountability in meeting the needs of increasingly diverse student populations (Kezar, 2000). Summer bridge programs are described in detail in the next section of the literature review.

**Summer Bridge Programs**

Nurturing the academic and social development of first year college students is the most meaningful intervention a college or university can make to increase retention (Levitz & Noel, 1989). Research has repeatedly suggested that the first year of college is the decisive connection point between the student and the institution and that assisting first-year students with their academic, personal, and social adjustment to college is crucial in improving their persistence and graduation rates (Astin, 1993; Noel, Levitz, & Saluri, 1985; Pascarella & Terenzini, 1998; Terenzini, Rendon, & Upcraft, 1994; Tinto, 1996, 1997; Upcraft & Gardner, 1989). Cabrera, Nora, & Castaneda (1993) asserted that
in addition to academic/social integration and goal commitment by the student, institutional commitment is the most important factor in student persistence. Tinto (1996) also called for institutional commitment and argued that “the single most important move an institution can make to increase student retention to graduation is to ensure that students receive the guidance they need at the beginning of the journey through college to graduation” (p. 4). In order to promote early integration into the university environment, institutions have implemented summer bridge programs to assist first-generation students in the transition to college (Kezar, 2000). A review of the literature pertaining to these programs and specific programmatic examples are included in this section of the literature review.

Inspired by decades of research on student retention and persistence, summer bridge programs have been developed to improve overall retention rates of first-generation and at risk college students (Gandara, 2001; Myers & Schirm, 1999; Nelson, Dunn, Griggs, Primavera, Fitzpatrick, Bacilious, & Miller, 1993; Terenzini, & Wright, 1993). According to Kezar (2000), the purpose of these programs is to retain at risk student populations at the institution and provide them an equal footing with their peers. Colyar (2011) elaborated on the purpose and stated that “summer bridge programs are intended to address important preparation and achievement gaps that are evident in the research” (p. 123). Although extreme programmatic variation exists, summer bridge programs have demonstrated the ability to address academic preparation and social adjustment issues experienced by many incoming first-year college students (Kezar, 2000; Pantano, 1994; Santa Rita & Bacote, 1996).
Summer bridge programs have existed for some time, but in the recent past a larger number of institutions began to realize their powerful potential for enhancing academic preparation and educational motivation (Kezar, 2000). Increased pressure and calls for accountability tied to funding are cited as a major influence for increased interest in student retention programs in the past decade (Levitz, Noel, & Richter, 1999). Additional pressure has come from recent reauthorizations of the Higher Education Act of 1965 which has included language requiring colleges and universities to report degree completion rates (Kuh, Kinzie, Schuh, Whitt, & Associates, 2005). According to the U.S. Department of Education (2009), funding has increased substantially for programs aimed at attracting first-generation and low-income college students to attend and complete college degrees. Examples of state-level incentives have come in the form of accountability systems and incentive grants that tie institutional budgets to performance and increases in student retention (U.S. Department of Education, 2009). Tinto (2003) reported that state and federal funds aimed at increasing student retention have been utilized to encourage development of innovative programs which meet the needs of disadvantaged students. Tinto (2003) affirmed that “until recently, states have been willing to grant universities and colleges a great deal of autonomy, at least in regards to student retention and graduation” (p. 8). This autonomy has decreased in an era of accountability in higher education.

Summer bridge programs typically take place in the summer between the student’s senior year of high school and freshman year of college. Programming varies widely in format, populations served, and curricula but generally includes academic
courses, advising/counseling services, and programming designed to better integrate students (Kezar, 2000; Pantano, 1994, Terenzini, Allison, Gregg, Jalomo, Millar, Rendon, & Upcraft, 1993; Villapando & Solorzano, 2005; Werner-Smith & Smolin, 1995). Programs are typically from three to six weeks in length and include a required residential component aimed at promoting academic and social integration with faculty and other students (Astin, 1993; Colyar, 2011; Pascarella, 2004; Woosley, 2003). The placement of summer bridge programs at the beginning of the college experience supports research citing the first two to six weeks of college as being the most critical transition period (Astin, 1993; Woosley, 2003).

Little empirical research on summer bridge program exists despite the fact institutions are investing enormous funds and human resources to ensure high participation and success (Kezar, 2000; Santa Rita & Bacote, 1996). In addition, the extreme variation of programs had resulted in a dearth of research on program effectiveness (Kezar, 2000; Maples, 2002). Of the studies that do exist, few are applicable to the field as a whole. York & Tross (1994) disclosed that studies on summer bridge programs have based their assessment on survey questions asked of students with no data regarding GPA and persistence rates. The result of this approach is little more than a program evaluation, providing little application to the field (York & Tross, 1994). Despite this criticism, program evaluation and continuous improvement is vital. Levin & Levin (1991) stressed the importance of program evaluation and noted that “administrators must be willing to subject their programs (and associated claims of success) to thorough scrutiny. Without a systematic, component by component analysis
of multiple-component retention programs, no one will know what is (or, more usually, what is not) working in the particular program” (p. 123).

The enormous diversity of summer bridge programs limits the ability to generalize across institutions and has resulted in minimal research on the topic in terms of academic success and retention of summer bridge participants (Cabrera, Castaneda, Nora, & Hengstler, 1992). Of that which is published, it was found that students performed better academically and were retained at a higher rate (Ackermann, 1990; Garcia, 1991; Santa Rita & Bacote, 1996; Walpole, Simmerman, Mack, Mills, Scales, & Albano, 2008). While encouraging, these studies are inconclusive because they lacked control groups and did not allow a true comparison between students with similar characteristics that did not participate (Kezar, 2000; Maples, 2002). Maples (2002) argued that summer bridge programs without control groups invariably lead the reader to inquire “compared to what?” (pg. 9). Complicating analysis further, Myers & Schirm (1999) argued that summer bridge program outcomes are more social than academic.

A second issue regarding retention and summer bridge programs is the absence of consensus regarding the point at which retention should be measured. Garcia (1991) studied 19 summer bridge programs in California and found mixed results regarding retention in successive years. Garcia found that students in the summer bridge program had higher retention rates the first year but lower rates the second when compared to the institutional averages of all students (Garcia, 1991). Moreover, research has focused on first to second semester retention while further research has focused on first to second, third, and fourth year retention. Without consistent measures of program success and
standardization of the evaluation process, the limited studies available provide little
generalization to other institutions (Garcia, 1991).

Few scholars disregard the importance of summer bridge programs, however, some have suggested that these programs do little to empower students and may disenfranchise them by operating on a deficit model and marking participants as different from their peers (Christensen, 2004; Colyar, 2011; Oseguera, Locks, & Vega, 2009; Walpole, 2011). This “deficit” perspective assumes students do not have the necessary skills and abilities to succeed in college and therefore must be “fixed” (Boroch, Fillpot, Hope, Johnston, Mery, Serban, et al., 2007). Christensen (2004) believed that being treated from a deficit perspective takes a heavy toll and warned that students do not want to be at a college “where the system is based upon finding what I cannot do and having me spend the days of my youth attacking the weaknesses identified” (p.3). Oseguera et al. (2009) argued that the deficit model is particularly evident when discussing minority students and warned that the literature continues to focus on the aspects of students’ cultural backgrounds that prevent them from achieving success.

In contrast to the deficit model, Christensen (2004) advocated an “asset model,” recognizing that students have both strengths and weaknesses with varying learning styles and cultural backgrounds. Colyar (2011) supports this model and suggested new program structures which recognize the assets students bring to the institution. Suggestions include active participation of students’ families in the summer bridge support network as well as service learning projects in the local community (Colyar 2011). According to Colyar (2011) transitional programs should “build bridges to local
communities so that students recognize the value of their own social and cultural capital” (p. 135).

Despite the absence of rich, empirical research and other criticisms described above, the literature on summer bridge programs suggests they are an effective method of introducing students to university life, providing social and academic support, improving basic study skills, and ultimately retaining the student at the institution. The next section of the literature review describes the summer bridge program studied in this research as well as brief examples of similar programs around the country.

**Freshman Summer Institute at the University of South Florida**

The University of South Florida’s Freshman Summer Institute (FSI) is an alternative admissions program which supports first-generation, low-income students throughout their first year of college. The FSI program is one of four programs supervised by the director of First-Generation Access and Pre-Collegiate Programs (FGAPP). FGAPP is housed within Undergraduate Studies, which supervises other student support areas within the University. In addition to FSI, other programs that FGAPP facilitates include the federally funded TRIO programs: Student Support Services (SSS) and Upward Bound, a program supporting low-income high school students and families. A grant-funded program (ENLACE) delivers programs, initiatives and events that promote the success of Hispanic and first-generation students.

Students are selected for the FSI program through their fall admission application to the university. The University uses academic success predictors (high school grade point average, SAT/ACT test score results) to make admissions decisions for its
applicants. If a student falls below the University’s standards for fall applicants, the admissions office reports students who have identified themselves as being first-generation. The USF Office of Admissions defines “first-generation” as neither parent having completed a baccalaureate degree. Next, the flagged first-generation applicant is notified that although he or she has been denied admission to the University for the fall semester, he or she has been accepted for admission in the summer term with the condition that he or she successfully completes the Free Application for Federal Student Aid (FAFSA). Students with the lowest expected family contributions (EFC) scores, determined by the FAFSA, are referred to the FSI and SSS programs. Other students, who are first-generation but not low-income, are offered summer admission to USF but without the formal support of SSS or FSI. Depending on the year and resources, 150 to 250 students enter the University through the FSI program.

FSI participants live with other program participants and peer counselors in a residence hall reserved for the program. Peer counselors are paid former FSI students who are responsible for monitoring and providing opportunities for social interactions. During move-in week, the new students receive comprehensive orientation sessions from both the Office of Orientation and the FSI staff. It is also during this time that students meet their counselors/advisors for the first time.

The counselor/advisor relationship is the most critical element of the FSI program. FSI Counselors/advisors are trained to take care of the specific needs of low-income, first-generation college students and are expected to go beyond the training of normal academic advising duties, hence the designation, counselor/advisor. The advising
model is described as “intrusive,” meaning the counselors/advisors are trained to seek answers to questions that may be of importance to the students’ success as college students. According to Albecker (2005), intrusive advising is “action oriented by involving and motivating students to seek help when needed” (p. 1). Heisserer & Parette (2002) contend that intrusive advising results in improved retention rates, increased number of credit hours completed, increased GPA, and an improvement in the use of study skills, time management strategies, and classroom attendance.

Counselors/advisors are trained in a variety of USF policies and procedures, including, but not limited to, financial aid, housing, dining, campus resources, and academic programs. The typical student load per counselor/advisor is 45:1, which allows each counselor/advisor the kind of flexible schedule necessary to take care of students needs immediately. Students and their counselor/advisor are required to meet a minimum of three times each semester during their freshman year. As a result of these sessions, counselors/advisors get to know their students very well and students quickly learn where to go for assistance.

FSI students’ first semester is an intensive six-week summer term. They complete nine semester hours (three courses) that typically include their first college composition course along with two other general education requirements. Unlike other summer bridge programs described in the literature, remedial education is not a component of the FSI curriculum. Achievement is important during this term, for any grade point average lower than a “C” average (2.0) results in dismissal from the
University. Successful completion of their summer coursework allows students to continue their education into the fall semester.

During the subsequent fall and spring semesters, students continue their one-on-one sessions with their counselor/advisors but also begin attending on-campus workshops. Workshops are intended to be educational in nature and provide opportunities for students to get involved with departments that offer services and support to students. Guest lectures, wellness demonstrations, debates, study skill seminars and personal development workshops are some examples of the opportunities students find to fulfill their workshop requirements. Students who do not complete one-on-one sessions or workshop requirements are not allowed to register for next semester’s courses, and that results in an administrative intervention to evaluate the student’s needs.

The FSI office is located centrally on campus in the Student Services building. It features a large lobby area which accommodates the high volume of student traffic the office receives. There is also a computer lab with over twenty computers that allow FSI students to print course documents free of charge. The office is home to the FSI staff, which includes a director, a coordinator, three counselors/advisors, two graduate assistants, several student employees and an office manager.

Evaluation of the FSI program is based primarily on the fall-to-fall freshman year retention rate into the second year. Beyond that, programmatic evaluation includes students’ academic performance, analysis of students’ coursework, and a student evaluation of the program that includes their satisfaction level with their counselor/advisor, availability of resources, residential and social experiences and their
recommendations for how to better provide for future FSI students. Although participation in the FSI program is not required for continuing (sophomore) students, the director tracks retention past the first year, along with graduation rates to assist the university in identifying areas of improvement within the general population of students.

During the summer 2009 semester, a one-credit course called Strategic Learning was required of all FSI students and was completed during an intensive, six-week period. 

Strategic Learning is a seminar style course based on a model of developing autonomous learners through understanding concepts related to motivation, attitude, goal planning, and the process of learning. The attributes of a self-directed learner are discussed throughout the course curriculum with the course based on a belief that learning is a personal, individual, and interactive process. Through the process of reflective practice, students had the opportunity to develop a deep understanding of themselves as a learner, and then intentionally apply that understanding to the development of the most effective strategies for success in both college learning and beyond. The following learning outcomes are intended as a result of participation in the Strategic Learning course:

1. Describe their individual learning characteristics by utilizing the results of various self-assessments
2. Assess the effectiveness of both past and current approaches to academic learning
3. Develop a systematic approach to the analysis of academic task expectations based on a metacognitive model
4. Explore multiple models of proven learning tactics and resources and select strategies appropriate to each assigned task
5. Utilize the tools of reflection, self-assessment, and self-regulation for the purpose of improving current academic standing.

Typically, *Strategic Learning* is not part of the FSI summer curriculum and the inclusion of this course provided an opportunity to research first-generation college students’ use of self-direction in learning. In addition to *Strategic Learning*, FSI participants also completed eight additional credit hours of coursework in English composition and social science as well as a *University Experience* course, designed to orient students to the social and academic culture of USF.

**Other Summer Bridge Programs in the United States**

As noted by Kezar (2000), the population served by summer bridge programs varies greatly. One of the more prominent programs is at the University of California, Berkley (UCB). UCB began the “Summer Bridge Program” in 1973 to assist students in successful academic, social, and personal transition. Offering an academically rigorous, residential program, UCB cultivates a diverse community of scholars by preparing them to meet the challenges of a large public research University. Unlike the FSI program, not all participants to Summer Bridge are conditional admits or first-generation. Services offered to ensure successful transition and admission to the University include weekly seminars designed to facilitate a well-balanced college lifestyle, workshops aimed at a variety of academic and social subjects, tutoring, and intensive advising (University of California, Berkley Summer Bridge Program, 2010).

Arizona State University (ASU) offers the “Summer Bridge Program” to under-represented groups, including, but not limited to, first-generation college students. Unlike
the FSI program, participation in ASU’s Summer Bridge Program is voluntary and not a condition of admission. During an intensive, five-week program, Summer Bridge assists freshmen from under-represented groups in making a successful transition from high school to college and offers special support programs and services to ensure student success. ASU’s program is also residential and permits students to earn up to seven credit hours of college coursework prior to the fall semester. Touted benefits include interactions with faculty, tutors, peer mentors, residence services staff, and program staff. Participants receive housing, a partial meal plan, textbooks, dedicated tutoring services, and special events programming (Arizona State University Student Success, 2010).

While programs offered at USF, UCB, and ASU target students of all majors and ability, other summer bridge programs have been developed for students within particular majors such as math and science (Kezar, 2000). An example of such a program is in the School of Engineering at the University of New Mexico (UNM). The “Freshman Summer Bridge Program” (FSBP) assists under-represented students pursuing degrees in Engineering or Computer Science. FSBP provides beginning engineering students with a college specific orientation detailing the demands of college academics. Orientation is followed by a cost-free, intensive four-week residential program where students have the chance to earn UNM credit hours. Additional advertised benefits of participation include enhanced academic success, development of social and academic support networks, and special access to advisors (University of New Mexico Engineering Student Services, 2010).
The University of Tennessee Knoxville’s (UTK) “Summer Bridge Program” is a cooperative effort between the National Science Foundation and six universities in the Tennessee. Offered through the College of Engineering, Summer Bridge focuses on enabling participating minority high school graduates an easier transition to college life. Emphasizing academic instruction, academic skills, and life skills, UTK’s program emphasizes academic success in math, chemistry, and physics. Success is achieved through supervised study sessions, study skills training, and building communication skills. Life skills include group activities to build social networks. UTK’s Summer Bridge is also a residential program with students required to reside on campus during the three-week session (University of Tennessee Knoxville College of Engineering, 2010).

