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**THE SOPHOMORE SLOPE: UNDERSTANDING THE IMPACT OF THE  
PRE-COLLEGE INSTITUTE ON ACADEMIC SELF-EFFICACY  
IN SOPHOMORE STUDENTS**

by  
Patricia L. Zio

A Thesis

Submitted to the  
Department of Educational Services and Leadership  
College of Education  
In partial fulfillment of the requirement  
For the degree of  
Masters of Arts in Higher Education: Administration  
at  
Rowan University  
March 21, 2014

Thesis Chair: Burton R. Sisco, Ed.D.

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Patricia L. Zio

## **Acknowledgments**

I would like to express my deep gratitude and appreciation to my husband, Wisdom, for his unfaltering support and encouragement through my degree process. Without that support, I would not be where I am today. I would also like to express appreciation to Dr. Burton Sisco whose patient guidance helped me discover my passion for helping underprepared college students. Finally I would like to thank Dr. Penny McPherson-Barnes and Ms. June Ragone for their assistance in completing this thesis.

## **Abstract**

Patricia L. Zio

### **THE SOPHOMORE SLOPE: UNDERSTANDING THE IMPACT OF THE PRE-COLLEGE INSITUTE ON ACADEMIC SELF-EFFICACY IN SOPHOMORE STUDENTS**

2013/14

Burton R. Sisco Ed.D.

Master of Arts in Higher Education: Administration

The purpose of this study was to understand what impact the six-week summer Pre-College Institute (PCI) had on the development of academic self-efficacy in the lives of sophomore students enrolled at Rowan University in Glassboro, NJ during the 2013-2014 academic year who had participated in the PCI summer program prior to beginning their freshman year. This research asked students questions regarding their personal and academic growth, challenges, and successes. They were also asked to consider to what extent their participation in the summer PCI program impacted them as college students. In order to understand the qualitative data, results from the content analysis of these interviews were compared to skills found in the College Academic Self-Efficacy Scale (CASES) created by Owen and Froman (1988); his tool assisted in understanding increases in academic self-efficacy based on development in academic skills. This study revealed that the PCI summer program is structured in such a way that positive change became inevitable. While these students completed high school with varying levels of academic competence, their participation helped to mold them into a uniform example of academic strength.

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## Chapter I

### Introduction

From the earliest musings, every child dreams of becoming someone spectacular: a fireman, a teacher, a police officer, a parent, and more. For many of the children who board a big yellow bus, or make the daily walk to school through the snow or rain, these aspirations become a mirage as they fall further behind academic standards each year. Even as tassels turn and high school diplomas are proudly displayed, colleges and universities find themselves concerned at the number of students classified as underprepared for the rigors of higher education.

In a consorted effort to help these dreams become reality, universities are developing summer programs designed to bridge the gap between high school and college. Each school varies its program by length, focus, and course offerings. However, these summer bridge programs are designed to encourage the development of basic skills and to ease the transition into college life and the academic standards that accompany it. Yet, how effective are they?

Literature is mixed. Some studies declare the programs to be a complete success, stating that they achieve their academic, social, and acculturation goals (Adams, 2012; McGlynn, 2012; Walpole, Simmerman, Mack, Mills, Scales, & Albano, 2008). In these same studies, the research also showed that these programs do not always accomplish the totality of their goals. At Rowan University in Glassboro, NJ, studies appear encouraging. Students seem to be successfully preparing students academically, socially, and personally, as well as increasing the interaction between faculty and classes (Cheung,

2012; Sader, 2013; Schell, 2013). However, what effect do these programs have on the development of academic self-efficacy?

Academic self-efficacy is one of the most important tools towards the realization of dreams (Bandura, Barbaranelli, Caprara, & Pastorelli, 1996; Bouffard-Bouchard, Parent, & Larivee, 1991; Choi, 2005; Zajacova, Lynch, & Epenshade, 2005; Zimmerman, 2000; Zimmerman & Bandura, 1994). Like *The Little Engine Who Could*, an individual who has the confident assurance that success is possible will achieve goals, no matter the difficulty or challenges that present. Self-efficacious students will have the strength of character to overcome stress and anxiety, and react with a clearer, less emotional mind. Yet those who have never learned to develop this character trait will often give up before realizing their dreams.

### **Statement of the Problem**

At Rowan University, research has been conducted with participants of the Pre-College Institute during their first year of undergraduate study (Cheung, 2012; Sader, 2013; Schell, 2010). I have been unable to uncover research conducted with participants who have persisted into their second year. Therefore, the focus of these studies has been on freshmen students who had completed the six-week summer bridge program a few short months before participation. Students who have persisted into their second year are able to provide a greater depth of insight as to the impact participation had on the development of academic self-efficacy since they have had a year in which to apply new academic habits and tools learned during their participation.

## **Purpose of the Study**

This study sought to understand the impact of participation in the six-week Pre-College Institute (PCI) summer bridge program at Rowan University had on the development of academic self-efficacy. Specifically, this study looked at Education Opportunity Fund (EOF) and Maximizing Academic Potential (MAP) students who persist into their sophomore year. It was assumed that they have had the opportunity to practice and further develop successful academic habits and skills.

## **Assumptions and Limitations**

It is assumed that, during this study, the participants answered my questions honestly. Participants may have wished to create a good impression regarding overall confidence level. This assumption became less of a liability by keeping all identifiable information separate from the qualitative study transcript and demographic questionnaire, as well as referring all participants by a number, rather than their names, during the interviews. This aided in creating a sense of anonymity.

It is further assumed the subjects were able to fully comprehend the questions asked during both the focus group study and individual interviews. In an effort to assist with understanding, questions for this study were reviewed and adjusted for readability and comprehension as part of the initial test study.

Researcher bias could present itself as a further limitation. While the literature may be mixed, summer bridge programs seem to have even a minimally positive impact on the development of academic self-efficacy in participants. The research data must be allowed to show if the PCI program is reflective of the current literature.

Finally, creating generalizability in my sampling may become a liability. This study was conducted using a convenience sample comprised of volunteers who participated in the PCI summer bridge program at Rowan University during the summer of 2012 and who have persisted into their second year.

### **Operational Definitions**

1. **Academic Self-Efficacy:** The sense of confidence in one's ability to successfully complete academic challenges. This perception is usually developed through accomplishments, observation of others succeeding, verbal encouragement, and healthy management of stress and emotions. The development of academic self-efficacy is essential for educational success and is measured using self-reported data on an individual's personal perception of confidence when performing certain academic tasks (Owen & Froman, 1988).
2. **At-Risk College Students:** Incoming first-semester undergraduate freshmen who are at increased risk of attrition due to many factors including, but not limited to: low socioeconomic status, first generation student status, minority status, and the like. At Rowan University, these students are classified as Education Opportunity Fund (EOF) students, and may be required to participate in the summer bridge program before the start of freshman year.
3. **PCI:** The full PCI program is designed to follow the students from matriculation until graduation, providing academic support services throughout the year through the EOF and MAP programs (PCI, 2013). For the purpose of this study, the Pre-College Institute refers specifically to the six-week summer bridge program

created and operating for incoming students at Rowan University who are considered at-risk, underprepared, or of low socioeconomic status.