A review of the literature pertaining to summer bridge programs indicates a wide variety of programs offered across the country. Despite a diversity of programs, each shares an emphasis on academic and social integration of students into the institution. These programs have been inspired upon the theoretical constructs of retention and involvement posited by Tinto (1975, 1987, 1993) and Astin (1984, 1993). Despite the link to student development theory, empirical research remains weak regarding summer bridge programs (York & Tross, 1994). Published research is typically a program evaluation, making generalizations about impact difficult due to the variety of formats offered (Kezar, 2000). In contrast, the current study explores the relationship between first-generation students, a summer bridge program, and self-directed learning. This unexplored area of research may yield more generalizable data that a program evaluation
is unable to provide. The following section of the literature review discusses the theory of self-directed learning and instruments that have been designed to measure it.

**Self-Directed Learning**

Promoting the capacity for self-directed learning (SDL) among college students is an important goal of higher education (Kreber, 1998). Brockett and Hiemstra (1991) proposed that self-directed learners experience “increased retention, greater interest in continued learning, greater interest in the subject, more positive attitudes toward the instructor and enhanced self-concept” (p. 13). Rooted in the field of adult education, SDL is important in the discussion of first-generation student success due to its possible impact on retention and student success. The next section of the literature review provides an overview of SDL. Following the overview, theoretical models of self-direction are discussed as well as instruments designed to measure self-directedness.

**Overview of Self-Directed Learning**

Malcolm Knowles (1975), a pioneer in the field of adult education, identified the adult learner as self-directing, intrinsically motivated, an independent learner, and one who brings life experience and knowledge to the learning environment. While there is no universally accepted definition of SDL, Malcolm Knowles definition is the most widely cited in the literature. Knowles (1975) defined SDL as “a process in which individuals take the initiative, with or without the help of others, in diagnosing their learning needs, formulating learning goals, identifying human and material resources for learning, choosing and implementing appropriate learning strategies, and evaluating learning outcomes” (p. 18). In an alternate definition of SDL, Brockett & Hiemstra (1991)
described “a combination of process and personal elements in which an individual assumes primary responsibility for the learning experience” (p. 24).

The publication of Houle’s *The Inquiring Mind* (1961) was the starting point for discussion of SDL. Based on interviews with adult learning participants, Houle (1961) was the first to describe the motives for learning and resulting activities of a group of independent minded learners who wished to pursue their education outside of the traditional school setting. With information gleaned from interviews, Houle proposed three categories of learning orientations to explain why learners participate in continuing education activities. The first category consisted of goal-oriented learners who pursued educational opportunities as a means to another goal. The second category contained activity-oriented learners who partake for the social opportunities afforded by participation. The final category was learning-oriented learners who engaged in activities for the sake of learning in and of itself (Houle, 1961).

Building on Houle’s (1961) notion that learners engage in activity for the sake of learning, Tough (1967, 1971) focused his attention on studying the role of adult’s self-directed learning projects. Tough provided a quantifiable framework through which to study SDL and found that 90% of adults initiated an average of at least eight SDL projects a year. Tough advanced the notion that SDL was widespread and part of an adult’s everyday life, conducted without an instructor or classroom, and motivated by anticipated application of what would be learned (Tough, 1971). Tough’s major contribution to the field, as stated by Brockett and Hiemstra (1991), was that “while self-direction has long been assumed to be a major goal of adult education, it was not until
Tough’s investigation that the impact of this preference for individual responsibility in planning was made apparent” (p. 43).

As the conceptualization of self-directed learning evolved, one of the more contentious areas of debate centered on whether SDL is an instructional process or a personality characteristic (Brockett & Hiemstra, 1991). In an attempt to more clearly define self-direction, scholars reviewed and categorized decades of SDL literature. A review of the literature revealed separate conceptualizations of self-direction as a process of learning in which people take the primary responsibility or initiative in the learning experience, and self-direction as a personal attribute (personality characteristic) of the learner (Brockett & Hiemstra, 1991; Caffarella, 1993; Garrison, 1997; Long, 2000; Merriam, Caffarella, & Baumgartner, 2007).

In developing models of SDL, researchers have cited the need to distinguish between the “process” and “personality characteristic” aspect of SDL. As part of the theoretical framework for this study, Brockett and Hiemstra’s (1991) multi-dimensional Personal Responsibility Orientation Model (PRO) makes a distinction that will be discussed in detail below. Following a discussion of the PRO Model, other SDL theories such as Candy’s Four-Dimensional Model (1991), Grow’s Staged Self-Directed Learning Model (1991), and Garrison’s Self-Directed Reaming model (1997) are discussed.

**Brockett and Hiemstra’s Personal Responsibility Orientation Model**

The Personal Responsibility Orientation (PRO) Model (see Figure 2) creates clear delineations between self-directed learning as an instructional process and as a characteristic of the learner (Brockett & Hiemstra, 1991). The PRO Model permits a
view of SDL as occurring on a continuum, where knowledge, skills, and experiences are transferable to other situations and that learning may or may not occur in isolation (Hiemstra, 1994). According to the model, learners utilize personal responsibility through the characteristics of the teaching-learning transaction along with their own personal learning characteristics to achieve SDL within the broader social context (Brockett & Hiemstra, 1991). Each component of the model is discussed below.

The ‘self-directed learning’ component of the PRO Model emphasizes the teaching-learning transaction in which the student assumes the primary responsibility for planning, implementing, and evaluating the learning experience with the teacher facilitating the process. The ‘learner self-direction’ component, on the other hand, refers to the characteristics of individuals that contribute toward their taking personal responsibility for their own learning. The combination of the teaching-learning transaction and personality characteristics of the learner contributes to the outcome of ‘self-direction in learning’ (Brockett & Hiemstra, 1991).

The role of personal responsibility in self-directed learning was cited repeatedly in the literature and is a major component of the PRO Mode (Brockett & Hiemstra, 1991; Candy, 1988; Garrison, 1997, Guglielmino, 1977; Houle, 1961; Knowles, 1970). The PRO Model posits that human beings are capable of assuming personal responsibility for their own learning. In citing humanist scholars such as Abraham Maslow and Carl Rogers, Brockett & Hiemstra (1991) refer to the capacity of humans to make significant personal choices given the constraints of heredity, personal history, and environment. Personal responsibility, in the context of learning, “is the ability and/or willingness of
individuals to take control of their own learning that determines their potential for self-direction” (Brockett & Hiemstra, 1991, p. 26). The authors do not imply that individuals have control over their personal life circumstances, rather, it refers to the control all humans have over the manner in which they will respond to a situation. Thus, the PRO Model is based on the learner’s ‘personal responsibility’ to activate the learning process. The learner may choose various characteristics of the teaching-learning transaction in conjunction with their own characteristics as a learner to arrive at ‘self-direction in learning’ (Brockett & Hiemstra, 1991).

The aforementioned components are placed inside of a circle which represents ‘factors within the social context’ in which learning occurs. The social context component in the PRO Model recognizes that learning occurs within a greater social context and addresses the role of institutions and policies in the development of SDL. This component builds upon Spear & Mocker’s (1984) previous research on the necessity of understanding environmental circumstances in the learning process (Brockett & Hiemstra, 1991). Social context includes both the teaching-learning transaction and the characteristics of the learner. Personal responsibility, however, continues to reside within the individual. The social context includes both political and social elements and expands beyond the physical environment to include emotional aspects of the learner (Hiemstra & Brockett, 1994). According to Hiemstra (1994), if the social context is restrictive, it can limit freedom and curtail learning. Despite these restrictions, it is assumed that individuals still possess degrees of personal responsibility and are at the very least able to control how they will respond to any given situation (Hiemstra, 1994).
Criticisms of the PRO Model primarily concern the social context. Flannery (1993) argued that Brockett and Hiemstra minimized the sociological and cultural issues by giving them only cursory examination. Flannery asserted that the PRO Model inadequately considered factors such as a person’s role in society, cultural issues in other countries that might work against self-direction in learning, and an individuals’ preferred method of learning (Flannery, 1993). Newell (1995) also argued for expansion of the social context to include “political, economic, cultural, and historical dimensions that are brought to bear in a given learning context” (p. 226). Finally, Song & Hill (2007) alluded to the growth of distance learning and felt the PRO Model was not representative of today’s online learning environments.

Brockett & Hiemstra (2010) have acknowledged criticisms of the social context component of the PRO Model. During a recent presentation at the 2010 International Self-Directed Learning Symposium, the authors admitted that they did not have a good understanding of the social context of SDL. According to Brockett & Hiemstra (2010), “we included [social context] in the model but kind of left it for others to address. This has been done over the past two decades and we now have a better understanding of its importance. We now understand that context is an essential component of self-directed learning and needs to be more fully incorporated into our model” (Brockett & Hiemstra, 2010, p. 4). A proposed revision of the PRO Model, the Person-Process-Context (PPC) Model (see Figure 3) places the social environment (context) on equal footing with the teaching-learning (process) and personal characteristics (person) components. The authors disclosed that, “we [now] think of context as a combination of the learning
environment and sociopolitical factors that can impact opportunity to foster self-directed learning” (Brockett & Hiemstra, 2010, p. 7). Due to the provisional nature of the updated model, it was not be used as a theoretical framework in the current research study.

![Dynamic Interrelationships Among the Three Elements](image)

**Figure 3.** Proposed Person-Process-Context (PPC) Model (Brockett & Hiemstra, 2010).

Additional concerns with the PRO Model center on ambiguities related to the personal responsibility component. Kohns (2006) indicated that despite presenting personal responsibility as a precursor to SDL, separating the ‘teaching-learning transaction’ from the individual indicates that personal responsibility should also be separated from the ‘characteristics of the learner.’ Further criticism comes from Newell (1995), who suggested that personal responsibility is too restrictive in relation to the learner’s cognitive and metacognitive dimensions and should be expanded into personal dimensions.

A final critique of the PRO Model was offered by Garrison (1997), who advocated the need to take a more comprehensive look at the psychological dimension of SDL. Garrison felt the study of SDL has over-emphasized external control and management of learning tasks and de-emphasized psychological aspects of SDL.
Garrison asserted that the PRO Model is limited in that it seems to represent only a personality factor or disposition to be self-directed (Garrison, 1997). In order to address shortcomings in the PRO and other models, Garrison (1997) developed the Self-Directed Reaming Model, which will be discussed shortly.

Despite concerns with the PRO Model, it remains a viable and relevant conceptual framework for which to understand SDL. In the context of first-generation college students, the PRO Model is an especially good choice as a theoretical framework given the possible relationship to student retention and development theories. Astin’s Input-Environment-Outcomes (I-E-O) Model (1993) complements the PRO Model in that each focuses on the role of the social context (environment) in the desired outcomes of both social integration and SDL. Currently, research has not been conducted utilizing these two theories collectively to investigate the relationship of SDL and first-generation student success.

Other Self-Directed Learning Models

While Brockett & Hiemstra’s (1991) Personal Responsibility Orientation (PRO) Model has been selected as a theoretical framework for the current study, other scholars have proposed theories of self-direction in learning that are important in the discussion of the topic. Among the theories that will be discussed in this section of the literature review are Candy’s Four-Dimensional Model (1991), Grow’s Staged Self-Directed Learning Model (1991), and Garrison’s Self-Directed Reaming Model (1997).

**Candy’s Four-Dimensional Model.** Candy’s major contribution to the discussion of SDL is the notion that adults utilize SDL differently in formal as opposed to
non-formal settings. In agreement with Brockett & Hiemstra’s (1991) conception of SDL, Candy (1991) also emphasized that self-direction is not only a goal but also a process. In addition, both Candy (1991) and Brockett & Hiemstra (1991) argued that SDL occurs on a continuum.

Utilizing a constructivist philosophy, Candy sought to understand how adults utilize lifelong self-direction and posited two distinctions of SDL: outcome and method. Candy further divided outcome and method and proposed a model of SDL encompassing four dimensions: personal autonomy, self-management, learner-control, and autodidaxy.

The first dimension, personal autonomy, varies from situation to situation. As a result, no assumption can be made that because one person was self-directed in one situation that they will display the same attitude and behavior in another situation or in another area (format) of learning (Candy, 1991).

The second and third components of Candy’s model are self-management and learner-control. Self-management refers to the skills and competencies of the self-directed learner and their willingness and capacity to manage their own learning. Learner-control, on the other hand, is dependent upon both the instructor’s level of self-directedness as well as the self-directedness of the student. In distinguishing learner-control from self-management, Candy described learner-control as an approach to learning and planning instruction in which students assume control over the learning process while self-management referred to the students’ willingness and capacity to manage their own learning. Candy argued that learner-control has several advantages,
including improved curiosity and critical thinking, better retention and understanding, and superior learning outcomes (Candy, 1991).

The final component of Candy’s model is autodidaxy, which is best described as the independent pursuit of learning and self-education. According to Candy (1991), autodidaxy has become extremely widespread and has limitless possibilities. Candy refers to autodidaxy in social contexts and stated “at least some autodidactic projects arise from, and occur within the context of membership in a group” (p. 197).

Criticism of Candy’s model concerns the absence of a conceptual model tied to the framework. In critiquing Candy’s model, Banz (2009) stated “he [Candy] has not formulated his work into a model or conceptual framework which can be applied to SDL” (p. 64).

**Grow’s Staged Self-Directed Learning Model.** Grow’s (1991) model for stages of self-directed learning provides useful perspective regarding a learner’s growth through stages of self-direction. In his framework, Grow stated that his intent was not to address SDL theory, but rather to focus on the teaching-learning transaction, which is also a main component of the PRO Model. According to Grow, “learners advance through stages of increasing self-direction and that teachers can help or hinder that development” (p. 125). The four stages outlined by Grow are: dependent, interested, involved, and self-directed (Grow, 1991).

In the dependent stage of Grow’s model, learners need an expert authority figure to explicitly direct learning. Moving to the second stage, learners become more interested and are willing to complete relevant assignments. Students at this stage are
also confident, but lack a deep foundation of the subject matter. In the third stage, learners have both the skills and knowledge to actively participate in their own learning, but still require guidance from the instructor. According to Grow (1991), stage three learners “need to develop a deeper self-concept, more confidence, more sense of direction, and a greater ability to work with (and learn from) others” (p. 133). In the final stage, learners take responsibility and set their own goal and achievement standards. Stage four indicates that the student possesses skills in time and project management, self-evaluation and monitoring, and effective identification and use of resources (Grow, 1991).

Like Candy (1991), Grow believed that readiness for self-direction is situational and possibly task specific. In his view that self-direction was a characteristic of the learner, Grow (1991) argued that good teaching involves a teacher’s perception of students’ levels of self-direction and facilitating them to advance to greater self-direction in learning situations. In each stage of his model, Grow described the role of the teacher and instructional techniques best suited to assist the student in becoming more self-directed. In addition to acknowledging the teaching-learning transaction in self-direction, Grow also discussed the importance of the learner’s perceptions of motivation and control (Grow, 1991).

The major criticism of Grow’s theory is centered on how a learner’s stage in the model is diagnosed (Tennant, 1992). Grow (1994) responded that he “has working faith that a teacher can reasonably estimate a student’s learning stage from classroom behavior and work submitted” (p. 111). Grow conceded that teaching is an imprecise enterprise
requiring a variety of techniques to integrate SDL models into the instructional process (Grow, 1994).

**Garrison’s Self-Directed Reaming Model.** Similar to Brockett & Hiemstra’s (1991) conceptualization, Garrison (1997) saw SDL as both a personal characteristic and a learning process. In addition, Garrison also stated that personal responsibility should be included in any theoretical concept of SDL. Garrison placed a large emphasis on the actual learning process; the cognitive plus motivational dimensions of learning. Garrison developed a model of SDL with three distinct, yet interconnected and overlapping dimensions: self-management, self-monitoring, and motivation (Garrison, 1997).

The self-management component of Garrison’s model is concerned with issues related to external task control. These issues center upon the activation of learning goals and use of learning resources. Garrison indicated that SDL experiences may include the use of facilitators to provide support and direction, thereby creating a collaborative learning experience (Garrison, 1997).