4. Summer Bridge Program: A program designed to meet the educational needs of at-risk and underprepared college students in order to prepare them for a successful academic experience at an institute of higher education. Summer bridge programs are usually held during the summer preceding the fall semester and vary in structure, content, and design by institution.
5. Underprepared College Students: Incoming first semester undergraduate freshmen who do not meet the minimum education requirements for acceptance and/or matriculation into a higher education institution and who, therefore, require additional academic assistance before beginning their first semester. At Rowan University, these students are classified as Maximizing Academic Potential (MAP) students, and are required to participate in the summer bridge program before the start of freshman year.

### **Research Questions**

This study sought to answer the following questions:

1. What impact does the Pre-College Institute have on the overall development of academic self-efficacy of selected former participants during the first year of undergraduate study at Rowan University?
2. What impact does the Pre-College Institute have on the development of academic self-efficacy specifically for selected, former Education Opportunity Fund (EOF) participants during the first year of undergraduate study at Rowan University?

3. What impact does the Pre-College Institute have on the development of academic self-efficacy specifically for selected, former Maximizing Academic Potential (MAP) participants during the first year of undergraduate study at Rowan University?
4. What elements of the Pre-College Institute provided the greatest impact on the development of academic self-efficacy in selected participants from both the EOF and MAP programs?

### **Overview of the Study**

This study begins by looking at the academic needs of incoming first-year, first-semester undergraduate freshman as well as research conducted on the effectiveness of summer bridge programs with specific attention being paid to the Pre-College Institute (PCI) at Rowan University. Additionally, literature is presented on the importance of positive academic self-efficacy and its impact on academic success. Using a qualitative survey design, I conducted my research with select students who participated in the PCI summer bridge program at Rowan University during the summer of 2012 and who persisted into their second year. This study ultimately allows for further suggested research, as well as provides insight into PCI program from both the participants' points of view, as well as from an analysis of the research.

## Chapter II

### Literature Review

#### Introduction

As the United States increases technologically, the demand for an educated and skilled workforce continues to grow exponentially. Many positions, which once could be filled by individuals with only a high school diploma, are now requiring some form of post-secondary degree (Handel & Williams, 2011). However, many high school graduates preparing to train for these positions are not ready! What so many first-year students are finding is that they were not adequately prepared for the rigors of college-level mathematics, writing skills, reading comprehension, study habits, or work-load demands. Frustrated and overwhelmed, they find their grades slipping well below the required grade point averages, leaving no other foreseeable option but withdrawing from higher education. This unfortunate reality does not limit itself by gender, race, or socioeconomic status; students from all backgrounds have found themselves underprepared for their higher education goals (Barr & Schuetz, 2008).

Concern over the level of academic preparedness for freshman students is not new to academia; remedial classes have been a part of the American education system since the mid-1800s. However, in the past 30-40 years, administrators and educators have had a growing disquiet about the increasing number of underprepared students entering higher education (Handel & Williams, 2011). Colleges have incorporated various programs designed to address the needs of underprepared students, including Summer

Bridge Programs, which seem to have positive results on academic achievement and academic self-efficacy.

### **Addressing the Needs of Underprepared College Students**

On average, colleges and universities are spending \$16.6 billion annually on underprepared college students (Strayhorn, 2011). This equates to roughly \$1,300 per student to provide for remedial education needs (Michael, Dickson, Ryan, & Koefer, 2010). The vast majority of underprepared college students come from low income families, racial or ethnic minority groups, or first-generation college students. Venezi, Kirst, and Antonio (2006) found that, of students considered unprepared or underprepared for the challenges of higher education, almost half came from families making less than \$25,000 annually, and an additional 32% from families earning less than \$75,000. In addition, only 32% identified as White.

Barr and Schuetz (2008) indicated that almost 73% of college freshmen need remediation with basic reading and writing skills, and 90% are not ready for college-level mathematics. Students requiring English remediation find reading requirements, reading comprehension, and note-taking, as well as research and other writing assignments, frustrating and report feeling that they were never taught these skills during high school (Michael et al., 2010). Perin (2013) indicated that many underprepared students also struggle with the concept of summarizing text, leading to future issues with plagiarism. Ultimately, they find themselves struggling to pass their courses; the attrition rate for this group is quite high. Less than 10% of underprepared college students are able to complete a two-year degree in less than three years, and only 35% are able to finish a four-year degree in fewer than six years (Lee, 2013).

Colleges sought to allay the problem of under-preparedness by creating basic skills, or remedial, college level courses. These classes teach core curriculum requirements, such as mathematics, English, or English as a Foreign/Second Language, below what is consider college-level. Most often, colleges do not award credit for their completion; however, they are mandatory for advancement into the student's chosen academic program (Barr & Schuetz, 2008). Currently, 98% of public community colleges, 80% of public four-year institutions, and 59% of all private two or four-year colleges offer some form of basic skills courses which serve between 20%-40% of the freshman student population (Handel & Williams, 2011). The greatest majority of underprepared first-year students attend community colleges. Sixty-three percent will only attend a two-year institution; of those, only 23% will continue on to a four-year institute to complete their bachelor's degree (Venezi et al., 2006).

Basic skill courses, however, have not always been as successful as hoped; early in their existence, studies revealed a 90% attrition rate among students enrolled in basic skills courses (Barr & Schuetz, 2008), and little has improved since then. One study involving 57 community colleges across the United States found that only 33%-46% of students assigned to English or mathematics remediation actually complete their courses. Current studies on the overall effectiveness of basic skills courses show nothing definitive; depending on the study, results could be positive, negative or ambiguous (Handel & Williams, 2011).

### **Summer Bridge Programs**

One of the greatest problems with basic skills courses is that underprepared students are required to pay for, and pass, courses for which they will receive no credit

towards their degree completion. Additionally, students enrolled in remedial courses often feel demoralized and end up losing their ambition to persist. In order to reduce the number of required remedial courses, colleges across the United States have begun creating intensive summer programs, more commonly known as summer bridge programs, for students deemed either academically underprepared or at risk. Summer bridge programs vary by school in length, courses offered, and focus, as well as whether students must reside on campus for the duration of the session; however, there are general similarities (McGlynn, 2012).