Garrison’s next dimension, self-monitoring, is “synonymous with responsibility to construct meaning” (Garrison, 1997, p. 24). Both cognitive and metacognitive processes come into play during self-monitoring. Foremost is cognitive ability, which suggests that learners will not succeed and persist without cognitive abilities and strategies (Garrison, 1997). Garrison refers to self-efficacy and the seminal work of Bandura (1977) and others who suggested the importance of self-observation, self-judgment, and self-reaction (Garrison, 1997).
The last dimension, motivation, is seen as the most pivotal and pervasive to Garrison’s model. Motivation is broken down into two parts: entering motivation and task motivation. Garrison referred to entering motivation as the decision to participate and believed that motivation is higher when learners perceive that learning goals meet the needs of students and are achievable. Garrison suggested entering motivation can be strengthened by offering students choices regarding educational objectives (Garrison, 1997).

The second aspect of motivation, task motivation, involves staying on task and persisting and is directly tied to task control, self-management, and the concept of volition. Volition is sustaining intentional effort or diligence and is viewed as an important aptitude for SDL. According to Garrison, volition is “metamotivational in directing and sustaining effort toward learning goals” (Garrison, 1997, p. 29).

Brockett & Hiestra, Grow, and Garrison (1997) each emphasized and acknowledged the importance of the teaching-learning transaction, and discussed the importance of students’ perceptions of motivation and control. However, Garrison (1997) criticized Brockett & Hiestra’s (1991) PRO Model and advocated a need to take a more comprehensive look at the psychological dimension of SDL. Garrison suggested that Brockett & Hiestra’s psychological dimension was limited to “only a personality factor or disposition to be self-directed” (p. 20). Garrison felt the study of SDL had over-emphasized external control and management of learning tasks and de-emphasized psychological aspects of SDL. In developing his model and addressing shortcomings of
the PRO Model, Garrison (1997) identified and integrated cognitive and metacognitive processes throughout his model.

The literature indicates that theoretical frameworks of SDL can be useful to professionals in higher education. Constructs such as personal responsibility, self-efficacy, motivation, learner control, and autonomy can assist in the development of programs targeted to the retention and academic success of first-generation and other at-risk student populations. In the final phase of the literature review, two quantitative instruments designed to measure self-directed learning will be discussed.

**Instrumentation to Measure Self-Directed Learning**

The early work of Houle (1961) and Tough (1971) established both the existence and frequency of self-directed learning in adult’s learning projects. Knowles (1975) supplemented the initial construct of self-direction and proposed a linear process describing the activity. Shortly thereafter, efforts began to quantify and measure self-direction (Stockdale, 2003).

Two scales developed to measure SDL are reviewed in this section. The first scale, Guglielmino’s (1977) Self-Directed Learning Readiness Scale (SDLRS), is by far the most widely used instrument to measure self-directedness. According to Stockdale and Brockett (2000), approximately 70% of published articles involving the measurement of self-directness employed the SDLRS. Guglielmino’s scale is so widely used that Redding & Aagaard (1992) argued that the construct of self-direction has been “operationalized” through the use this scale.
The second scale, The Personal Responsibility Orientation to Self-Direction in Learning Scale (PRO-SDLS) was developed by Stockdale (2003) as part of her dissertation research and is based on the theoretical constructs of the Personal Responsibility Orientation (PRO) Model discussed previously. The PRO-SDLS (see Appendix F) rests on more than three decades of research and was developed as a way to measure SDL in college students and was chosen for the current study due to its applicability in higher education.

**Self-Directed Learning Readiness Scale (SDLRS)**

In an attempt to understand the dynamics of SDL in various environments and operationalize SDL empirically, Guglielmino developed a framework to measure an individual’s potential for self-direction in learning (McCune & Guglielmino, 1989). Guglielmino’s (1977) understanding of SDL motivators and individual self-perceptions was translated into a measurement scale called the SDLRS. According to Guglielmino (1977), the purpose in the original study was “to obtain consensus from a panel of experts on the most important personality characteristic of highly self-directed learners and to develop an instrument for assessing an individual’s readiness for self-direction in learning” (p. 3).

The SDLRS was developed in several stages with the participation of a panel of 14 experts in the adult education field, including well-known scholars such as Houle, Knowles, and Tough. The panel of experts participated in a three round Delphi survey technique to identify the characteristics of the self-directed learner (Guglielmino, 1977). From this effort, 56 characteristics of the self-directed learner were identified with 33 of
the items being rated as essential for self-direction in learning (Guglielmino, 1989a). The 33 essential characteristics were used to develop a 41-item survey, which formed the initial instrument (Guglielmino, 1977). A factor analysis identified the following eight principal factors:

1. Openness to learning opportunities
2. Self-perception as an effective learner
3. Initiative and independence in learning
4. Acceptance of responsibility for one’s own learning
5. Love of learning
6. Creative spirit
7. Positive orientation to the future
8. Ability to use basic study and problem-solving skills

The instrument was administered to students in various educational classroom settings. A Cronbach-alpha reliability coefficient of .87 was reported for the original 41 item instrument (Guglielmino, 1977). Further revision of the SDLRS removed nine of the original items and added 26 new items, yielding the current 58-item Likert scale instrument. The scale yields one total score ranging from 176 to 290, which can then be interpreted against a norm (Guglielmino, 1977).

Translated into 14 languages, the SDLRS has gained wide acceptance in the field of adult education (Caffarella & Caffarella, 1986; Herbeson, 1991). A significant number of studies have been conducted to affirm the validity of the SDLRS (Bonham, 1989; Brockett, 1982; Clark, 1991; Finestone, 1984; Long & Agyekum, 1983; Morris,
Despite widespread popularity and faith in the SDLRS, it has come under some scrutiny. One of the most basic critiques concerns the age of the instrument. Stockdale (2003) observed that the SDLRS had not been revised since being developed in 1977.

A lively debate ensued after Field (1989) analyzed and criticized the validity and reliability of the SDLRS. Field also criticized the use of the Delphi technique to formulate items and questioned the clarity of some of the scale items and definitions. He also found 11 of the 58 items on the SDLRS instrument did not significantly correlate to the total score. This observation led Field to conclude that only a single construct, love and enthusiasm for learning, were representative of the SDLRS. Field argued that problems “inherent in the scale are so substantial that it should not continue to be used” (Field, 1989, p. 138). Several lively retorts supported the SDLRS and criticized Field for a lack of integrity in his study (Guglielmino, 1989; Long, 1989; McCune, 1989). In her response, Guglielmino (1989b) stated that Field’s critique “is so filled with errors of omission and commission that it does not merit serious consideration” (p. 240).

In using the SDLRS with older adults of varying educational levels, Brockett (1985) concluded that the instrument was less effective in measuring self-directedness in adults with lower levels of formal education. Brookfield (1985) agreed with Brockett’s conclusion and stated that the SDLRS was “unsuitable for measuring self-directed learning readiness among working class adults” (p. 62).

Despite concerns raised in the literature, the SDLRS remains the instrument of choice in the majority of research conducted to assess a learner’s readiness for SDL.
Most reliability estimates are consistently reported as greater than .80 (Stockdale, 2003). Brockett & Hiesmtra (1991) argued that the SDLRS has made a vital contribution to present understanding of the self-directed learning phenomenon and has helped inspire research, controversy and dialogue. Brockett & Hiemstra (1991) pointed out that “this contribution outweighs the limitations that seem to be inherent within the instrument” (pp. 74-75). Regardless, identified critiques indicate that a more focused SDL instrument designed specifically for college students may be more appropriate for the purposes of this research study.

**Personal Responsibility Orientation to Self-Direction in Learning Scale (PRO-SDLS)**

Reliance on the older, unrevised SDLRS instrument has been problematic for inquiry into modern conceptualizations of self-directed learning (Stockdale, 2003). According to Merriam, Caffarella, & Baumgartner (2007), the absence of a richer research agenda in SDL is due in part to a shortage of robust, critical discussion and data-based studies of later conceptual models. Stockdale’s (2003) PRO-SDLS addresses this concern and is one of the more recent additions to the research base on SDL measurement. The purpose of Stockdale’s research “was to develop a reliable and valid instrument to measure self-directedness in learning among college students based on an operationalization of the PRO Model of self-direction in learning” (Stockdale & Brockett, 2010, p. 1). Due to its applicability in higher education, the PRO-SDLS was selected for the current study as a measure of SDL among first-generation college students.
participating in a summer bridge program. The following is a discussion of the instrument and rationale for utilizing it in the current study.

The PRO-SDLS evaluates the two main components of self-direction in learning identified by Brockett & Hiemstra’s (1991) PRO Model: the teaching-learning transaction (self-directed learning) and characteristics of the learner (learner self-direction). Prior to the development of the PRO Model, research in SDL tended to view the constructs separately from either the teaching-learning context or as being a personality characteristic of the learner (Stockdale, 2003). In selecting the PRO Model as the basis for the development of her scale, Stockdale (2003) sought to (1) identify and operationalize items that reflect the process and learner components of the PRO Model and (2) validate the scale items associated with other measures of self-direction.

Six research objectives guided Stockdale (2003) in the development of the PRO-SDLS:

2. Content validation established by a panel of experts.
3. Congruent validation of the measure of self-directedness confirmed by a comparison of scores on the SDLRS and the PRO-SDLS.
4. Construct validation verified by comparing scores on SDL with logically related behavioral criteria.
5. Convergent validity corroborated by the ratings by professors of the self-directedness of their students who participated in the studies.
6. Demonstration that the PRO-SDLS scores added signification and unique variance to the predication of self-direction beyond scores from the SDLRS. The significance of Stockdale’s (2003) research was in providing empirical evidence supporting the ‘teaching-learning’ (designated TL) and ‘learner characteristic’ (designated LC) framework of the PRO Model. Within each framework of the PRO Model, Stockdale identified two components. In the TL framework, learner control and initiative are described and measured by the PRO-SDLS. Alternatively, motivation and self-efficacy are measured by the LC component of the PRO-SDLS (Stockdale, 2003).

Adult education literature was cited in the development of items related to the TL component of the PRO Model (Stockdale, 2003). Seminal research by Kasworm (1982), Fellenz (1985), and Long (1990) inspired Stockdale to include ‘learner control’ as a component of the PRO-SDLS. Stockdale (2003) cited Long’s (1990) assertion that the psychological variable of active control over the learning process is often an overlooked component in SDL. In addition, Stockdale (2003) cited Fellenz (1985), who indicated that locus of control may influence the outcome of self-directed learning.

The second item in the TL component of the PRO-SDLS is initiative. In Brockett & Hiemstra’s (1991) definition of SDL, they refer to the “process in which a learner assumes primary responsibility…” (p. 24). Similarly, Knowles (1975) defined self-directed learning as “a process in which individuals take the initiative…” (p. 18). In analyzing the two definitions of SDL, Stockdale (2003) stated that “the major difference between the two definitions seems to center on Brockett & Hiemstra’s term ‘personal responsibility’ versus Knowles’ term ‘initiative’” (p. 10). In developing the PRO-SDLS,
Stockdale (2003) concluded that both “initiative” and “personal responsibility” had very similar meaning and settled on “initiative” as a component of the PRO-SDLS.

In formulating items for the LC component of the instrument, Stockdale utilized psychology and education psychology literature to inform her research. Stockdale (2003) cited descriptors of motivation types from the research of Deci and Ryan (1985, 2000) as helpful in item construction for inclusion within the LC component of the PRO-SDLS. In particular, Stockdale indicated that Deci & Ryan’s (2000) suggestion that students’ motivation orientation was influenced by factors in the environment that affect their self-perceptions of competence and autonomy. According to Brockett & Stockdale (2010), “teachers who allow the students to make decisions about their learning and provide clear feedback about the students’ progress support students’ perceptions of their autonomy and competence” (p. 15).

In addition to motivation, Stockdale (2003) viewed the psychological construct of self-efficacy as vital to operationalizing the LC component of the PRO-SDLS. Stockdale noted that earlier research explained motivation for SDL in terms of a learner’s self-confidence relative to learning activities. In contrast, modern conceptualizations in adult education literature (Jones, 1994; Murphy & Alexander, 2000) contended that self-confidence in adult education should be defined according to Bandura’s (1977) social-cognitive learning theories (Stockdale, 2003). Bandura (1977) used the term ‘self-efficacy’ instead of self-confidence and defined self-efficacy as “people’s judgments of their capacities to organize and execute courses of action required to attain designated types of performances” (p. 391). Based on Bandura’s definition, Stockdale (2003)
asserted that self-efficacy might be more predictive of actual self-directed learning than self-confidence. According to Stockdale, “items assessing a student’s perception of their self-efficacy for self-direction may be a valuable addition to the PRO-SDLS” (p. 67). As a result, Stockdale (2003) selected self-efficacy as an LC component for the PRO-SDLS.

Stockdale (2003) conducted three pilot studies and a final analysis to answer the research objectives previously described. The first research objective was achieved as a reliable measure of self-directedness was achieved. During the third pilot, a 35 item version of the PRO-SDLS produced a coefficient alpha of .92. According to Stockdale, “the high coefficient alpha (.92) indicated that self-direction as measured here can be regarded as a unitary construct” (Stockdale, 2003, p. 114).

The second research objective was aimed at establishing content validation using a panel of experts familiar with the PRO Model. The panel included Brockett & Hiemstra and four other experts in SDL who provided their input relative to the representativeness and appropriateness of the PRO-SDLS. Stockdale asked each rater to decide whether the items appropriately related to the TL or LC component of the PRO Model. While agreement was not 100%, 31 of the 35 items were representative of one or both components of the model. Stockdale further compared the results of the ratings by the expert with the psychometric data for each item. Stockdale concluded that six of the original items should not be included in the final version of the PRO-SDLS. Elimination of the six items by the researcher resulted in a final scale with 25 items (Stockdale, 2003). According to Stockdale (2010), “all 25 items produced corrected item-total correlations
greater than .31, and the calculated coefficient alpha for the 25-item scale was .91” (p. 10).

Research objective #3 explored congruent validity of the measure of self-directedness between scores from the SDLRS (Guglielmino, 1977). Utilizing a Pearson product moment correlation coefficient, PRO-SDLS scores yielded an r-value of <.70 in relation to the SDLRS. The results indicated that this research objective had been met (Stockdale, 2003).

The fourth research objective looked at the construct validity of the scale by examining relations between age, gender, GPA, course performance, and previously completed semester hours. Stockdale (2003) obtained this information in the demographics survey included in the research questionnaires. Her correlations revealed significant relationships (p<.01) between scores on the PRO-SDLS and age, self-reported GPA, previously completed semesters hours, and course performance (Stockdale, 2003).

The only objective not met was the fifth, which sought to establish convergent validity between students’ scores on self-directedness and ratings by professors on the self-directedness of those same students. Stockdale (2003) reported that there was no significant relationship between the professor’s rating of students’ self-directedness and students’ outcomes on the PRO-SDLS or the SDLRS.

The final research objective examined whether scores on the PRO-SDLS would add significant unique variance to the prediction of self-direction beyond scores of the SDLRS. Utilizing a hierarchical multiple regression technique, Stockdale (2003)
determined that the PRO-SDLS improved on the prediction of GPA, age, and course performance over the SDLRS.

Based on the results of her study, Stockdale (2003) concluded that “there is a link between self-direction, as measured by the PRO-SDLS, and successful college outcomes” (p. 143). Based on this finding, the PRO-SDLS is appealing for this study for three reasons. First, the PRO-SDLS is based on Brockett & Hiemstra’s (1991) conceptualization that personal responsibility is central to the understanding of self-direction. According to Brockett & Hiemstra (1991), personal responsibility means “individuals assume ownership for their thoughts and actions” (p.26). Accepting personal responsibility for academic success is important for first-generation college students entering the university environment.

Second, the PRO-SDLS is appealing for this study because it was specifically developed for class settings at the college level. Stockdale (2003) noted that a delimitation of her study was that her sample was taken from graduate and undergraduate students attending a large, southeastern, public institution. In the current study, the University of South Florida is a large, southeastern, public institution and is similar demographically to the institution studied in the original research. In contrast, the population represented in this study is a far more homogenous university population, eliminating one of Stockdale’s delimitations.

Lastly, utilizing the PRO-SDLS in the current study afforded an opportunity to test the reliability of a more recent instrument in the field of adult education. Previous studies by Stockdale (2003) and Fogerson (2005) indicated a high level of internal
consistency, .92 & .91 respectively. Further research utilizing the PRO-SDLS provides a
test of internal consistency and adds more information concerning the reliability of this
particular instrument in the measurement of self-direction.

Follow-up research to Stockdale’s original research is minimal. Fogerson (2005)
used the PRO-SDLS to determine self-directedness in university students completing
online courses. In Fogerson’s study, the reliability of the PRO-SDLS was confirmed. A
coefficient alpha of .91 was achieved based on 314 responses to a questionnaire. This
compares favorably with the measure of internal consistency (.92 & .91) reported by
Stockdale (Fogerson, 2005).