The ultimate goal of these programs is to ease the social and academic transition into college life and its academic standards. Programs are usually a minimum of four weeks in length and consist of intensive instruction in subjects like reading, writing, and mathematics. Additionally, colleges will offer information and instruction on college living, as well as how to utilize resources like labs, tutoring, and other college services designed to support the students' campus experience (McGlynn, 2012). Sometimes, credited courses will be offered, allowing more prepared participants to begin working on their educational goals prior to the start of the academic year (Walpole, Simmerman, Mack, Mills, Scales, & Albano, 2008).

For the most part, studies conducted on the effectiveness of summer bridge programs indicate positive results for students participating. For many underprepared students, participation in a bridge program will so effectively prepare them for higher education that they will not need to take any basic skills courses. In fact, many students find that they are not only prepared to pass college-level work, but they are often more inclined to challenge themselves by taking more advanced level courses (Adams, 2012).

Often, participants will complete a greater number of courses, and have higher grade point averages than those who did not attend. They will also be more confident and willing to not only meet with faculty members, but also to take advantage of other academic resources such as library or counseling services, tutoring, and study groups (McGlynn, 2012; Walpole et al., 2008). McGlynn (2012) further noted that, while many summer bridge participants are motivated to succeed academically in their higher education goals, these programs also seem to have a positive effect on students who lack the motivation for college-level classes.

Unfortunately, summer bridge programs are not always effective at achieving every desired goal. Studies indicate that participation does not always seem to improve students' sense of belonging on campus or increase their involvement in social affairs, campus activities, or student organizations (Strayhorn, 2011; Walpole et al., 2008). Additionally, participation does not always increase matriculation into a degree program, or guarantee higher degree completion rates among underprepared students (Adams, 2012). However, Strayhorn (2011) did indicate that participation was positively related to increases in first and second-year retention rates.

### **Bandura's Theory of Self-Efficacy**

Strayhorn's (2011) study noted a positive increase in participants' academic self-efficacy. Academic self-efficacy is a student personal perception on their ability to succeed at an assigned academic task. It does not refer to their actual study skills and overall academic ability. However, an individual's perception of whether he/she can succeed is often just as important as their actual skill set. The confidence that comes with high academic self-efficacy is not universal across subject matter; a student may be very

self-efficacious in one subject but not another (Dalale-O'Connor, Farley, Lippman, & Walker, 2012).

There is also a vast difference between self-efficacy and self-concept. For example, a student with high self-concept might feel he or she is good at mathematics, while a student with high self-efficacy would feel confident in his or her ability to pass the final exam. While self-concept is important, it is usually less effective at increasing a student's academic potential as academic self-efficacy. In fact, simply having the confidence that comes with high self-efficacy can help a person do well even if he or she lacks confidence in his or her overall ability in the particular subject matter. For example, a student who believes he or she can read and write a term paper well may do very well in a literature course, even though his or her self-concept is very low (Zimmerman, 2000).

The concept of academic self-efficacy is rooted in the broader concept of self-efficacy developed by Albert Bandura in 1977. Bandura theorized that all human action or inaction comes from a person's cognitive perception of the task at hand. When persons believe they will be successful at a particular task, they become more confident in their ability to succeed equally well in more difficult challenges. However, if individuals are convinced they will fail, their self-doubt will usually outweigh any perceived benefits from completing a task. For example, a student harboring serious self-doubt over their ability to succeed academically may give up on personal education goals, even if the goal of completing a college degree will open doors of advancement and success in the future. However, college students who allow their low self-efficacy to lead

them to withdraw, the self-perception of failure will stay with them, hindering future successes, for quite some time.

Bandura (1977) further theorizes that a student's expectation of success or failure will determine the degree of effort he/she will be willing to put towards personal academic goals, willingness to persist through challenges, and willingness to attempt to overcome obstacles. However, an individual who strongly believes he/she does not have the skills necessary to succeed, will often approach a task with little motivation and withdraw prematurely. In fact, the person may even avoid the challenge altogether, even if the reality is that he/she would succeed with persistence and dedication. While the student may be willing to begin any simple challenge, the slightest obstacle or increase in difficulty will dismiss all sense of self-confidence.

Margolis and McCabe (2006) describe low self-efficacy as creating "self-fulfilling prophecies of failure and learned hopelessness that can devastate physiological well-being" (p. 219). Individuals with low self-efficacy believe that they will not succeed, so they fail. Each additional failure exacerbates the feelings of self-doubt leading to unwillingness to attempt even simple challenges. However, when successes come early in a particular task, an individual's perception of future success will extend into medium difficulty and even high difficulty challenges. Ultimately, high self-efficacy will motivate an individual to attempt difficult tasks, even when he/she may not possess all of the necessary skills for success.

Bandura (1997) offered four ways to increase an individual's perception of overall self-efficacy: *performance accomplishments*, *vicarious experience*, *verbal persuasion*, and *psychological states*. *Performance accomplishments* is one of the most

significant sources of self-efficacy, since it stems from actual achieved successes. Each success raises the individual's perception of future success; once a strong sense of self-efficacy is developed, failures do little to tear it down. *Vicarious experience* is the perception that a task can be accomplished because the individual has personally seen someone else successfully completing the challenge; he/she experiences a sense of success vicariously. *Verbal persuasion* relies on the positive reinforcement and encouragement of others; this is a less reliable source of self-efficacy since failures can cause an individual to doubt future verbal persuasion. Finally, the least reliable source of self-efficacy comes from *psychological states*. This refers to the emotional state at the time an individual attempts a particular challenge. Stress and anxiety will lower expectations of success and may cause early failure or withdrawal.

### **Quantifying Academic Self-Efficacy in Students**

Owen and Froman (1988) noted the importance of self-efficacy in academic success, and felt that much of the literature and many of the tools were vague in content and produced little remarkable data. They began their mission to create a simple and reliable tool that would be able to uncover growth in an individual's academic self-efficacy, rather than confidence resulting from better andragogy.

Through an involved and detailed process of elimination, Owen and Froman created the *College Academic Self-Efficacy Scales (CASES)* that consistently and reliably measures overall levels of academic self-efficacy in college students. One reason for this consistency may be because they discovered academic self-efficacy is best understood on a task-specific level rather than using a more global approach (Choi, 2005). The CASES

tool uses this approach, isolating academic behaviors that would be common for college students of all ages and degree levels.

During interviews with participants, the researchers discovered a relationship between students' confidence in specific academic skills (such as confidently tutoring a fellow classmate, earning good grades, using the library, or even consistently attending classes) and the likelihood that students will participate in that behavior. Confirming their past research, Owen and Froman (1988) found that when students were more confident in a skill, they were more likely to use it on a regular basis; they were also more likely to avoid academic behaviors with lower levels of confidence.