Fogerson’s sample was a heterogeneous group that differed in age and included
both undergraduate and graduate students at varying levels of academic ability. Fogerson
(2005) indicated that age had a considerable impact on statistical outcomes. According to
Fogerson (2005), “this impact was noticeable in the correlations between age and self-
direction within the different groupings. For the group as a whole, there was a positive
correlation of .29 between age and self-direction” (p. 122). Fogerson (2005) cited other
researchers who have indicated that self-direction tends to increase with age (Bitterman,
1989; Guglielmino, Guglielmino, & Long, 1987; Hoban & Sersland, 1999; Jones, 1994;
Long & Agyekum, 1984; Long & Morris, 1996). In the current study, the population was
a homogenous group of traditional aged college students (17-19) with similar levels of
high school achievement. The use of a homogenous group of students helped minimize
the impact of age and ability on statistical outcomes.
Summary

In this chapter, literature regarding first-generation college students, retention and involvement theory, summer bridge programs, and self-directed learning was presented. The literature indicated that first-generation college students have to negotiate a difficult transition into academia and often experience difficulties remaining enrolled and attaining a degree (Horn & Nunez, 2000). Limited research has been conducted regarding this student population following matriculation at the university. Additional research is needed to better inform university administrators in developing strategies to retain and promote academic success among at risk student populations.

Next, relevant research on student retention and involvement was investigated as a next step in understanding the nature of difficulties surrounding first-generation college student persistence. Although there is a significant body of literature on attrition and how to ameliorate the problem, there is little research on university-level retention programs.

A common retention effort identified in the literature was the summer bridge program, designed to increase academic success and degree completion among at risk student populations. Despite a heavy investment of institutional resources, little empirical data exists beyond program based evaluations (Kezar, 2000; Santa Rita & Bacote, 1996).

The final component of the literature review described self-directed learning and instruments to measure the phenomenon. Research indicates that self-direction is an important characteristic of learners; however, no research has been identified regarding the self-directedness of first-generation college students. The current study identified
possible relationships between higher education and adult education constructs through the research self-directed learning among first-generation college students participating in a summer bridge program.

Chapter Three presents a description of the methods utilized for measuring self-direction among first-generation college students participating in the Freshman Summer Institute, a summer bridge program at the University of South Florida.
CHAPTER THREE

METHODS

A review of the literature indicated that research investigating the relationship between self-directed learning readiness and first-generation college student success is notably absent. In addition, few empirical studies exist concerning the implementation of summer bridge programs as a tool to augment academic success and retention of first-generation students. Identified gaps in the literature reveal possible interrelationships between theoretical frameworks in the fields of adult and higher education. The purpose of this study was to investigate the change in self-direction among first-generation college students participating in the Freshmen Summer Institute (FSI), a summer bridge program at the University of South Florida.

This study was designed to answer the following research questions:

1. What is the relationship between pre-test scores of the Personal Responsibility Orientation to Self-Direction in Learning Scale and previous academic achievement as measured by university admissions grade point average?
2. What differences in scores were measured between pre-test (given July, 2009) and post-test (given January, 2010) administration of the Personal Responsibility Orientation to Self-Direction in Learning Scale?
3. What is the relationship between post-test scores of the Personal Responsibility Orientation to Self-Direction in Learning Scale and academic
achievement as measured by university grade point average at the end of the third full semester?

4. How are participants’ levels of self-direction following involvement in a summer bridge program, as indicated by post-test scores of the Personal Responsibility Orientation to Self-Direction in Learning Scale, different for participants' based on gender and ethnicity?

5. How is the impact of a summer bridge program, as indicated by a change in self-direction scores on the Personal Responsibility Orientation to Self-Direction in Learning Scale, different for participants’ based on gender and ethnicity?

Research Design

To answer the research questions proposed, a quantitative research design was used to analyze secondary data. A correlational design was selected to determine if statistically significant differences exist in variables measured by the Personal Responsibility Orientation to Self-Direction in Learning Scale (PRO-SDLS). Data were previously gathered through a cooperative effort between Tutoring and Learning Services (TLS) and the Freshman Summer Institute (FSI) at the University of South Florida. Located in the main library at the USF Tampa Campus, the mission of TLS is “to strengthen students’ ability to learn effectively and efficiently and support their timely and successful progression toward graduation” (Tutoring & Learning Services, 2010). The purpose and goals of the FSI program were discussed in detail in chapter two.
During the summer 2009 semester, the Director of TLS partnered with the Director of FSI to offer all incoming FSI students a one-credit hour course called *Strategic Learning*. The purpose of the *Strategic Learning* course was to assist students in the development of effective academic strategies and to enhance success during college and for lifelong learning. With consent from the USF Division of Research Integrity & Compliance (see Appendices B, C, & D), the PRO-SDLS was distributed to all student participants in the FSI program.

The Principal Investigator in the Institutional Review Board (IRB) application was the Director of TLS, with the researcher in the current study named as co-Investigator. As referenced above, the current study employed a secondary data analysis using an existing dataset collected by the researcher and Director of TLS. According to McMillan & Schumacher (2010), secondary data analysis is the process of statistically examining data collected by some other organization, group, or individual at some prior time. Secondary data analysis is often chosen by researchers because of data quality and increased sample size (McMillan & Schumacher, 2010). The decision to use secondary data for this study was certainly intentional given the quality of data and large sample size of the summer 2009 cohort of FSI students.

**Population and Sample**

The population for this study was from the University of South Florida (USF), a large, metropolitan, public, multi-campus research university in the state of Florida. USF is one of three research-intensive public universities in the state. A final headcount of
47,341 students was reported for the fall 2009 semester by the USF Office of Decision Support.

The Tampa campus is the main campus for the university, with a total fall 2009 enrollment of 40,267, of which 30,007 were classified as undergraduate. USF Tampa is located on more than 1,500 acres and includes 253 buildings housing extensive health, medical, and academic facilities, residence halls, research facilities, as well as student services and recreational facilities. The Tampa campus was founded in 1956 to address the needs of a rapidly growing population in the Tampa Bay area. In 2008, the population of Hillsborough County, where USF Tampa is located, was reported as 1.2 million (Bureau of Economic and Business Research, 2009).

According to the Princeton Review (2010), USF is one of the most ethnically diverse universities in the nation. In fall 2009, 61.5% of undergraduate students at USF Tampa identified themselves as white, 12.6% black, 15.5% Hispanic, 6.7% Asian and 3.7% represented other minority groups or did not report. During the same term, 56.3% of undergraduate students were female and 43.7% were male (USF Office of Decision Support, 2010).

A purposeful sample was used for this study and was drawn from participants in the 2009 Freshman Summer Institute (FSI) at the USF Tampa campus. Students were selected for the FSI program through their fall admission application to the university. The university used academic success predictors (high school grade point average, SAT/ACT test score results) to make admissions decisions for applicants. If a student fell below the university’s standards for fall applicants, the admissions office flagged
students who identified themselves as being first-generation, defined on USF’s admissions application as neither parent having completed a baccalaureate degree. Next, the flagged first-generation applicants were notified that although they have been denied admission for the fall semester, they had been accepted for admission for the summer term with the condition that they successfully complete the Free Application for Federal Student Aid (FAFSA). Students with the lowest expected family contributions (EFC) scores, determined by the FAFSA, were referred to FSI or a federally funded TRIO program known as Student Support Services (SSS).

Depending on the year and resources, between 150 - 250 students enter the University through the FSI program. All FSI participants are traditional-aged, first-year college students (17-19). A total of 224 students participated in FSI during the summer 2009 semester. Of those, 193 (86.2%) completed a pre-test administration of the PRO-SDLS. Table 1 contains the demographic data which were taken from the pre-test administration of the PRO-SDLS.
FSI students who completed the pre-test were expected to complete a post-test distributed during January 2010 during a large group meeting of FSI students. Unfortunately, not all students in the program completed the second administration. Several students submitted incomplete instruments and were not included. A total of 122 (54.4%) students completed both the pre and post-test administration of the PRO-SDLS. This study, however, limited data analysis to the 110 students who completed both the pre and post-test assessment of the PRO-SDLS and were categorized as black, Hispanic, or white. The students representing the final analysis represent 49.1% of the entire FSI population and their demographic data is contained in Table 2.
Table 2

PRO-SDLS Post-test Demographics

<table>
<thead>
<tr>
<th>Description</th>
<th>N</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Males</td>
<td>37</td>
<td>33.64%</td>
</tr>
<tr>
<td>Females</td>
<td>73</td>
<td>66.36%</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td><strong>110</strong></td>
<td><strong>100%</strong></td>
</tr>
<tr>
<td>Black, non-Hispanic</td>
<td>36</td>
<td>33.72%</td>
</tr>
<tr>
<td>Hispanic</td>
<td>40</td>
<td>36.36%</td>
</tr>
<tr>
<td>White, non-Hispanic</td>
<td>34</td>
<td>30.92%</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td><strong>110</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

Variables

The following variables are represented in this study:

1. Admissions GPA: Also known as high school GPA. This is a measure of the prior academic performance of first-year students participating in the FSI program. The USF Office of Admissions determines an “admissions GPA” using a 4.0 scale. Extra points for advanced placement, honors, or gifted courses given by school districts are not included in the admissions GPA.
2. Ethnicity: A categorical measure which distinguishes between the following: black, Hispanic, and white
3. Gender: A categorical measure which distinguishes between males and females. This independent variable is dichotomous. Males were coded with a value of 1 and females with a value of 0.
4. Pre-test score on PRO-SDLS: The pre-test was administered during the participants first week of college in July, 2009.

5. Academic performance: This study used students’ cumulative university GPA at the end of the spring 2010 semester as a measure of academic performance. This variable included three semesters of college coursework.

6. Post-test score on PRO-SDLS: The post-test was administered January, 2010, or approximately six months after the pre-test.

**Instrumentation**

For the purposes of this study, the Personal Responsibility Orientation (PRO) Model (Brockett & Hiemstra, 1991) was used as a foundation for investigating self-directed learning characteristics of first-generation college freshman participating in the FSI program at USF. The instrument chosen for this research was the Personal Responsibility Orientation to Self-Direction in Learning Scale (PRO-SDLS), described in detail in Chapter Two. The PRO-SDLS (see Appendix F) was developed by Stockdale (2003) as her doctoral dissertation at the University of Tennessee. The instrument was an attempt “to develop a reliable and valid instrument to measure self-directedness in learning among college students based on an operationalization of the PRO Model of self-direction in learning” (Stockdale & Brockett, 2010, p. 1).

The PRO-SDLS scale consists of 25 questions representing two subcomponents: a teaching-learning transaction component and a learner characteristic component. Within the two subcomponents are four factors: initiative, control, self-efficacy, and motivation. Likert scale responses were used for these questions and represented the values strongly
disagree (1) to strongly agree (5). Total possible score on the instrument is 125 with a higher score indicating a higher level of overall self-direction. Contributing to the total score are the initiative, control, and self-efficacy factors, which have a maximum sum score of 30. The final factor, motivation, has a maximum score of 35. The scale, scoring rubric, and permission from Stockdale to use the instrument for this study are included in Appendix E.

Based on the results of her study, Stockdale (2003) concluded that “there is a link between self-direction, as measured by the PRO-SDLS, and successful college outcomes” (p. 143). Based on this finding, the PRO-SDLS was appealing for this study for three reasons. First, the PRO-SDLS is based on Brockett & Hiemstra’s (1991) conceptualization that personal responsibility is central to the understanding of self-direction. According to Brockett & Hiemstra (1991), personal responsibility means “individuals assume ownership for their thoughts and actions” (p.26). Accepting personal responsibility for academic success is important for first-generation college students entering the university environment.

Second, the PRO-SDLS was appealing for this study because it is was specifically developed for class settings at the college level. Stockdale (2003) noted that a delimitation of her study was that her sample was taken from graduate and undergraduate students attending a large, southeastern, public institution. In the current study, the University of South Florida is a large, southeastern, public institution and is similar demographically to the institution studied in the original research. In contrast, the
population represented in this study was a far more homogenous university population, eliminating one of Stockdale’s delimitations.

Lastly, utilizing the PRO-SDLS in the current study afforded an opportunity to test the reliability of a more recent instrument in the field of adult education. Previous studies by Stockdale (2003) and Fogerson (2005) indicated a high level of internal consistency, .92 & .91 respectively. Further research utilizing the PRO-SDLS provides a test of internal consistency and adds more information concerning the validity of the instrument in the measurement of self-direction.

**Data Collection Procedures**

As stated earlier, secondary data collected by the Directors of TLS and FSI was analyzed for this study. The first data collection point occurred in July 2009 when FSI students completed the pre-test administration of the PRO-SDLS. During the first week of the Summer B semester, students were asked to sign the IRB informed consent and complete the PRO-SDLS during the first class session of *Strategic Learning*. Completed PRO-SDLS instruments were entrusted to the students’ academic advisor in the FSI program. The advisor scored and coded each instrument so that the researchers could not identify students. In addition to PRO-SDLS scores, the advisor entered additional non-identifying student information including variables such as gender, ethnicity, and admissions GPA into the database.

The second data collection point occurred January, 2010. During a large group meeting to celebrate the start of the spring 2010 semester, FSI students were asked to complete the post-test administration of the PRO-SDLS. Once again, an advisor in the
FSI program coded all completed instruments, scored them, and inputted them into an electronic database. At the end of the spring 2010 semester, the students’ official university GPA was recorded in the database.

**Data Analysis**

A statistical analysis of the data was completed using SAS software. Descriptive statistics, such as appropriate measures of central tendency, variability, standard deviation, minimum/maximum values, skewness, and kurtosis were reported for all variables in this study. In addition, a Cronbach’s Alpha was conducted as a measure of reliability and internal consistency of the PRO-SDLS scores.

The appropriate inferential tests were conducted to address each research question. Below is an overview of the analysis procedure that was applied to each research question in addition the descriptive statistics outlined above.

**Question 1:** A Pearson Product Moment Correlation was conducted to analyze the relationship between pre-test scores of the PRO-SDLS and previous academic achievement (high school GPA).

**Question 2:** A dependent means t-test was conducted to analyze differences measured in the pre and post-test administration of the PRO-SDLS.

**Question 3:** A Pearson Product Moment Correlation was conducted to analyze the relationship between post-test scores of the PRO-SDLS and academic achievement (university GPA).

**Question 4:** A factorial ANOVA was conducted to analyze the relationship between post-test scores of the PRO-SDLS and both gender and ethnicity.
Question 5: A factorial ANOVA was conducted to analyze the change in scores on pre- and post-test administration of the PRO-SDLS and both gender and ethnicity.

Summary

The methodology of this study included both presentation of the design and setting in which the study occurred. Utilizing secondary data, the study includes analysis of a pretest and posttest design of first-generation college students participating in the Freshmen Summer Institute at the University of South Florida. The student sample was described and consists of 110 FSI students. The PRO-SDLS instrument was utilized to measure self-direction and data collection procedures were described. Finally, a description of the data analysis techniques was described in detail.
CHAPTER FOUR
ANALYSIS OF DATA

The purpose of this research was to investigate self-direction among first-generation college students participating in the Freshmen Summer Institute (FSI), a summer bridge program at the University of South Florida (USF). The study sought answers to five research questions through statistical analysis of pre-test and post-test scores on the PRO-SDLS and the interactions between gender, ethnicity, admissions grade point average, and university GPA. Reliability of the PRO-SDLS scores as a measurement of self-directedness among the sample population was also examined. The following sections in this chapter will consider: (a) the sample and demographic profile of the respondents, (b) descriptive survey data and reliability of PRO-SDLS scores, and (c) analysis of the five research questions.

Sample Population and Demographic Profile of the Respondents

Descriptive statistics are used to describe the main features of a collection of data in quantitative terms. The text in this section presents data that describe the research sample. The variables in this study included admissions GPA, ethnicity, gender, pre-test scores on the PRO-SDLS, university GPA, and post-test scores on the PRO-SDLS.

As indicated in Chapter Three, the sample included 110 first-year college students participating in the Freshman Summer Institute (FSI), a summer bridge program at the University of South Florida (USF) during the summer 2009 semester. A total of 224
students participated in the FSI program during the summer 2009 semester. Of those, 193 (86.2%) completed the pre-test administration of the PRO-SDLS, distributed July, 2009 (see Table 1). In the spring 2010 semester (January), a post-test administration of the PRO-SDLS was distributed with 122 of 224 (54.4%) participants completing both pre and post-test administrations of the PRO-SDLS. Of the 122 students with both pre-test and post-test scores, a final sample size of 110 (49.1% of the entire population) was determined through the inclusion of students who were described themselves as either black, Hispanic, or white. Limiting data analysis to these ethnic groups permitted the use of a factorial ANOVA to answer the fourth and fifth research questions.