### **Academic Self-Efficacy**

Bandura's (1977) theory of general, personal self-efficacy is easily translated into the academic arena and has been shown to impact a student's learning potential. Self-efficacious students will approach their educational experience with determination, perseverance, as well as a drive and willingness to undertake more challenging course work because of a belief that they can succeed. Overall, these students have a more positive work ethic and put in a greater effort into learning and class work. Additionally, students with a high level of academic self-efficacy have been found to be less depressed, stressed, and anxious, as well as being less emotionally reactive when faced with an obstacle (Bandura et al., 1996). These emotions are often the greatest threat to grade point averages and retention. However, students with high levels of self-efficacy are often able to reinterpret deadlines, tests, and difficult assignment as challenges rather than stressors (Zajacova, Lynch, & Epenshade, 2005).

While many place blame for poor grades on test-taking skills or general anxiety, some studies indicate that a student's belief that he or she can succeed will trump anxiety, leading to higher scores (Zimmerman, 2000). Freshman college students with high levels of confidence in their ability to perform academically are able to conquer any emotional and social insecurity and complete more credit hours with higher grade point averages than less secure members of the cohort. In fact, when considering grade point averages, even college students who did very poorly in high school have been found to earn higher grades simply because of a high level of self-efficacy (Zajacova et al., 2005).

Self-efficacious students are also, quite often, better self-guided learners. Bandura et al. (1996) found that students who feel an element of control over their learning experience are able to achieve greater success. However, if a student does not have the motivation and persistent attitude that comes with high academic self-efficacy, any level of control will matter little. Zimmerman and Bandura (1994) found that students with low levels of confidence in their ability to succeed are often distracted and give up whenever something arises that is perceived to be more interesting.

Highly academically self-efficacious students have been found to be self-regulating in their academic pursuits. These students set goals that are often more challenging, and are not content with performances that are below personal expectation. Additionally, students with high academic self-efficacy are more prone to use self-assessment methods to guide their learning and development (Zimmerman & Bandura, 1994). Bouffard-Bouchard, Parent, and Larivee (1991) further found students with high academic self-efficacy more actively self-monitored learning. These students were more

aware of time spent studying, were more willing to accept criticism and had greater problem solving skills than members of their cohort with low self-efficacy.

### **Understanding EOF/MAP and PCI**

In New Jersey, the Education Opportunity Fund (EOF) and Maximizing Academic Potential (MAP) programs provide funds to colleges seeking to bridge the academic gap for at-risk, low socioeconomic status, and underprepared students. The Maximizing Academic Potential (MAP) program is designed by Rowan University for those applicants who do not meet the basic criteria for admission in the college yet do not meet financial eligibility requirements for the EOF program (PCI, 2013).

The EOF program was a grant generating fund created by the state legislature following deadly riots in Newark, New Jersey during the summer of 1967. One of the major issues sparking these riots was poor education among the minorities groups living in Newark, NJ. Statistics from 1968 showed that almost 40% of the city's young Black men were unemployed, primarily due to a lack of marketable skills training and education (Herman, 2013). This initiative was intended to work primarily, but not limited to, minority students who have lived in New Jersey for at least one year prior to entering school, who have demonstrated significant financial need, yet who have overcome these obstacles by completing high school or a General Equivalency Diploma (GED) program, and have the potential to succeed in higher education. Currently, the EOF program supports the educational endeavors of approximately 12% of minority students enrolled at state colleges and universities, and one third of those enrolled at private institutions (PCI, 2013).

At Rowan University in Glassboro, NJ, EOF and MAP students participate in a summer bridge program known as the Pre-College Institute (PCI). This program is six weeks long and allows for students to become acculturated to the college environment while providing study skill and academic support, as well as leadership training, and college life-skill development. During participation in the six-week PCI program, students live on campus and participate in study groups and workshops designed to assist each person in the development of academic goals and learning strategies, as well as to understand the financial aid process, receive career counseling, training in personal financial management, and more. Students who participate in the PCI program are admitted to Rowan University on a conditional basis. It is only once a student has demonstrated preparedness for college life and its academic requirements, will he or she be permitted to fully matriculate (PCI, 2013).

### **Effectiveness of the Pre-College Institute**

Studies conducted on Rowan University's Pre-College Institute (PCI) have shown positive results. Sader (2013), found that students who participated in this program were retained through their third year and that they felt more connected to their classes and faculty. Participants in this study were succeeding academically, and felt the seminars presented during the PCI gave them the tools necessary to be successful personally, socially, and academically. Additionally, students were more confident in their understanding of the basics of the financial aid process.

In another study, PCI participants found the program successfully aided in the adjustment process to college-level teaching methods, note taking, lecture styles, and assignments. After completing this summer bridge program, students felt they had

learned skills necessary for academic success, such as time-management skills and successful study habits, as well as knowing how to access resources and assistance whenever they began to struggle in the classroom. Overall, Cheung (2012) found that participants had a greater appreciation for their academic future and took their classes more seriously than they may have without having participated in this program.

Schell (2010) studied the same program and found Rowan University students who participated in the PCI prior to their freshman year felt comfortable interacting with faculty and were satisfied with almost every aspect of their experience at the college. As to whether they felt prepared for the challenges of college-level work, participants in this study were mixed; many were concerned about their courses becoming harder and having an inability to maintain quality in their studies. Important to this study, Schell found that participants reported characteristics of high academic self-efficacy, specifically that they were motivated, willing to persevere and persists, and determined to succeed.

While studies conducted on the Pre-College Institute have yielded positive outcomes, the focus has been on participants during the freshman year. Additionally, focus has been given on a broad range of topics, including social skills development. I was not able to find prior studies that focused on how the PCI may affect the development of increased academic self-efficacy.

### **Impacting Academic Self-Efficacy**

The reality of being academically underprepared for college-level work can become a discouraging reality that can negatively impact a student's sense of self-efficacy. Faculty, especially those involved in summer bridge programs, play a crucial role in how a student perceives personal ability to succeed in more difficult courses.

These remedial courses are a student's first sense of accomplishment or defeat in higher education. When students' four sources of self-efficacy are nurtured, they may be more likely to willingly approach challenges with the motivation, effort, and persistence to succeed (Margolis & McCabe, 2006; Owen & Froman, 1988). When faculty take the time to teach academic goal setting, self-assessment, as well as learning to internalize successes and welcome challenges, academic self-efficacy can be improved upon (Delale-O'Connor et al., 2012).

Students who have entered college academically prepared usually have little issues adjusting to variations in pedagogy, assignments, classroom and work expectations, as well as grading methods. However, that is not the case with underprepared students. When there are significant differences between their classes, especially regarding assessment and grading methods, these students are more likely to struggle and feel uncertainty in their ability to succeed. Barr and Schuetz (2008) further suggest that underprepared students would benefit greatly from consistency and stability in course requirements, class structure, assessment procedures, and grading.