In Chapter Three, the data cited in Table 2 presented demographic information of the final sample. There were 73 (66.36%) females and 37 (33.64%) males in the sample. Broken down by ethnicity, the largest proportion of participants, 40 students (36.36%), was identified as Hispanic. There were also 36 black students (32.72%) and 34 (30.92%) white students. Information on participant age was not collected as all FSI participants were traditional-aged (17-19), first-year college students.

In addition to gender and ethnicity, information on academic achievement was gathered. Previous academic achievement is indicated by USF admissions GPA, while university academic achievement is indicated by cumulative GPA at the conclusion of the spring 2010 semester, which represents the third semester of college. Table 3 summarizes academic achievement information for the study sample.
Table 3

*Descriptive Statistics for Academic Performance Measures*

<table>
<thead>
<tr>
<th>Description</th>
<th>N</th>
<th>Mean</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Std. Dev</th>
<th>Skewness</th>
<th>Kurtosis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Admissions GPA</td>
<td>110</td>
<td>3.35</td>
<td>2.82</td>
<td>3.95</td>
<td>.28</td>
<td>-0.79</td>
<td>0.55</td>
</tr>
<tr>
<td>University GPA</td>
<td>110</td>
<td>2.74</td>
<td>0.84</td>
<td>3.79</td>
<td>.63</td>
<td>0.11</td>
<td>-0.66</td>
</tr>
</tbody>
</table>

**Descriptive Survey Data**

This section includes descriptive data based on pre-test and post-test administrations of the PRO-SDLS. The first subsection reports response totals for both administrations of the PRO-SDLS and compares these findings with past studies by Stockdale (2003) and Fogerson (2005). Next, means are analyzed in order to ensure there is not a systematic difference between those who completed the pre-test but not the post-test administration of the PRO-SDLS. The final subsection addresses the reliability of scores for both administrations of the PRO-SDLS.

**PRO-SDLS Response Totals and Comparison to Previous Studies**

Descriptive data for the pre-test administration of the PRO-SDLS are represented in Table 4, and post-test data are presented in Table 5. Total PRO-SDLS scores are broken down into the four subcomponents measured by the instrument: Learner initiative, control, self-efficacy, and motivation. The minimum total score possible on the PRO-SDLS is 25 with a maximum score of 125. Three subcomponents, learner initiative, control, and self-efficacy each have a minimum possible score of six and a maximum of 30. For motivation, the lowest possible minimum score is seven with a maximum of 35.
Measures of skewness and kurtosis for both administrations of the instrument indicate an approximately normal distribution.

Table 4

*Descriptive Data for Pre-test Administration of PRO-SDLS*

<table>
<thead>
<tr>
<th>Description</th>
<th>N</th>
<th>Mean</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Std. Dev</th>
<th>Skewness</th>
<th>Kurtosis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Score</td>
<td>110</td>
<td>89.62</td>
<td>62.00</td>
<td>113.00</td>
<td>10.03</td>
<td>-0.24</td>
<td>0.27</td>
</tr>
<tr>
<td>Learner Initiative</td>
<td>110</td>
<td>19.03</td>
<td>9.00</td>
<td>27.00</td>
<td>3.50</td>
<td>-0.25</td>
<td>0.21</td>
</tr>
<tr>
<td>Learner Control</td>
<td>110</td>
<td>22.61</td>
<td>14.00</td>
<td>30.00</td>
<td>3.64</td>
<td>-0.22</td>
<td>-0.60</td>
</tr>
<tr>
<td>Learner Self-Efficacy</td>
<td>110</td>
<td>24.02</td>
<td>12.00</td>
<td>30.00</td>
<td>3.61</td>
<td>-0.57</td>
<td>0.54</td>
</tr>
<tr>
<td>Learner Motivation</td>
<td>110</td>
<td>23.96</td>
<td>17.00</td>
<td>32.00</td>
<td>2.91</td>
<td>0.20</td>
<td>0.27</td>
</tr>
</tbody>
</table>

Table 5

*Descriptive Data for Post-test Administration of PRO-SDLS*

<table>
<thead>
<tr>
<th>Description</th>
<th>N</th>
<th>Mean</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Std. Dev</th>
<th>Skewness</th>
<th>Kurtosis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Score</td>
<td>110</td>
<td>91.17</td>
<td>60.00</td>
<td>116.00</td>
<td>10.92</td>
<td>-0.01</td>
<td>-0.13</td>
</tr>
<tr>
<td>Learner Initiative</td>
<td>110</td>
<td>19.33</td>
<td>8.00</td>
<td>30.00</td>
<td>3.37</td>
<td>0.02</td>
<td>1.07</td>
</tr>
<tr>
<td>Learner Control</td>
<td>110</td>
<td>22.89</td>
<td>11.00</td>
<td>30.00</td>
<td>4.01</td>
<td>-0.47</td>
<td>-0.03</td>
</tr>
<tr>
<td>Learner Self-Efficacy</td>
<td>110</td>
<td>24.40</td>
<td>15.00</td>
<td>30.00</td>
<td>3.49</td>
<td>-0.50</td>
<td>-0.02</td>
</tr>
<tr>
<td>Learner Motivation</td>
<td>110</td>
<td>24.55</td>
<td>13.00</td>
<td>34.00</td>
<td>3.90</td>
<td>-0.46</td>
<td>0.29</td>
</tr>
</tbody>
</table>

Mean scores reflecting self-direction as measured by the PRO-SDLS fall midway between averages from previous studies by Stockdale (2003) and Fogerson (2005) on both the pre-test and post-test. The mean scores on the PRO-SDLS for the current study were 89.62 and 91.17 (SD = 10.03 and 10.92) respectively, out of a possible range of 25
to 125. Analysis by Stockdale (2003) for her study sample revealed a mean score on the PRO-SDLS of 84.05 ($SD = 12.47$). A more recent study by Fogerson (2005) revealed a mean score of 96.91 ($SD = 11.82$). These findings are represented in Table 6.

Table 6

*Comparison of Descriptive Statistics for PRO-SDLS: Previous and Current Study*

<table>
<thead>
<tr>
<th>Description</th>
<th>N</th>
<th>Mean</th>
<th>Std. Dev</th>
</tr>
</thead>
<tbody>
<tr>
<td>PRO-SDLS Total (Stockdale’s Study)</td>
<td>194</td>
<td>84.05</td>
<td>12.47</td>
</tr>
<tr>
<td>PRO-SDLS Total (Fogerson’s Study)</td>
<td>217</td>
<td>96.91</td>
<td>11.82</td>
</tr>
<tr>
<td>PRO-SDLS (Current Study Pre-test)</td>
<td>110</td>
<td>89.62</td>
<td>10.03</td>
</tr>
<tr>
<td>PRO-SDLS (Current Study Post-test)</td>
<td>110</td>
<td>91.17</td>
<td>10.92</td>
</tr>
</tbody>
</table>

**Data Comparison between Pre-test only Group**

A total of 74 participants completed the pre-test administration of the PRO-SDLS but did not complete the post-test. To ensure that those who did not complete the post-test were not significantly less self-directed than those who completed both administrations, a comparison of the means on the pre-test as well as admissions and university GPA are presented in Table 7.

Table 7

*Comparison of Pre-test only Group to Sample Population*

<table>
<thead>
<tr>
<th>Description</th>
<th>N</th>
<th>Pre-Test Mean</th>
<th>Admissions GPA</th>
<th>University GPA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-Test Only Group</td>
<td>74</td>
<td>88.97</td>
<td>3.30</td>
<td>2.78</td>
</tr>
<tr>
<td>Pre-Test and Post-Test Group</td>
<td>110</td>
<td>89.62</td>
<td>3.35</td>
<td>2.74</td>
</tr>
</tbody>
</table>
Reliability of PRO-SDLS Scores

A part of the current study’s significance is to provide reliability data for the PRO-SDLS scores since it is one of the few studies to utilize the instrument. The 25-item PRO-SDLS yielded a coefficient alpha on Cronbach’s scale of .84 (pre-test) and .87 (post-test) based on the 110 responses to the questionnaire. These coefficient alphas compare favorably with the measures of internal consistency discovered by Stockdale (2003) and Fogerson (2005), which were coefficient alphas of .91 and .92 respectively. Reliability for each subcomponent score (learner initiative, control, self-efficacy, and motivation) was also determined for the current study but was unavailable from previous research studies. Data analysis of the reliability of the PRO-SDLS is presented in Table 8.

Overall reliability of the instrument achieved a Cronbach’s Alpha above .80. Each sub-component achieved a Cronbach’s Alpha above .70 with the exception of motivation, which achieved a Cronbach’s Alpha of .41 and .67 respectively. One item in particular, question 16, significantly affected the reliability of the motivation component. Question 16 states: “The primary reason I complete course requirements is to obtain the grade expected of me.” Removal of this question raises the Cronbach’s Alpha of the motivation component of the PRO-SDLS to .53 (pre-test) and .74 (post-test).
Table 8

*Reliability Data for the PRO-SDLS Scores*

<table>
<thead>
<tr>
<th>Description</th>
<th>N</th>
<th>Cronbach’s α</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Score (Pre-test)</td>
<td>110</td>
<td>.84</td>
</tr>
<tr>
<td>Initiative (Pre-test)</td>
<td>110</td>
<td>.76</td>
</tr>
<tr>
<td>Control (Pre-test)</td>
<td>110</td>
<td>.78</td>
</tr>
<tr>
<td>Self-Efficacy (Pre-test)</td>
<td>110</td>
<td>.79</td>
</tr>
<tr>
<td>Motivation (Pre-Test)</td>
<td>110</td>
<td>.41</td>
</tr>
<tr>
<td>Total Score (Post-test)</td>
<td>110</td>
<td>.87</td>
</tr>
<tr>
<td>Initiative (Post-test)</td>
<td>110</td>
<td>.72</td>
</tr>
<tr>
<td>Control (Post-test)</td>
<td>110</td>
<td>.83</td>
</tr>
<tr>
<td>Self-Efficacy (Post-test)</td>
<td>110</td>
<td>.79</td>
</tr>
<tr>
<td>Motivation (Post-Test)</td>
<td>110</td>
<td>.67</td>
</tr>
<tr>
<td>Total Score</td>
<td>194</td>
<td>.91</td>
</tr>
<tr>
<td>Stockdale (2003)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Score</td>
<td>217</td>
<td>.92</td>
</tr>
<tr>
<td>Fogerson (2005)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Analysis of Research Questions**

The study sought answers to five research questions through statistical analysis of pre-test and post-test scores on the PRO-SDLS and the relationships between gender, ethnicity, admissions grade point average, and university GPA. Following is a summary of the findings for each of the questions based on the data collected.
Question One. What is the relationship between pre-test scores of the Personal Responsibility Orientation to Self-Direction in Learning Scale and previous academic achievement as measured by university admissions grade point average?

A Pearson Product Moment Correlation was conducted to analyze the relationship between pre-test scores of the PRO-SDLS and previous academic achievement (admissions GPA). Correlation is a measure of the relation between two or more variables. Correlation coefficients can range from -1.00 to +1.00. The value of -1.00 represents a perfect negative correlation while a value of +1.00 represents a perfect positive correlation. A value of 0.00 represents a lack of correlation or relationship (Cohen, 1988). From the correlation values presented in Table 9, all correlations with admissions GPA are positive with three components of the PRO-SDLS statistically significant at the 0.05 level: Total score, learner control, and self-efficacy.

Table 9

*Correlations between Admissions GPA and PRO-SDLS Pre-test Scores*

<table>
<thead>
<tr>
<th>Description</th>
<th>PRO-SDLS Total</th>
<th>PRO-SDLS Initiative</th>
<th>PRO-SDLS Control</th>
<th>PRO-SDLS Self-Efficacy</th>
<th>PRO-SDLS Motivation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Admissions GPA</td>
<td>Pearson $r$</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>.26</td>
<td>.10</td>
<td>.26</td>
<td>.29</td>
<td>.08</td>
</tr>
<tr>
<td>$p$ value</td>
<td>&lt; .01</td>
<td>.30</td>
<td>&lt; .01</td>
<td>&lt; .01</td>
<td>.43</td>
</tr>
</tbody>
</table>

N = 110

While significant, the magnitude of effect between admissions GPA and the above components is not strong. According to Cohen (1988), $r$ values between .10 and .29 are considered a small effect size. The Pearson $r$ values (effect size) range between .26 and
.29 for the total score and two subcomponents of the PRO-SDLS considered statistically significant.

Question Two. What differences in scores were measured between pre-test (given July, 2009) and post-test (given January, 2010) administration of the Personal Responsibility Orientation to Self-Direction in Learning Scale?

A dependent means t-test was conducted to analyze differences measured in the pre and post-test administration of the PRO-SDLS. The FSI participants ($n = 110$) had scores on two variables, the pre-test PRO-SDLS and the post-test PRO-SDLS. The data presented in Table 10 indicate that pre-test PRO-SDLS scores demonstrated a mean of 89.62 and the post-test scores demonstrated a mean of 91.17.

Table 10

*Pre-test and Post-test Mean PRO-SDLS Scores*

<table>
<thead>
<tr>
<th>Description</th>
<th>N</th>
<th>Mean</th>
<th>Std. Dev</th>
</tr>
</thead>
<tbody>
<tr>
<td>PRO-SDLS (Pre-test)</td>
<td>110</td>
<td>89.62</td>
<td>10.03</td>
</tr>
<tr>
<td>PRO-SDLS (Post-test)</td>
<td>110</td>
<td>91.17</td>
<td>10.92</td>
</tr>
</tbody>
</table>

It was noted the post-test mean scores were higher, however, a review of the data in Table 11 indicates there was no significant ($p < .05$) difference between the mean of pre-test PRO-SDLS scores and the mean of post-test PRO-SDLS scores.

Table 11

*t-test Results for Differences in Pre-test and Post-test Mean PRO-SDLS Scores*

<table>
<thead>
<tr>
<th>Description</th>
<th>N</th>
<th>Mean</th>
<th>Std. Dev</th>
<th>Std. Error Mean</th>
<th>t</th>
<th>df</th>
<th>$p$ -value</th>
</tr>
</thead>
<tbody>
<tr>
<td>PRO-SDLS (Post-test)</td>
<td>110</td>
<td>1.55</td>
<td>10.14</td>
<td>0.97</td>
<td>1.61</td>
<td>108</td>
<td>0.11</td>
</tr>
<tr>
<td>PRO-SDLS (Pre-test)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Question Three. What is the relationship between post-test scores of the Personal Responsibility Orientation to Self-Direction in Learning Scale and academic achievement as measured by university grade point average at the end of the third full semester?

A Pearson Product Moment Correlation was conducted to analyze the relationship between post-test scores of the PRO-SDLS and university grade point average. From the correlation values presented in Table 12, all correlations with university GPA are positive with three components of the PRO-SDLS statistically significant at the 0.05 level: Total score, learner control, and self-efficacy.

Table 12

*Correlations between University GPA and PRO-SDLS Post-test Scores*

<table>
<thead>
<tr>
<th>Description</th>
<th>PRO-SDLS Total</th>
<th>PRO-SDLS Initiative</th>
<th>PRO-SDLS Control</th>
<th>PRO-SDLS Self-Efficacy</th>
<th>PRO-SDLS Motivation</th>
</tr>
</thead>
<tbody>
<tr>
<td>University GPA</td>
<td>Pearson r</td>
<td>.30</td>
<td>.12</td>
<td>.42</td>
<td>.30</td>
</tr>
<tr>
<td>p value</td>
<td></td>
<td>&lt; .01</td>
<td>&lt; .01</td>
<td>&lt; .01</td>
<td>.76</td>
</tr>
</tbody>
</table>

According to Cohen (1988), r values between .10 and .29 are considered a small effect size while values between .30 and .49 are considered a medium effect size. The correlations between total PRO-SDLS scores (.30), university GPA and learner control (.42) and self-efficacy (.30) show a moderately strong relationship.

Question Four. How are participants' levels of self-direction following involvement in a summer bridge program, as indicated by post-test scores of the
Personal Responsibility Orientation to Self-Direction in Learning Scale, different for participants' based on gender and ethnicity?