Underprepared college students often lack the self-study skills needed for success in college. They struggle with independent learning, and self-regulated study habits, as well as understanding course syllabi and assignments. Cukras (2006) further found that when underprepared students are taught how to take a flexible approach to study strategies, they are able to achieve greater academic success at different class assignments and learning challenges. This study suggested that colleges incorporate study skills as part of their remedial programming and Summer Bridge experience in order to increase classroom success and positively influence academic self-efficacy.

## **Summary of the Literature Review**

A great number of first-year freshmen will be entering the realms of higher education unprepared for the rigors of achieving academic success. Summer bridge programs have been shown to be significantly more effective than basic skills classes in remediating underprepared students, promoting the use of academic-related campus services, increasing academic success and motivation, as well as reinforcing and developing academic self-efficacy. This study draws from previous research conducted on the Pre-College Institute (PCI) program at Rowan University (Cheung, 2012; Sader, 2013; Schell, 2010), as well as the research conducted by Owen and Froman (1988). Looking at sophomore students at Rowan University who participated in the summer bridge program prior to their freshman year, this study sought to understand whether their experiences agreed with the literature on the effectiveness of summer bridge programs. It also sought to ascertain to what degree this program has impacted the sense of academic self-efficacy in select EOF and MAP students during the immediate year of study.

## Chapter III

### Methodology

#### Context of the Study

Rowan University was founded in 1923 as a Normal School to train educators, quickly gaining national recognition in the areas of physical therapy and reading education (History, 2013). Currently the school is considered a medium-sized research university comprised of three campuses in New Jersey: Camden, NJ, Stratford, NJ, and the main campus located in Glassboro, NJ. The student body is comprised primarily of undergraduate students, 24% of whom are considered minority students. Additionally, Rowan has partnered with area community colleges in order to allow students to matriculate directly from those campuses into Rowan University's degree programs (Media & Public Relations, 2013).

As the literature has suggested, when a student is confident in his or her ability to succeed at academic tasks, they are more likely to do well in class and persist through difficult assignments. Many students begin their academic goals lacking the self-confidence to be successful. Rowan University provides two programs for these students: Educational Opportunity Fund (EOF) and the Maximizing Academic Potential (MAP) programs. The EOF program is designed to work with minority students who have lived in New Jersey for at least one year prior to entering school, who have demonstrated significant financial need, yet who have overcome these obstacles by completing high school or a General Equivalency Diploma (GED) program, and have the potential to succeed in higher education. The MAP program works to aid those students

who do not meet the basic academic criteria for admission in the college yet do not meet financial eligibility requirements for the EOF program (PCI, 2013).

At Rowan University, students who are either considered high risk or who do not have a history of high academic achievement participate in the school's summer bridge program, known as the Pre-College Institute (PCI). The PCI program is intended not only to aid EOF and MAP students in their adjustment to college living, but to provide training in academic habits and behaviors through study groups and workshops that will positively impact their educational success. PCI focuses on developing learning strategies, understanding financial aid and personal financial management, as well as developing career strategies for the future. The development of these study skills should positively increase students' perception of academic self-efficacy. As students' overall confidence builds, this will positively affect their overall academic aspirations. Participants in the PCI program are admitted conditionally, and are only permitted to matriculate into a degree program after successfully completing the program (PCI, 2013).

### **Population and Sample Selection**

This study examined undergraduate sophomore students who had participated in a summer bridge program prior to their first year of college. Specifically, this study included a convenience sample of EOF and MAP students from Rowan University who participated in the Pre-College Institute during the summer of 2012, and who persisted into their sophomore year at Rowan. A list of 127 students who met these qualifications was created by the EOF/MAP office at Rowan University.

Participants in this study were asked to participate in a small group, qualitative study to understand the impact the PCI summer bridge program specifically made

towards any quantifiable growth in academic self-efficacy. A convenience sample of five students, one male and four female, two from the MAP and three from the EOF programs, volunteered to participate.

### **Instrumentation**

This study consisted of qualitative research with select individuals who participated in the 2012 Pre-College Institute (PCI) as either Education Opportunity Fund (EOF) or Maximizing Academic Potential (MAP) students. Participants from among the convenience sample volunteered their time to answer questions about their greatest academic challenges in high school and college, their academic fears, and how they approach difficult academic challenges. Additionally, students were asked to provide more information on specific areas of improvement in academic self-efficacy, the ways the Pre-College Institute (PCI) impacted their confidence, decision-making skills, as well as recommendations on how the PCI program could have a greater impact in the future.

Some questions for this study (Appendix F) were influenced by the qualitative and demographic questionnaires created for three prior studies conducted on the Pre-College Institute (Cheung, 2012; Sader, 2013; Schell, 2010). Additionally, questions created to understand the impact of the PCI program on the students' academic self-efficacy incorporated academic habits listed on Owen and Froman's (1988) CASES tool.

Owen and Froman's (1988) CASES tool presents participants with a list of 33 academic habits that are common to all college students. Students are asked to rate their level of confidence in performing the mentioned academic skill on a five-point Likert-style scale with five being *Quite a Lot* and one indicating *A Little*. To understand an individual's level of academic self-efficacy, scores are calculated to find the mean; the

higher the score, the more self- efficacious the student. This tool was found to have an Alpha reliability score of between .85 and .92 and was found to have high validity through a detailed regression process.

### **Data Collection**

Permission to conduct this research was granted by the Institutional Review Board of Rowan University (Appendix A), as well as through the EOF/MAP office (Appendix B). An email was sent out inviting individuals to participate in a focus-group qualitative study that would allow the students the opportunity to elaborate on the impact the PCI summer bridge program had on the development of their personal academic self-efficacy. There were no replies to this first invitation and the qualitative study was postponed. The second attempt at data collection ultimately came through the assistance of the EOF/MAP office; counselors and staff attempted to contact sophomores directly and invited them to participate. Three students participated during the first focus-group interview. Following this, two additional interviews were conducted one-on-one.

All interviews were conducted in the conference room located in the EOF/MAP office located on the Rowan University main campus in Glassboro, NJ during the months of April and May, 2014. Prior to beginning the interviews, participants were introduced to me and the study. They were then asked to sign forms consenting to participate and to be recorded (Appendix D) as well as to complete a demographics questionnaire (Appendix E). During the small-group session, one participant chose to decline participation after completing the demographics questionnaire, and left prior to the start of the interview; she was not included in the data analysis portion of this study. The first

focus-group session took approximately 40 minutes to complete. The two subsequent, one-on-one interviews lasted approximately 12 minutes and 14 minutes respectively.