A factorial ANOVA was conducted to analyze the relationship between post-test scores of the PRO-SDLS and both gender and ethnicity. Sheng (2008) described the ANOVA F test as a way to test “the omnibus null hypothesis regarding the effect of categorical independent variables (or factors) on a continuous dependent variable” (p. 324). Categorical independent variables in this study include gender (male, female) and ethnicity (black, Hispanic, white).

Table 13 contains data regarding PRO-SDLS post-test means related to gender, ethnicity, and the interaction between gender and ethnicity.

Table 13

<table>
<thead>
<tr>
<th>Description</th>
<th>N</th>
<th>Mean Total</th>
<th>Std. Dev</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>37</td>
<td>89.35</td>
<td>10.07</td>
</tr>
<tr>
<td>Female</td>
<td>73</td>
<td>92.10</td>
<td>11.28</td>
</tr>
<tr>
<td>Black</td>
<td>36</td>
<td>91.97</td>
<td>10.79</td>
</tr>
<tr>
<td>Hispanic</td>
<td>40</td>
<td>89.40</td>
<td>11.22</td>
</tr>
<tr>
<td>White</td>
<td>34</td>
<td>92.41</td>
<td>10.74</td>
</tr>
<tr>
<td>Black Males</td>
<td>9</td>
<td>90.44</td>
<td>11.46</td>
</tr>
<tr>
<td>Hispanic Males</td>
<td>16</td>
<td>87.94</td>
<td>10.18</td>
</tr>
<tr>
<td>White Males</td>
<td>12</td>
<td>90.42</td>
<td>9.47</td>
</tr>
<tr>
<td>Black Females</td>
<td>27</td>
<td>92.48</td>
<td>10.73</td>
</tr>
<tr>
<td>Hispanic Females</td>
<td>24</td>
<td>90.38</td>
<td>11.97</td>
</tr>
<tr>
<td>White Females</td>
<td>22</td>
<td>93.50</td>
<td>11.44</td>
</tr>
</tbody>
</table>
According to the findings in Table 14, there was no significant interaction between gender and ethnicity scores, $F = 0.02$, in relation to the post-test score on the PRO-SDLS. Additionally, the results of the ANOVA showed there was no significant difference in the main effect of gender, $F = 1.23$, nor was there significant difference in the main effect of ethnicity, $F = 0.64$.

Table 14

*Factorial ANOVA of PRO-SDLS Post-test Scores with Gender & Ethnicity*

<table>
<thead>
<tr>
<th>Description</th>
<th>df</th>
<th>F Value</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Main effect of gender</td>
<td>1</td>
<td>1.23</td>
<td>0.27</td>
</tr>
<tr>
<td>Main effect of ethnicity</td>
<td>2</td>
<td>0.64</td>
<td>0.53</td>
</tr>
<tr>
<td>Interaction between gender and</td>
<td>2</td>
<td>0.02</td>
<td>0.98</td>
</tr>
<tr>
<td>ethnicity</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Question Five. How is the impact of a summer bridge program, as indicated by a change in self-direction scores on the Personal Responsibility Orientation to Self-Direction in Learning Scale, different for participants' based on gender and ethnicity?

Table 15 contains data regarding PRO-SDLS change score means related to gender, ethnicity, and the interaction between gender and ethnicity.
Table 15

PRO-SDLS Change Score Means and the Relationship of Gender & Ethnicity

<table>
<thead>
<tr>
<th>Description</th>
<th>N</th>
<th>Change in Mean</th>
<th>Std. Dev</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>37</td>
<td>0.41</td>
<td>10.26</td>
</tr>
<tr>
<td>Female</td>
<td>73</td>
<td>2.14</td>
<td>10.09</td>
</tr>
<tr>
<td>Black</td>
<td>36</td>
<td>2.53</td>
<td>9.23</td>
</tr>
<tr>
<td>Hispanic</td>
<td>40</td>
<td>1.30</td>
<td>10.64</td>
</tr>
<tr>
<td>White</td>
<td>34</td>
<td>0.82</td>
<td>10.66</td>
</tr>
<tr>
<td>Black Males</td>
<td>9</td>
<td>1.33</td>
<td>6.50</td>
</tr>
<tr>
<td>Hispanic Males</td>
<td>16</td>
<td>1.31</td>
<td>13.25</td>
</tr>
<tr>
<td>White Males</td>
<td>12</td>
<td>-1.50</td>
<td>8.31</td>
</tr>
<tr>
<td>Black Females</td>
<td>27</td>
<td>2.93</td>
<td>10.05</td>
</tr>
<tr>
<td>Hispanic Females</td>
<td>24</td>
<td>1.29</td>
<td>8.80</td>
</tr>
<tr>
<td>White Females</td>
<td>22</td>
<td>2.09</td>
<td>11.73</td>
</tr>
</tbody>
</table>

According to the findings in Table 16, there was no significant interaction between gender and ethnicity scores, $F = 0.26$, to the change score on the PRO-SDLS.

Furthermore, the results of the ANOVA showed there was no significant difference in the main effect of gender, $F = 0.66$, nor was there a significant difference in the main effect of ethnicity, $F = 0.23$. 
Table 16

Factorial ANOVA of PRO-SDLS Change Scores with Gender & Ethnicity

<table>
<thead>
<tr>
<th>Description</th>
<th>df</th>
<th>F Value</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Main effect of gender</td>
<td>1</td>
<td>0.66</td>
<td>0.42</td>
</tr>
<tr>
<td>Main effect of ethnicity</td>
<td>2</td>
<td>0.23</td>
<td>0.79</td>
</tr>
<tr>
<td>Interaction between gender and ethnicity</td>
<td>2</td>
<td>0.26</td>
<td>0.77</td>
</tr>
</tbody>
</table>

Summary

The purpose of this chapter was to analyze the results using statistical techniques consistent with the research questions. The study sought answers to five research questions through statistical analysis of pre-test and post-test scores on the PRO-SDLS, gender, ethnicity, admissions GPA, and university grade point average.

Reliability of the PRO-SDLS scores to measure self-directedness among the sample population was also examined. The 25-item PRO-SDLS yielded a coefficient alpha on Cronbach’s scale of .84 (pre-test) and .87 (post-test) based on the 110 responses to the questionnaire. This compares favorably with the measures of internal consistency reported by Stockdale (2003) and Fogerson (2005), which were coefficient alphas of .91 and .92 respectively.

For the first research question, a Pearson Product Moment Correlation was conducted to analyze the relationship between pre-test scores of the PRO-SDLS and previous academic achievement (admissions GPA). Significant relationships at the .05 level were found between admissions GPA and the following components of the PRO-SDLS: Total score, learner control, and self-efficacy. While statistically significant, the
strength of the relationship for all three components was considered small according to Cohen’s (1988) scale, meaning that despite having a high correlation, the strength of the relationships between the components and admissions GPA was small.

To answer the second research question, a dependent means t-test was conducted to analyze differences measured in the pre and post-test administration of the PRO-SDLS. While post-test mean scores were higher, there was no significant \( p < .05 \) difference between the mean of pre-test PRO-SDLS scores and the mean of post-test PRO-SDLS scores. There were no significant results found for this research question.

For the third research question, a Pearson Product Moment Correlation was conducted to analyze the relationship between post-test scores of the PRO-SDLS and university grade point average. Significant relationships at the .05 level were found between university GPA and the following components of the PRO-SDLS: Total score, learner control, and self-efficacy. The effect size was moderate for the three significant components using Cohen’s (1988) scale, meaning that in addition to high correlation, the strength of the relationships between the components and university GPA was moderately strong.

To answer the fourth research question, a factorial ANOVA was conducted to analyze the relationship between post-test scores of the PRO-SDLS and both gender and ethnicity. While differences in means were discovered, there were no significant differences in the main effect of gender and ethnicity. There was also no significant interaction between gender and ethnicity scores in relation to the post-test score on the PRO-SDLS. This research question yielded no significant findings.
In order to determine the fifth research question, a second factorial ANOVA was conducted to analyze the relationship between the change score of the PRO-SDLS and both gender and ethnicity. While differences in means were discovered, there were no significant differences in the main effect of gender and ethnicity. There was also no significant interaction between gender and ethnicity scores in relation to the change score on the PRO-SDLS. This research question yielded no significant findings.

The following chapter will address the findings of this study including possible explanations for the lack of significance between the variables. Also included will be a discussion of the importance and possible implications of this research as well as recommendations for further study and research.
CHAPTER FIVE
FINDINGS, IMPLICATIONS AND RECOMMENDATIONS

Introduction

Increased access to higher education over the past forty years has resulted in a greater diversity of incoming students. Of particular interest is the one quarter to one half of first-year students whose parents are not college educated. Referred to as “first-generation,” these students are more likely to be minority, low-income, and experience other disadvantages and possible deficits compared to their non-first-generation peers (Berkner & Choy, 2008; Horn & Nunez, 2000; Pascarella, Pierson, Wolniak, & Terenzini, 2004).

In response to greater student diversity and other factors such as decreased graduation rates and increased accountability, retention programs have become popular at higher education institutions across the country (Kezar, 2000). Informed by student development and retention theory and research, summer bridge programs are but one example of programs created to address academic preparation and social adjustment issues experienced by many first-year college students (Kezar, 2000; Pantano, 1994; Santa Rita & Bacote, 1996).

One possible solution proposed to increase retention among first-year college students is to assist them in becoming more highly self-directed learners who take greater responsibility for their learning (Kreber, 1998; Maher, 2005). Researchers have proposed
that highly self-directed learners are more interested in academic subjects, have more positive attitudes and exhibit a greater sense of self-concept, ultimately leading to increased retention (Brockett & Hiemstra, 1991).

Programs exist in higher education to foster the development of personal responsibility and self-directedness among first-generation, first-year college students; however, discussion of relationships between self-directed learning readiness and academic success among these students are notably missing from the literature. For the purposes of this study, the concept of self-directed learning is examined through the lens of retention and student involvement theory in order to examine the self-directedness of a sample population of first-generation, first-year college students.

This chapter offers a summary of the relationships between self-direction as measured by the PRO-SDLS and the interactions between gender, ethnicity, admissions GPA, and university grade point average among first-year college students participating in the Freshman Summer Institute, a summer bridge program at the University of South Florida. Sections in the chapter include: (a) Summary of the Study, (b) Principle Findings, (c) Implications and Discussion of the Results, (d) Recommendations for Future Research, and (e) Concluding Remarks.

**Summary of the Study**

This section contains a summary of the research problem, context, and methodology employed to answer the proposed research questions.
**Problem Statement**

This research explored possible relationships and interactions between self-directed learning readiness and a number of variables associated with a population of first-generation, first-year college students. These variables included pre-test and post-test scores on the PRO-SDLS instrument, gender, ethnicity, previous academic achievement (admissions GPA), and university GPA. The study sought to answer five quantitative research questions.

1. What is the relationship between pre-test scores of the Personal Responsibility Orientation to Self-Direction in Learning Scale and previous academic achievement as measured by university admissions grade point average?

2. What differences in scores were measured between pre-test (given July, 2009) and post-test (given January, 2010) administration of the Personal Responsibility Orientation to Self-Direction in Learning Scale?

3. What is the relationship between post-test scores of the Personal Responsibility Orientation to Self-Direction in Learning Scale and academic achievement as measured by university grade point average at the end of the third full semester?

4. How are participants' levels of self-direction following involvement in a summer bridge program, as indicated by post-test scores of the Personal Responsibility Orientation to Self-Direction in Learning Scale, different for participants' based on gender and ethnicity?
5. How is the impact of a summer bridge program, as indicated by a change in self-direction scores on the Personal Responsibility Orientation to Self-Direction in Learning Scale, different for participants’ based on gender and ethnicity?

Research Setting

The population for this study came from participants in the Freshman Summer Institute, a summer bridge program at the University of South Florida Tampa campus. Enrolling more than 47,000 students over four campuses, USF is a large, metropolitan, public research university and one of three research-intensive institutions in the state.

FSI is an alternative admissions program which supports first-generation, low-income students throughout their first year of college. FSI students’ first semester is an intensive six-week summer term where they complete nine semester hours of coursework. Part of the required curriculum for all 224 participants during the summer 2009 semester was a one-credit course called Strategic Learning. The purpose of the course was to develop autonomous learners through their understanding of concepts related to motivation, attitude, goal planning, and the process of learning. Through the process of reflective practice, students had the opportunity to develop a deep understanding of themselves as learners, and then intentionally apply that understanding to the development of the most effective strategies for success in both college learning and beyond. Successful completion of Strategic Learning and other required summer coursework allowed students to continue their education into the fall semester.
A total of 224 students participated in the FSI program during the summer 2009 semester. Of the total population, 110 (49.1%) comprised the final sample size for the current study. Those included in the final sample completed both a pre-test and post-test administration of an instrument (PRO-SDLS) designed to measure self-direction.

Methods

A correlational research design was selected to analyze the following secondary data: Pre-test and post-test scores on the PRO-SDLS instrument, gender, ethnicity, previous academic achievement (admissions GPA), and university GPA. To answer the proposed research questions, a series of statistical analyses were conducted using SAS software. A Pearson Product Moment Correlation was used to analyze the first and third research questions while a dependent means t-test was conducted to analyze differences between pre-test and post-test scores of the PRO-SDLS (question two). Lastly, a series of Factorial ANOVA analyses were completed to answer the fourth and fifth research questions. The use of Factorial ANOVA permitted the isolation of ethnicity into three distinct groups: Black, Hispanic and White.

Principle Findings

This research used five research questions to determine the relationships between the variables previously described. A summary of the findings are presented in this section.

Findings for Research Question One

The first research question focused on previous academic achievement (admissions GPA) and the relationship to pre-test scores on the PRO-SDLS. The research
question was stated as follows: What is the relationship between pre-test scores of the Personal Responsibility Orientation to Self-Direction in Learning Scale and previous academic achievement as measured by university admissions grade point average?

A Pearson Product Moment Correlation was used to analyze the data in an effort to identify relationships among pre-test scores on the PRO-SDLS and previous academic achievement as measured by admissions GPA. There were three significant relationships found (p<.05) between the total and subcomponent scores of the PRO-SDLS and admissions GPA.

There was a significant, positive correlation between total pre-test PRO-SDLS scores (r = .26, p< .01) and admissions GPA. The correlation coefficient suggests a low magnitude of effect using Cohen’s (1988) scale. While significant, the low effect size indicates that the relationship between total PRO-SDLS scores and admissions GPA is not a strong relationship.

Significant, positive relationships to admissions GPA were found in the learner control and self-efficacy subcomponents of the PRO-SDLS while no significant correlations were determined for the initiative and motivation components. Participants with a higher score on the learner control and self-efficacy components on the PRO-SDLS were found to have a higher admissions GPA. As with pre-test total score, both the learner control (r = .26, p<.01) and self-efficacy (r = .29, p<.01) components had a low effect size.
Findings for Research Question Two

The second research question measured the difference in scores between pre-test and post-test administration of the PRO-SDLS and was stated as follows: What differences in scores were measured between pre-test (given July, 2009) and post-test (given January, 2010) administration of the Personal Responsibility Orientation to Self-Direction in Learning Scale?

Despite a mean increase of 1.55, or 1.7%, a dependent means t-test indicated that the change (t = 1.61, p > .05) in PRO-SDLS scores was not significant. With 125 total possible points, the pre-test mean was 89.62 while the post-test was 91.17. Despite an increase between pre-test and post-test administrations of the PRO-SDLS, measured increases were not considered statistically significant.

Findings for Research Question Three

The third research question focused on academic achievement after three semesters of college coursework (university GPA) and the relationship to post-test scores on the PRO-SDLS. The research question was stated as follows: What is the relationship between post-test scores of the Personal Responsibility Orientation to Self-Direction in Learning Scale and academic achievement as measured by university grade point average at the end of the third full semester?

A Pearson Product Moment Correlation was used to analyze the data in an effort to identify relationships among post-test scores on the PRO-SDLS and academic achievement as measured by university GPA. There were three significant relationships
found (p<.05) between the total and subcomponent scores of the PRO-SDLS and admissions GPA.

There was a significant, positive correlation between total post-test PRO-SDLS scores (r = .30, p< .01) and university GPA. The correlation coefficient suggests a medium magnitude of effect using Cohen’s (1988) scale. The medium effect size indicates that the relationship between total PRO-SDLS scores and university GPA is a moderately strong relationship.

Significant, positive relationships to university GPA were found in the learner control and self-efficacy subcomponents of the PRO-SDLS while no significant correlations were determined for the initiative and motivation components. Participants with a higher score on the learner control and self-efficacy components of the PRO-SDLS were found to have a higher university GPA. As with post-test total score, both the learner control (r = .42, p<.01) and self-efficacy (r = .30, p< .01) components had a medium effect size with learner control having the largest correlation coefficient in the study.

**Findings for Research Question Four**

The fourth research question examined the relationships between gender, ethnicity, and post-test scores on the PRO-SDLS. A factorial ANOVA was conducted to answer the following research question: How are participants' levels of self-direction following involvement in a summer bridge program, as indicated by post-test scores of the Personal Responsibility Orientation to Self-Direction in Learning Scale, different for participants' based on gender and ethnicity?
Differences in mean PRO-SDLS scores were measured based on ethnicity, gender, and the interaction of each element. For gender, while females had higher post-test scores (92.10) than males (89.35), these differences (F = 1.23, p > .05) were not considered statistically significant.

In addition to gender differences, means varied between Black, Hispanic, and White participants. White students had the highest PRO-SDLS mean (92.41) while Hispanics had the lowest (89.40) average score. Differences measured between ethnic groups were not considered statistically significant (F = .64, p > .05) following the factorial ANOVA.

The interaction of gender and ethnicity was also examined as part of this research question. Mean differences were found between PRO-SDLS scores based on the combination of gender and ethnicity. Scores varied from 87.93 for Hispanic males to 93.50 for white females. Results of the factorial ANOVA indicated that these differences (F = .02, p > .05) were not statistically significant.

**Findings for Research Question Five**

The final research question examined the relationships between gender, ethnicity, and the change in score on the PRO-SDLS. A factorial ANOVA was conducted to answer the following research question: How is the impact of a summer bridge program, as indicated by a change in self-direction scores on the Personal Responsibility Orientation to Self-Direction in Learning Scale, different for participants based on gender and ethnicity?
Differences in the change in mean of PRO-SDLS scores was measured based on ethnicity, gender, and the interaction of each element. For gender, white females had a greater change in mean score between pre-test and post-test (2.14) than males (.41), these differences (F = .66, p > .05) were not considered statistically significant.

In addition to gender differences, the change in mean varied between black, Hispanic, and white participants. Black students had the highest change in mean (2.53) between pre-test and post-test administrations of the PRO-SDLS while white students had the lowest (.82) change score. Differences measured between ethnic groups were not considered statistically significant (F = .23, p > .05) following the factorial ANOVA.

The interaction of gender and ethnicity was also examined as part of this research question. Differences in the change score was found between pre-test and post-test PRO-SDLS scores based on the combination of gender and ethnicity. Scores varied from a positive change of 2.93 for black females to a decrease in mean of -1.50 for white males. Despite a difference in change of nearly five points between these two groups, results of the factorial ANOVA indicated that these differences (F = .26, p > .05) were not statistically significant.

**Implications and Discussion of the Results**

The findings of this research study indicate that institutions of higher education may have a difficult time having a direct, immediate impact on student self-direction. The level of self-direction among the first-year, first-generation
students in this study did not change significantly despite participation in a summer bridge program and the completion of a Strategic Learning course, which was designed to instill in students the values of a self-directed learner who understands the process of learning and its relationship to the concepts of motivation, attitude, and goal planning.

Scholars in the field of adult education have indicated that self-direction tends to increase with age and develops over time (Bitterman, 1989; Guglielmino, Guglielmino, & Long, 1987; Hoban & Sersland, 1999; Jones, 1994; Long & Agyekum, 1984; Long & Morris, 1996). The expectation that a summer bridge program could have a significant effect of self-direction may be a lofty, unattainable short-term goal; however, the long-term impact of such a program may assist in the development of autonomous, lifelong learners who take responsibility for their own learning. A longer-term study may have revealed more significant change in self-direction among the participants as they would have more time to mature and engage more meaningfully in their academic careers.

**Learner Control**

Despite a lack of significant increase in self-directedness among the participants in the study, there are other important correlations that were discovered through administration of the PRO-SDLS. The first, and most significant, was the correlation between learner control and academic success. Learner control was highly correlated to both previous (admissions GPA) and
current (university GPA) academic achievement. The strength of relationship between academic achievement and scores on the learner control component of both administrations of the PRO-SDLS had a medium effect size. The concept of learner control is at the heart of the PRO Model developed by Brockett & Hiemstra (1991), and their definition of personal responsibility cites learner control as a central component. According to Brockett & Hiemstra (1991), personal responsibility is “the ability and/or willingness of individuals to take control of their own learning that determines their potential for self-direction” (p. 26).

In addition to Brockett & Hiemstra’s PRO Model, other scholars in the field of adult education wrote about the importance of learner control. Long (2000) emphasized the concept of learner control when he referred to his four conceptualizations of self-directed learning. The first conceptualization was the sociological concept, based on Tough’s (1967) definition and research into adults’ learning projects. Next, Long discusses self-directed learning as a technique based on Knowles’ (1975) idea about the teaching format. The third conceptualization, methodological, is based on the distance method of delivering instruction. The last and most important conceptualization is the psychological conceptualization, which was based on Long’s idea of self-control over the cognitive process of learning. According to Long (2000), self-direction indicates “that the individual is conscious of at least some of the important parts of the process and is able to apply the self (consciousness) to those elements for
purposes of controlling the process” (p. 13). Long argues that the first three conceptualizations are not possible without the psychological conceptualization because the learner must have both control and motivation to engage successfully in the learning process (Long, 2000). Long further argued that choice is a consequence of control and that learners are not capable of making a choice in the teaching-learning situation without feeling a sense of control, or responsibility, over the process (Long, 2000). In further distinguishing the ideas of choice and control, Long (2000) described choice in the learning environment leading to learner control and enabling learners to take personal responsibility for their decisions. According to Long, choice is provided by circumstances in the learning environment, but learner control is what changes the circumstances (Long, 2000).

The viewpoint that learner control is a key component of self-direction has implications for practitioners in higher education. While promoting the ability for lifelong learning has been proposed as a goal of higher education by many administrators and faculty, this has not yet been translated into changes in the process of higher education teaching. With the emphasis on assessment, evaluation and passing evaluations in a regulated classroom environment of time blocks and rigorous schedules, often the importance is placed on the content of the material and the regurgitation of it instead of the process of learning the material with understanding. Students are rewarded for the "correct answers" instead of the problem solving process, which is what they will experience in the work place. Candy and Crebert (1991) put it well in stating: "It is hardly surprising, therefore, that the new graduate should feel confused and inadequate and is
likely to falter in the transition from ivory tower to concrete jungle” (p. 579). Providing more choice and control over the learning process will lead to the development of the critical thinking and problem solving skills required for today’s workplace.

**Self-Efficacy**

In addition to learner control, self-efficacy was significantly correlated to previous academic achievement (admissions GPA) and university GPA. Bandura (1977) refers to self-efficacy as “people’s judgments of their capacities to organize and execute courses of action required to attain designated types of performances” (p. 391). Other scholars have asserted that if one believes that engagement in a particular activity will lead to desirable outcomes and feels capable of successfully performing that task, self-efficacy should precede that task (Ponton, Derrick, Hall, Rhea, & Carr, 2005). Ponton et al. (2005) suggested, “Self-efficacy is a domain-specific assessment that must be contextualized to the activity of interest” (p. 52).

The works of Astin (1972), Pantages and Creedon (1978), Stampen and Cabrera (1987), and others indicate that pre-college characteristics, such as high school GPA, are strong predictors of academic success and persistence. Nevertheless, it should be noted that in terms of psychology and education as related to self-efficacy, Graham and Weiner (1996) stated that an individual’s confidence in his abilities serves as a stronger indicator of “behavioral outcomes than any other motivational construct” (p. 82). As administrators continue to respond to questions pertaining to institutional effectiveness with regard to student persistence, a better understanding of self-efficacy as it relates to student
persistence may be helpful. Designing enrichment and academic programs that facilitate greater self-efficacy could result in increased persistence at institutions that intentionally focus on the development of self-efficacy through its educational offerings.

**Reliability of the PRO-SDLS**

While the results of this research showed a high correlation among total score and the learner control and self-efficacy subcomponents of the PRO-SDLS, the initiative and motivation subcomponents did not correlate to academic achievement. It must be noted that the purpose in developing the PRO-SDLS was not to predict academic achievement, but to “develop a reliable and valid instrument to measure self-directedness in learning among college students based on an operationalization of the PRO Model of self-direction in learning” (Stockdale & Brockett, 2010, p.1). An additional significant finding of this study was that the PRO-SDLS proved to be a reliable instrument in the measurement of self-direction. The total scores on both the pre-test and post-test administration of the PRO-SDLS indicated high reliability ($\alpha > .80$). The reliability of each subcomponent was also assessed with three of the four components achieving high reliability ($\alpha > .70$) for both administrations. One component, motivation, showed poor reliability of scores ($\alpha = .41$ & $.67$) in both administrations of the PRO-SDLS. A possible reason for this is that Stockdale (2003) may have intended to use this instrument with adult learners of varying ages as was used in her study and follow-up research by Fogerson (2005). In the current study, the population sampled was a homogenous group of traditional age (17-19), first-year college students who recently transitioned from the high school environment. It is possible that motivation among first-year college students
has a different meaning than motivation among adult learners of increasing age. Coming from a “spoon fed” high school and home environment may indicate that extrinsic motivation is more powerful than intrinsic motivation among this age group. Research has shown that motivation is related to age, with younger learners being more extrinsically motivated while mature learners tend to be more intrinsically motivated as age increases (Bye, Pushkar & Conway, 2007; Pintrich & Schunk, 1996; Pintrich, Smith, Garcia & McKeachie, 1993). As a result, in its current form, the PRO-SDLS may not be an appropriate instrument to measure the construct of motivation among first-year college students. A revision of the instrument is recommended for use with traditional-aged college students.

**Ethnicity and Gender**

Despite a lack of statistically significant differences among ethnicity and gender in this study, themes emerged that are worthy of discussion. Females were more self-directed than males with white females the most self-directed among all groups. Hispanics were the least self-directed with Hispanic males as the least self-directed among all groups. The difference between white females and Hispanic males was 4.1 points on the 125-point PRO-SDLS scale.

Black females had the greatest positive change in self-direction (2.93 points) while white males were the only group to decrease in overall self-direction, with an average -1.5 decrease in PRO-SDLS scores. This phenomenon cannot be explained but is worthy of mentioning. It may be possible that white males come into the collegiate environment overconfident in their abilities and that the college experience causes them...
to decrease in self-direction. Alternatively, there may be a component in today’s college environment that hampers the development of white males and causes them to decrease in self-direction compared to other groups. In recent decades, much of the emphasis in higher education has focused on underrepresented and minority groups with white males seen as the majority group that has enjoyed dominance in higher education for hundreds of years. The lack of focus on the white male experience may be worth investigation to ensure that today’s colleges and universities are meeting the social and intellectual needs of this group of students.

**Summer Bridge Programs**

Realizing both the limit of institutional resources and the desire to retain students, Tinto (1993) urged that institutions of higher education place those resources at the beginning of the college experience. He further stated that the biggest impact on retention will occur during the first months of the college experience. Universities and colleges concerned with how to incorporate retention strategies as early as possible have turned to pre-enrollment or summer bridge programs as a means of achieving many of the objectives associated with increased retention of students.

The Freshmen Summer Institute at the University of South Florida is just one of many examples of summer bridge programs in the United States. An extensive review of the literature revealed a lack of information regarding the structure and effectiveness of most summer bridge programs. Unlike federally funded TRIO programs, the majority of summer bridge programs are created to meet the needs of the students at a particular institution, making comparison across institutions difficult, if not impossible. Evaluation
of these programs is typically performed at the institution level with inconsistent measurements and varying standards of success.

The purpose of all summer bridge programs is to help prepare students so that they may succeed in college to the point of graduation. Yet, the current research found little information concerning both the definition and measurement of long-term student “success.” A clear set of national benchmarks and guidelines for summer bridge programs is needed in order to more effectively evaluate their success. A lack of clarity and purpose muddies the waters in effectively evaluating these expensive retention programs, and creating a benchmarking system will be a difficult task due to their diversity. For example, “retention” in a summer bridge program may be defined differently between institutions. One institution may only look at first-year to second retention while others may consider four-year graduation rates as most important. Additionally, some programs offer remedial education courses while others do not. Different still are institutions who offer major-specific summer bridge programs and others that offer them to all majors. Furthermore, participation in a summer bridge program is mandatory at some institutions while voluntary at others. Finally, some programs are based on minority, first-generation, low-income, or any combination of these factors.

The sheer diversity of summer bridge programs calls for leadership in the development and assessment of these programs that will properly serve the needs of an institution. Allowing colleges and universities to operate summer bridge programs in isolation results in an inefficient use of resources and does not allow for authentic
assessment of their effectiveness. Practitioners in the field must come together and determine best practices in the delivery and evaluation of these programs. Most of the evaluations currently being conducted involve students during the college experience, however, little research was found that discussed completion of the four-year degree and life beyond. This begs the question: Are former summer bridge participants successful in the workforce?

Blending a variety of experience and perspectives in the development and implementation of benchmarks, standards and best practices will assist professionals who are managing these programs to design and revise them based on sound educational practice and research while also meeting the unique needs of their particular institutions.

**Recommendations for Future Research**

Following are several recommendations for future research that would enhance understanding of the phenomena presented in this dissertation.

1. Realizing the limitations that are inherent in single institution studies, future researchers are encouraged to replicate this study with a similar group of first-generation, low-income students. Studies at other institutions could lead to greater generalizability of findings.

2. Further research with the PRO-SDLS would aid the field of adult education with data on the reliability of a relatively new scale in the measurement of self-direction. A factor analysis of the PRO-SDLS questions would provide further evidence of the validity of the instrument.
3. A follow-up assessment of the self-directedness of the students in this study may have led to more significant findings. Students were given the post-test administration of the PRO-SDLS six months after the pre-test. A longer duration between pre-test and post-test may have yielded more significant results given research that indicates self-direction develops over time.

4. A review of the motivation component of the PRO-SDLS will help determine whether this instrument is reliably measuring motivation as intended. A comparison of reliability with a group of older adult learners in comparison to traditional first-year college students will help future researchers determine the value of the instrument among varying groups of adult learners.

5. A component of Maher’s 2005 study with a similar group of FSI students was a qualitative analysis of writing assignments undertaken by the students over the course of the six week summer semester. Students in the FSI program during the summer 2009 also completed similar reflective writings during the first and last week of the semester. The purpose of these writings was to help students describe themselves as a learner, discuss learning strengths and weaknesses, set goals for improvement, and discuss past approaches to academic tasks. These two writing assignments should be analyzed for evidence of growth in the ability of students to
analyze immediate academic demands and acceptance for increased responsibility for learning.

6. In addition to the PRO-SDLS, all students in the 2009 FSI cohort completed an instrument called the Learning Connections Inventory (LCI), developed by Johnston & Dainton (1997). The LCI is based on the Let Me Learn Process® (LMLP®), a model of describing how learning takes place and a means to improve instruction in the postsecondary classroom. The foundation of the process is the belief that in order to take control over their learning, the learner must have an awareness of oneself (Johnston, 2010). The LCI operationalizes the LMLP® and is a major component of the Strategic Learning course that FSI students completed in summer 2009. A study to identify the relationship of scores on the LCI to scores on the PRO-SDLS may contribute to the body of knowledge on self-direction and its relationship to a process whose purpose is to develop learners that take greater responsibility for their learning through an understanding of their own cognitive processes.

7. In addition to comparing the scores on the PRO-SDLS and LCI, one could replicate the current study by substituting the LCI scores of the participants in place of the PRO-SDLS scores. Identification of the relationship between LCI scores and academic achievement may prove promising in understanding the current population.
8. While students were given explicit instruction on the habits of highly self-directed learners in the one-credit hour *Strategic Learning* course, there was no programmatic coordination to intertwine the concept of self-directedness in the other eight credit hours of coursework FSI students completed. A more intentional approach by the leadership of the FSI program to encourage self-directed learning principles throughout the summer curriculum may have achieved different results. Replication of this study with greater support from all stakeholders to develop self-direction in students should be conducted.

9. Further inquiry into the experience of white male self-directedness should be conducted. A larger sample size of white males should be surveyed to determine if decreased self-direction among white males as found in this study was an anomaly or a trend.

10. Further studies should be conducted regarding learner control in the college classroom. The PRO-SDLS instrument could be used to measure the change in self-direction between a classroom environment that encourages learner autonomy and control versus an environment that is more traditional and teacher-led.