### **Data Analysis**

Data were analyzed using a process of content analysis created by Sisco (1981) (Appendix G). As I reviewed the verbatim transcript, participants' phrases were edited to remove nonessential word and syntax errors were corrected. I began locating phrases, ideas, or descriptive words that succinctly answered my research questions. In an effort to make greater sense of the data, these were further examined and compared to the items listed on the *College Academic Self-Efficacy Scales (CASES)* tool (Owen & Froman, 1988). I noted whenever a phrase, idea, or descriptive word fell within the scope of an item on this tool, and quantified these responses. This process allowed me to understand what specific elements of academic self-efficacy were impacted by the Pre-College Institute program.

## **Chapter IV**

### **Findings**

The following are brief narrative descriptions of the study participants. Specific demographic data contained within the biographies (Appendix C) are detailed in Table 4.1.

#### **Description of the Participants**

Participant number one self-identifies as a 21-year-old Hispanic/Latino female who participated in the summer PCI program as an EOF student. She describes herself as a lazy high school student who did not take her studies seriously, and who did not start thinking about future education goals until closer to graduation. She described two great challenges during her secondary school years. The first came as a result of multiple moves leaving her struggling to adjust to the new environment. The second challenge came in completing homework; this was not attributed to comprehension or classroom structure, rather to apathy towards her schoolwork. She now considers herself a driven, determined, and focused college student. Although she struggled in her freshman year, earning only a 1.7 grade point average, she has since worked hard and has improved to a 2.8. When she completes her academic goals, she would like to have earned a Bachelor's Degree. She identified her mother and the minister of her home church as the greatest influencing forces behind her desire to achieve academically.

Participant number two self-identifies as a 20-year-old female of Hispanic/Latino and White racial background. She participated in the PCI summer bridge program as an EOF student. In high school, she describes herself as an overachiever who worked hard

in her studies, considered herself the *teacher's pet*, and graduated in the top 15 of her class. She was involved in many extracurricular activities including sports, theater, and clubs. The greatest challenge for her came in the form of relationships with the opposite sex. She describes these relationships as distracting and a hindrance to reaching her academic goals because of the amount of time and attention she would devote towards developing them. Even now, she still considers herself to be an overachiever in her classes and reported having to learn time management skills so to not overload her schedule with extracurricular activities. After her first year she reports maintaining a 3.1 grade point average; since then, she has improved academically. Her final academic goal is to earn a master's degree in her field. When asked about who has influenced her most to succeed, she stated that she is constantly considering the next generation. She wants to be a role model for her future children, to be able to guide them through the challenges of college, and to confidently say, "You should do this...because this will be giving you structure for when you graduate."

Participant number three self-identifies as a 20-year old, White, female who participated in the PCI summer program as an EOF student. While she was active with her high school track and cross country teams, she describes herself as academically lazy; she often did not try on her school work and managed to get away with missing assignments. As a big talker in classes, her greatest challenge as a high school student was focusing on classes, as well as effectively managing her time. Her high school track coach, parents, and current EOF advisor are the greatest influences in her life. She seemed hesitant to describe herself as a college student today; however, since coming to college, she has continued to challenge herself to effectively manage her time. While her

grade point average has shown a slight decline in the past year (from a 3.2 to 3.1), she continues to work hard in her classes and would like to eventually graduate with a master's degree.

Participant number four self-identifies as a 19-year-old, African-American male who participated in the PCI summer program as a MAP student. He describes himself as immature during his high school years, and gave little thought to a future career path. While he stated that he did do well in his studies, he did not take his studies seriously. His greatest challenge came when deciding what to do after graduation and choosing a major. When asked about who inspired him to continue his education, he named many individuals that included his immediate and extended family, as well as his friends and advisors. As a Rowan University student, he stated that he is where he wants to be and is progressing in spite of continued decisions regarding his future academic and career path. At the end of his first year, participant four had a 3.65 grade point average; that has since declined slightly to a 3.35. Ultimately, he would like to earn a master's degree in a field that is yet undecided.

Participant number five is a self-identified 19-year-old, African-American female who participated in the summer bridge program at Rowan University as a MAP student. In high school, she described herself as overly social and served as her class president during her sophomore, junior, and senior years. Her greatest challenge as she approached college was worrying about her standardized testing scores and finding a college that would overlook any negative scores. As a social person in higher education, she has had to learn to say *no* to certain invitations, clubs, activities, and events in order to focus on her school paper; she feels that she has learned to prioritize her education goals and

choose the clubs and activities that are most important to her. She describes herself as an organized college student who has learned personal, social, and academic balance, as well as someone who has become comfortable with college life in general. She named her parents, as well as her EOF counselors as the greatest influence to her academic success. Ultimately, she would like to earn a Master's degree.

Table 4.1

*General Demographics Information (N=5)*

Percentage of Participants Who	<i>f</i>	%
Self Identify as Hispanic / Latino	2	40.0
Self-Identify as White	1	20.0
Self-Identify as African American	2	40.0
Are Between 18-20 Years-of-Age	4	80.0
Are Over 20 Years-of-Age	1	20.0
Participated in the PCI Program as an EOF Student	3	60.0
Participated in the PCI Program as a MAP Student	2	40.0
Self-Reported Decline in Grade Point Average	2	40.0
Self-Reported Increase in Grade Point Average	2	40.0
Desires to Earn a Graduate Degree	4	80.0

**Analysis of the Data**

After transcribing the recorded audio from the focus-group and individual interviews, responses were interpreted using a process of content analysis created by Sisco (1981) (Appendix G). Data emerged as major themes in the participants' responses to the study questions. As I reviewed the verbatim transcript, participants' phrases were edited to remove nonessential word and syntax errors were corrected. I began locating phrases, ideas, or descriptive words that succinctly answered my research questions. In an effort to make greater sense of the data, these were further examined and compared to the items listed on the *College Academic Self-Efficacy Scales (CASES)* tool (Owen & Froman, 1988). I noted whenever a phrase, idea, or descriptive word fell within the

scope of an item on this tool, and quantified these responses. This process allowed me to understand what specific elements of academic self-efficacy were impacted by the Pre-College Institute program.

For research questions one through three, responses were grouped based on the participants' perceptions of themselves before participating in the Pre-College Institute, and then at the time of the interview. In addition to understanding the overall perceived impact the six-week summer bridge Pre-College Institute (PCI) program had on the participants, responses of both EOF and MAP were specifically and independently analyzed.

**Research Question 1.** What impact does the Pre-College Institute have on the overall development of academic self-efficacy of selected former participants during the first year of undergraduate study at Rowan University?