11. Additional research is needed on the use of summer bridge programs as a retention tool in higher education. There is limited research available that discusses the effectiveness of these programs and no research was found that tracked success after the collegiate experience.
Concluding Remarks

This study was intended to advance understanding of self-directed learning characteristics of first-year, first-generation college students participating in a summer bridge program. Understanding the experience of these students in higher education can lead to the development of programs that better meet the needs of this at-risk student population.

Theoretical frameworks from higher education and adult education literature merged to provide an understanding of self-direction for the context of this study. Student retention and social integration theories from Tinto and Astin were studied, as they have been widely used to assist higher education professionals in understanding why students leave college and to help them develop strategies and programs to aid in the retention of at-risk students. The adult education theory of self-directed learning complements higher education theory by providing insight into the academic environment that was experienced by students in the current study. In the context of the Personal Responsibility Orientation Model, results of this study indicated that a fundamental shift in teaching pedagogy may be an integral component of increasing the academic success of today’s college students.

Higher education faculty should be challenged to design curriculum that relies less on rote memorization and “spoon feeding” information to students and open themselves to the notion that learning is more effective when the learner is allowed to control and construct their own meaning of the material. Stinson & Miller (1996) advocated a paradigm shift away from the teacher-centered mentality of instruction to a
student-centered philosophy. Stinson & Miller (1996) best stated the need for faculty to re-examine their role in the teaching process:

“This new faculty role represents a paradigm shift calling for new skills. The paradigm shift has been expressed as moving from being the ‘sage on the stage’ to serving as the ‘guide on the side.’ The basic skills required to be the ‘guide on the side’ (active listening, coaching, mentoring, and facilitation) are not characteristic of a significant number of faculty members and thus they must be learned” (p. 40)

Faculty who are willing to learn and adopt a “guide on the side” teaching philosophy can create an environment where students take control of their own learning through interaction with their peers and through an instructor who provides support to students through constructive feedback and scaffolding the learning experience.

Faculty would be well served to gradually relinquish their position of power, introducing choices for students, and having them assume more responsibility for their learning. In order to help transition responsibility and control of the learning process from faculty to students, the use of an advanced learning system such as the Let Me Learn Process® (LMLP®), used in the Strategic Learning course, would be invaluable in the college classroom. The purpose of a system such as LMLP® is to help students understand their own learning processes and provide them the cognitive tools for task analysis and to ultimately customize strategies for increase academic efficiency and ultimately, success. Simply relinquishing control over the learning environment is not the solution to increasing learner control and responsibility. In order to be more successful, a tool like the LMLP® must be provided for the learners to understand themselves as learners and develop individualized strategies for success that will ensure their adaptation to a more self-directed college environment. It will take an intentional
effort on behalf of both faculty and students in order to transition today’s college classrooms from teacher-led to an environment conducive for self-directed learning.

At a January, 2010 presentation of the Student Success Task Force at the University of South Florida, a faculty focus group was quoted:

“We need to try to get our students to be more active in contributing to their own success. This is an institutional issue. There is a socialization process. We need to create a culture in which our students are socialized to understand that learning is an active process and that they are in control of their own education” (p. 14).

The above quote is encouraging for those holding the belief that a fundamental shift from a teacher-centered to a learner-centered college classroom is a central component to increasing self-directedness among college students. A student-led curriculum will help transition college students into lifelong, autonomous learners who take responsibility for their learning.
LIST OF REFERENCES


University of South Florida Student Success Task Force. (2010, January). *Student success task force interim meeting*. Presentation made at the Student Success Task Force Interim Meeting, Tampa, FL.


Woosley, S. A. (2003). How important are the first few weeks of college? The long term effects of initial college experiences. College Student Journal, 37, 201-207.

Appendix A: Tinto’s Model of Institutional Departure

Fig. 1: A longitudinal model of institutional departure.
Source: M. Tinto (1994) Leaving College...
Appendix B: IRB Initial Consent from Secondary Data Source

June 16, 2009

Patricia Maher, PhD
Tutoring & Learning Services
LIB 206

RE: Expedited Approval for Initial Review
IRB#: 108065 I
Title: Self-Directed Learning Characteristics in First Year "At-Risk" College Students
Study Approval Period: 06/12/2009 to 06/11/2010

Dear Dr. Maher:

On June 12, 2009, Institutional Review Board (IRB) reviewed and APPROVED the above protocol for the period indicated above. It was the determination of the IRB that your study qualified for expedited review based on the federal expedited category number seven (7).

Approval included with the Adult Minimal Risk Informed Consent Form.

Please note, if applicable, the enclosed informed consent/assent documents are valid during the period indicated by the official, IRB-Approval stamp located on page one of the form. Valid consent must be documented on a copy of the most recently IRB-approved consent form. Make copies from the enclosed original.

Please reference the above IRB protocol number in all correspondence regarding this protocol with the IRB or the Division of Research Integrity and Compliance. In addition, you can find the Institutional Review Board (IRB) Quick Reference Guide providing guidelines and resources to assist you in meeting your responsibilities in the conduct of human participant research on our website. Please read this guide carefully. It is your responsibility to conduct this study in accordance with IRB policies and procedures and as approved by the IRB.
Appendix B Continued

We appreciate your dedication to the ethical conduct of human subject research at the University of South Florida and your continued commitment to human research protections. If you have any questions regarding this matter, please call 813-974-2036.

Sincerely,

Krista Kutash, Ph.D., Chairperson
USF Institutional Review Board

Attachments: (If applicable) IRB-Approved, Stamped Informed Consent/Assent Documents(s)

Cc: Various Menzel/ed, USF IRB Professional Staff
    Jeffrey Hall
Appendix C: Informed Consent from Secondary Data Source

Informed Consent to Participate in Research
Information to Consider Before Taking Part in this Research Study

IRB Study #

Researchers at the University of South Florida (USF) study many topics. To do this, we need the help of people who agree to take part in a research study. This form tells you about this research study.

We are asking you to take part in a research study that is called: Self-Directed Learning Characteristics in First Year “At-Risk” College Students

The person who is directing this study is Dr. Patricia A. Maher. The Co-Investigator is Jeffrey Hall and he may be involved and can act on behalf of the person in charge.

The study will be completed in various classrooms housing REA 2604 (Strategic Learning) at University of South Florida during the summer 2009 and fall 2009 semesters.

Purpose of the study
The purpose of this research is to examine the impact of a specific curriculum approach designed to enhance the learning strategies of students participating in a summer bridge program at USF, entitled Freshman Summer Institute (FSI). The curriculum will include an advanced learning system, a common read novel, and an instructional model designed to support increased responsibility and autonomy, the building blocks of self-directed learning.

Study Procedures
If you take part in this study:

• The estimated time of the entire study will be 60 minutes.
• You will complete a survey called the PRO-SDLS (Self-Directed Learning Survey)
• You will complete an online learning assessment called the Learning Connections Inventory (LCI)
• There will be no audio or videotaping of your participation.

Alternatives
Participation in this study is voluntary and will not be a course requirement.
Appendix C Continued

Benefits

You will provide valuable information to the Director of the Freshmen Summer Institute (FSI) regarding levels of student self-direction and academic achievement. The goal of this study is to ensure the success of future FSI students by helping to identify students at risk of attrition.

Risks or Discomfort

This research is considered to be minimal risk. That means that the risks associated with this study are the same as what you face every day. There are no known additional risks to those who take part in this study.

Compensation

We will not pay you for the time you volunteer while being in this study.

Confidentiality

We must keep your study records as confidential as possible.
• No personal information will be asked in the questionnaire.
• The data will be coded and you will be assigned a unique number that only the researchers will be able to use to identify you.
• The questionnaires will be shredded after data collection.

However, certain people may need to see your study records. By law, anyone who looks at your records must keep them completely confidential. The only people who will be allowed to see these records are:

• The research team, including the Principal Investigator, study coordinator, and all other research staff.
• Certain government and university people who need to know more about the study. For example, individuals who provide oversight on this study may need to look at your records. This is done to make sure that we are doing the study in the right way. They also need to make sure that we are protecting your rights and your safety.) These include:
  o The University of South Florida Institutional Review Board (IRB) and the staff that work for the IRB. Other individuals who work for USF that provide other kinds of oversight may also need to look at your records.
  o The Department of Health and Human Services (DHHS).

The results of this project/study may be published in a peer-reviewed scholarly publication or used as part of dissertation research. If this study is published, nothing will be posted or published that would let people know who you are.

Voluntary Participation / Withdrawal

You should only take part in this study if you want to volunteer. You should not feel that there is any pressure to take part in the study, to please the investigator or the research staff. You are free to participate in this study or withdraw at any time. There will be no penalty or loss of benefits you are entitled to receive if you stop taking part in this study. Your decision to participate or not to participate will not affect your student status or job status.
Appendix C Continued

Questions, concerns, or complaints
If you have any questions, concerns or complaints about this study, call Dr. Patricia Maher at (813) 974-5141.
If you have questions about your rights as a participant in this study, general questions, or have complaints, concerns or issues you want to discuss with someone outside the research, call the Division of Research Integrity and Compliance of the University of South Florida at (813) 974-9343.
If you experience an unanticipated problem related to the research call Dr. Patricia Maher at (813) 974-5141.

Consent to Take Part in this Research Study
It is up to you to decide whether you want to take part in this study. If you want to take part, please sign the form, if the following statements are true.
I freely give my consent to take part in this study. I understand that by signing this form I am agreeing to take part in research. I have received a copy of this form to take with me.

Signature of Person Taking Part in Study __________________________ Date __________

Printed Name of Person Taking Part in Study __________________________

Statement of Person Obtaining Informed Consent
I have carefully explained to the person taking part in the study what he or she can expect.
I hereby certify that when this person signs this form, to the best of my knowledge, he or she understands:
• What the study is about.
• What procedures/interventions/investigational drugs or devices will be used.
• What the potential benefits might be.
• What the known risks might be.

Signature of Person Obtaining Informed Consent __________________________ Date __________

Printed Name of Person Obtaining Informed Consent __________________________

IRB Number: __________________________ IRB Consent Rev. Date: ____________
Appendix D: IRB Modification Approval

February 28, 2011

Patricia Maher PhD  
Undergraduate Services  
LIB 206  
Attn: Jeffrey Hall M.Ed.

RE: Approved Modification Request  
IRB#: 108065  
Title: Self-Directed Learning Characteristics of First-Generation, First-Year College Students Participating in a Summer Bridge Program  
Study Approval Period: 06/11/2010 to 06/11/2011

Dear Dr. Maher:

On February 24, 2011 the Institutional Review Board (IRB) reviewed and APPROVED your Modification Request. The submitted request has been approved from 02/24/2011 to 06/11/2011 for the following:

1. Change in PI to Jeffrey Hall.  
2. Change in co-investigator to Patricia Maher.  
3. Change in title of study to: "Self-Directed Learning Characteristics of First-Generation, First-Year College Students Participating in a Summer Bridge Program" to match the dissertation title.  
4. Primary use of this data will be used for a dissertation by Jeffrey Hall.

Please note, if applicable, only use the IRB-Approved and stamped consent forms for participants to sign. The enclosed informed consent/assent documents are valid during the period indicated by the official, IRB-Approval stamp located on page one of the form. Make copies from the enclosed original.

Please reference the above IRB protocol number in all correspondence to the IRB or the Division of Research Compliance. It is your responsibility to conduct this study in accordance with IRB policies and procedures and as approved by the IRB.
Appendix D Continued

We appreciate your dedication to the ethical conduct of human subject research at the University of South Florida and your continued commitment to human research protections. If you have any questions regarding this matter, please call 813-974-5638.

Sincerely,

[Signature]

John Schinka, Ph.D., Vice-Chairperson
USF Institutional Review Board

Cc: Anna Davis/bb, USF I.R.B. Support Staff
Appendix E: Permission to use PRO-SDLS

Fwd: PRO-SDLS Information - Outlook Web Access Light

From: sstockda@kennesaw.edu
To: Jeffhall76@aol.com
CC: brockett@atl.com
Subject: PRO-SDLS Information

Dear Susan,

Here you go. Say hi to Ralph for me.

Susan Stockdale, Ph.D.
Interim Chair
Associate Professor of Educational Psychology and Middle Grades Education
Kennesaw State University
Email: sstockda@kennesaw.edu
Phone: 678-707-2060

----- Original Message -----
From: Jeffhall76@aol.com
To: sstockda@kennesaw.edu
Sent: Wednesday, April 22, 2009 3:10:47 PM GMT-05:00 US/Canada Eastern
Subject: PRO-SDLS Information

Dear Susan:

Ralph Brockett put me in touch with you regarding the PRO-SDLS instrument. I would like to use this instrument for my doctoral dissertation research and was curious as to the best way to obtain it. Is there an electronic version available?

Thank you so much!

Sincerely,

Jeff Hall, M.Ed.

Instructional/Multimedia Developer
College of Nursing - USF Health
12001 Bruce B. Downs Blvd. MDN 2083
Tampa, FL 33612
(813) 396-2517 (8-2517)
Fax: (813) 974-9324

### Appendix F: PRO-SDLS

**SCORING A Learning Experience Scale (PRO-SDLS)**

Please check one answer for each statement. There are no “right” answers to these statements, which pertain to your recent learning experiences in college—not just those experiences from this class (although they may be the same).

<table>
<thead>
<tr>
<th>ITEM</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Sometimes</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I am confident in my ability to consistently motivate myself.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>2. I frequently do extra work in a course just because I am interested.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>3. I don’t see any connection between the work I do for my courses and my personal goals and interests.</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>4. If I am not doing as well as I would like in a course, I always independently make the changes necessary for improvement.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>5. I always effectively take responsibility for my own learning.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>6. I often have a problem motivating myself to learn.</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>7. I am very confident in my ability to independently prioritize my learning goals.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>8. I complete most of my college activities because I WANT to, not because I HAVE to.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>9. I would rather take the initiative to learn new things in a course rather than wait for the instructor to foster new learning.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>10. I often use materials I’ve found on my own to help me in a course.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>11. For most of my classes, I really don’t know why I complete the work I do.</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>12. I am very convinced I have the ability to take personal control of my learning.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>13. I usually struggle in classes if the professor allows me to set my own timetable for work completion.</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>14. Most of the work I do in my courses is personally enjoyable or seems relevant to my reasons for attending college.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>15. Even after a course is over, I continue to spend time learning about the topic.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>16. The primary reason I complete course requirements is to obtain the grade that is expected of me.</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>
Appendix F Continued

<table>
<thead>
<tr>
<th>ITEM</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Sometimes Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>17. I often collect additional information about interesting topics after the course has ended.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>18. The main reason I do the course activities is to avoid feeling guilty or getting a bad grade.</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>19. I am very successful at prioritizing my learning goals.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>20. Most of the activities I complete for my college classes are NOT really personally useful or interesting.</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>21. I am really uncertain about my capacity to take primary responsibility for my learning.</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>22. I am unsure about my ability to independently find needed outside materials for my courses.</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>23. I always effectively organize my study time.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>24. I don’t have much confidence in my ability to independently carry out my student plans.</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>25. I always rely on the instructor to tell me what I need to do in the course to succeed.</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
</tr>
</tbody>
</table>

TOTAL SCORE =

Teaching Learning Transaction Component = Total of Imitative and control factors from below

Factors:
Initiative = Total of scores from numbers 2, 9, 10, 15, 17, 25
Control = Total of scores from numbers 4, 5, 6, 13, 19, 23

Learner Characteristics Component = Total of Self-efficacy and Motivation Factors from below

Factors:
Self-Efficacy = Total of scores from 1, 7, 12, 21, 22, 24
Motivation = Total of scores from 3, 8, 11, 14, 16, 18, 20

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ABOUT THE AUTHOR

Jeffrey Hall is a first-generation college student with over a decade of progressive professional experience in both K-12 and higher education. In 2000, Jeff began his higher education career at the University of South Florida (USF) and spent eight years in the Department of Educational Leadership & Policy Studies as an academic advisor for graduate students. In 2008, Jeff changed his career focus and began a two-year career as an Instructional Designer at both the USF College of Nursing and the University of Nevada Las Vegas Office of Distance Education. Currently, Jeff is serving as a Graduate Teaching Assistant in the College Student Affairs program at USF.

Jeff earned an Associate of Arts with Honors Program endorsement from the University of North Florida in 1997. Afterward, he obtained a Bachelor of Science from USF in Business Technology Education (1999) and went on to earn a Master’s degree in Instructional Technology (2003), also from USF.