The interviews revealed rather significant changes in the participants' descriptions of themselves as students. Four of the five participants had significantly negative perceptions of themselves as high school students, using descriptive words/phrases like: lazy, not serious, immature, goalless, and able to get away with anything. While the remaining two participants had some positive comments regarding their secondary school years, both seemed to express that they were unfocused during these years, commenting about distractions that caused them not be completely dedicated to achieving academic success. For Participant Two, that distraction was "Boys. I always had a boyfriend...and I'm the type [that] when I like you...that's all there was. That definitely hindered my performance in high school."

However, when the participants were asked to describe themselves as college students today, all five participants expressed very positive perceptions. They described themselves as: focused, determined, overachieving, improving, organized, and able to manage time well. For Participant One, she began to take her academic goals seriously during her senior year when she realized that “I have to go to college...I can’t just be... lazy for the rest of my life.” She expressed that she has established academic goals since participating in the PCI program and is “very determined to graduate”.

In order to better understand any perceived increase in academic self-efficacy, participants were all asked about the academic skills they felt most confident in since participating in the PCI summer program (Table 4.2). Two habits/skills emerged unanimously: increases in study habits and time management skills. Study habits include the following elements: taking quality notes in class, reviewing them immediately after class, as well as working to understand content in difficult and easy courses. The concept of time management skills incorporate: being on time for classes, organizing notes and assignments, as well as keeping on top of deadlines.

Four of the five participants mentioned how the PCI program allowed them to enter college feeling as altogether more confident students who are prepared for integrating into the college environment, as well as meeting the challenges of academic life. Other specific academic skills mentioned included: interacting with professors, asking questions in class, and utilizing on-campus services (i.e. the writing center, library, tutoring center, and the like). Participants also mentioned noted growth in personal areas as well, including: greater perception of personal responsibility, the ability

to make independent decisions, as well as increased comfort navigating the Rowan University main campus.

Table 4.2

*Personal and Academic Areas Positively Influenced by Participating in the PCI Program for All Students (N=5)*

Improvement Noted In	<i>f</i>	%
Study Habits	5	100.0
Time Management Skills	5	100.0
Interacting with Professors In and Out of Class	3	60.0
Utilizing On-Campus Services (i.e. library, writing lab, etc)	3	60.0
Asking Questions in Class	2	40.0
Ability to Complete College-Level Work	4	80.0
General Confidence as a College Student	4	80.0
Confidence in Future Academic Success	3	60.0
Ability to Make Independent, Adult Decisions	2	40.0
Increased Comfort on Campus	3	60.0
Perception of Personal Responsibility	2	40.0
Self-Directed Learning Habits	1	20.0

The participants were also asked about which academic skills they still find to be difficult (Table 4.3). Surprisingly, participants presented very few academic skills/habits that have not seen marked improvement. However, three of the five participants mentioned that, while they have seen marked improvements in their study habits, they continue to struggle to stay focused when studying for long periods of time. Two participants also mentioned that they struggle to complete assignments in a timely manner, often procrastinating until the last minute. Only one participant indicated that she could not think of any academic skill with which she still struggled.

Table 4.3

*Academic Habits/Skills That Have Not Improved Significantly After Participating in the PCI program for All Students (N=5)*

Improvements in Academic Self-Efficacy Not Noted In	<i>f</i>	%
Studying for Long Periods of Time	3	60.0
Test Taking	1	20.0
Procrastinating When Completing Assignments	2	40.0
Understanding the Material Presented in Class	1	20.0

**Research Question 2.** What impact does the Pre-College Institute have on the development of academic self-efficacy specifically for selected, former Education Opportunity Fund (EOF) participants during the first year of undergraduate study at Rowan University?

Participants One, Two, and Three participated in the Pre-College Institute as EOF students. A marked change in the participants' perception of academic self-efficacy was noted after participating in the six-week Pre-College Institute (PCI) summer bridge program. Responses further indicated that the PCI program assisted in developing an overall comfort with the Rowan University main campus, college life, and academic expectations.

Unanimously, the EOF participants presented overall negative perceptions of their abilities to succeed as high school students. All three remarked that they were distracted by various athletic and extracurricular activities, as well as the demands of maintaining relationships. Participant One stated that she was "very lazy and didn't really care about school" while Participant Three stated that "...when it came to school work, I didn't really try very hard...I got away with everything." Participant Two, while describing herself as an overachiever, confessed that she was often distracted by relationships; she

would put so much time, focus, and energy into maintaining these, that it would hinder her ability to succeed in school.

However, this perception changed when the participants considered what kind of student they have become. During the interviews, the participants reflected positively on their skills and abilities as a college student. Participant One remarked that the PCI summer bridge program made her into a well-rounded student who is not so lackadaisical about her studies, and who is able to make wise and independent decisions. Participant Two felt that, while she continued to be a driven and overachieving students, the PCI program provided her with well-developed academic tools she can use to succeed. Participant Three remarked that the “[PCI Program] was a tough program, so I know if I could get through that, then I could get through anything” and that she felt “ahead of the game compared to all the other [sic] freshman...” due to her participation in the summer PCI program.

The EOF participants mentioned a broad range of skills developed through their participation (Table 4.4): study skills, time management, leadership, and the like. It was also expressed that their participation allowed them to be comfortable with the campus environment and layout, prior to their first day in class. Finally, the PCI program exposed them to college-level work, challenging them to interact with professors, participate in class, and understand the importance of completing assignments on time. All of these participants seemed to describe themselves as confident students who believed they are on the path to academic success.

Table 4.4

*Personal and Academic Areas Positively Influenced by Participating in the PCI Program for Select EOF Students (N=3)*

Improvement Noted In	<i>f</i>	%
Study Habits	3	100.0
Time Management Skills	3	100.0
Interacting with Professors In and Out of Class	1	33.3
Utilizing On-Campus Services (i.e. library, writing lab, etc)	1	33.3
Ability to Complete College-Level Work	3	100.0
General Confidence as a College Student	3	100.0
Confidence in Future Academic Success	3	100.0
Ability to Make Independent, Adult Decisions	2	66.7
Increased Comfort on Campus	2	66.7
Perception of Personal Responsibility	1	33.3

**Research Question 3.** What impact does the Pre-College Institute have on the development of academic self-efficacy specifically for selected, former Maximizing Academic Potential (MAP) participants during the first year of undergraduate study at Rowan University?

Participants Four and Five attended the PCI program as MAP students. Both MAP students demonstrated greater confidence in certain academic skills found in the CASES tool (Table 4.5), indicating some increase in academic self-efficacy. However, the impact seemed minimal; there was no marked difference in academic self-efficacy after completing the six-week Pre-College Institute summer bridge program.

In high school, Participant Four described himself in a somewhat negatively. While he indicated that he did well in his classes, he considered himself to be an immature student who did not take his studies seriously, and who had given little thought to his future. He further described himself as a student who avoided asking questions out of fear that people would say, “Oh, this guy’s probably stupid because he doesn’t know.”

Participant Five described herself in a more positive light. She was a leader in her high school, serving as class president for three years, and believed that she worked hard to create a balance between her extracurricular activities and her academics. However, she mentioned that she was overly social, which would be a distraction from academics.

As a college student, Participant Four's future still remains uncertain as he is currently considering a change in major. He also stated that he struggles to study for long periods of time, does not always understand the course material presented in class, can become annoyed by the teaching style of professors, and has slept through certain classes on a regular basis. However, he remarked that, since participating in the PCI summer bridge program, he is less impulsive and more responsible when making decisions. Additionally, he is more confident when speaking with professors during and after class, and has also developed an awareness of the importance and beneficial nature of student support services, like tutors. Finally, he now possesses greater self-directed learning habits, stating that, "I learned that there are other ways to learn materials. You don't have to learn it by the professor, you can also teach yourself..."

For participant five, it seemed that her participation in the PCI program did not drastically change her from a struggling student into a confident one; rather, it seems the tools presented in the PCI solidified her grasp on the academic skills necessary to succeed in college, and allowed her to begin her freshman year feeling ahead of the other non-PCI students. Her greatest change came in her level of organization; she described her planner as her "best friend" and considers herself to be "so organized now it's crazy [sic.]" One of the most impactful parts of the PCI program came through the demanding nature of one of her selected courses. She also described the instructor and the course

work as shockingly different from what she had experienced in high school, and perhaps even from her expectations of college courses. Participant Five found herself needing to become organized to keep up with this course’s assignments and due dates, and described it as: “Bam, here you go, this is college.”

Table 4.5

*Personal and Academic Areas Positively Influenced by Participating in the PCI Program for Select MAP Students (N=2)*

Improvement Noted In	<i>f</i>	%
Study Habits	2	100.0
Time Management Skills	2	100.0
Interacting with Professors In and Out of Class	2	100.0
Utilizing On-Campus Services (i.e. library, writing lab, etc)	2	100.0
Asking Questions in Class	2	100.0
Self-Directed Learning Habits	1	50.0
Ability to Complete College-Level Work	1	50.0
General Confidence as a College Student	1	50.0
Increased Comfort on Campus	1	50.0
Perception of Personal Responsibility	1	50.0

**Research Question 4.** What elements of the Pre-College Institute provided the greatest impact on the development of academic self-efficacy in selected participants from both the EOF and MAP programs?

Three elements of the PCI program emerged from the responses as extremely influential to the positive changes noted in the participants’ academic self-efficacy: structured study, leadership workshops, and classes offered. All three of these programs were unanimously mentioned, directly or indirectly. Other impactful elements of the PCI summer bridge program are mentioned in Table 4.6.

The first is a portion of the program known as *Structured Study*. During this portion of the daily schedule, students were required to review their class notes, complete

homework assignments, and study for any tests or quizzes. Participants reflected that this time taught them many useful study skills, such as: the importance of reviewing notes immediately after class, the number of hours each student needs to set aside to do well in class, as well as how to focus on studying for extended periods of time.

The second unanimously influential aspect of the PCI program came through the workshops presented. Some students felt these elements positively influenced their leadership and study skills, while others indicated that hearing the success stories of PCI alumni inspired them to succeed. Additionally, it was during the workshops that the participants learned valuable time management skills; this was an aspect of the PCI program that four out of the five students specifically mentioned as being important to their current academic success.

The final extremely influential part of the summer PCI program came specifically through the classes the students took. These presented the first exposure to college-level academic expectations. Participants in this study noted that through these courses, they began to understand the importance of meeting college-level performance standards, the necessity of asking questions in class, and the value of interacting with the professors. Participant one noted that, “[the PCI staff and faculty] taught us that it’s okay to look for help, and it’s okay to go to your professors, that’s what they’re there for.” Participant four also stated that, “[the PCI program] made me more confident...so I would...be confident in asking any questions, I would see my professors after [class] because, normally doing high school, I would never see my teachers after they taught. If I was confused, I would try to teach it on my own, or I would try to ask for [help from student. But] I knew that professors mastered the material, so the professors should know...what

they're talking about and what they're teaching.” These courses also inspired them to seek out student support services like tutors and the college writing center, as well as stressed the importance of reviewing class notes during study time.

Table 4.6

*Particularly Impactful Elements of the PCI Summer Bridge Program (N=5)*

Self-Efficacy Impacted Through	<i>F</i>	<i>%</i>
Structured Study Session	5	100.0
Leadership Seminars and Workshops	5	100.0
Classes Offered During the PCI Program	5	100.0
Interactions with other Freshmen	3	60.0
Scheduled Days Providing Routines and Time Management	2	40.0
Small Groups	1	20.0

## Chapter V

### Summary, Discussion, Conclusions, and Recommendations

#### Summary of the Study

This study sought to understand the impact of participation in the six-week Pre-College Institute (PCI) summer bridge program at Rowan University has on the development of academic self-efficacy for participants. Specifically, attention was given to Education Opportunity Fund (EOF) and Maximizing Academic Potential (MAP) students who persist into their sophomore year and who have had the opportunity to practice and further develop successful academic habits and skills during the previous semesters.

Five participants, three EOF and two MAP participated in a series of interviews on the Glassboro, NJ campus of Rowan University. All interviews took place in the EOF/MAP office during the months of April and May, 2014. The first interview was structured as a small group discussion, while the final two were conducted one-on-one.

The participants were asked a series of open-ended questions that were designed to gather background on the individuals, understand their perceptions of themselves prior to participating in the PCI summer program, and understanding their perceptions of themselves as college students. Additionally, questions were asked that directly related to understanding the more impactful pieces of the Pre-College Institute, as well as to gather the students' opinions on the positive and negative aspects of the program. Utilizing the *College Academic Self-Efficacy Scale* (Owen & Froman, 1988) tool as a guide to perceiving increases in academic self-efficacy, the content of the participants'

responses were analyzed in order to better understand the impact the PCI program had on this important influencer of academic success.

### **Discussion of the Findings**

In order to understand the impact the PCI summer bridge program has made on the participants, responses to questions were considered in light of the *College Academic Self-Efficacy Scale* (CASES) created by Owen and Froman (1988). Overall, the PCI program seemed to be positively received and impactful to the sophomore students who participated in this study; this holds true when the EOF and MAP participants were observed separately.

Participants in this study presented themselves as a mixed group of high school students. Some were successful and driven, while others were lazy and distracted. Some possessed academic skills, while others managed to graduate after paying little attention to their studies. Some were focused on achieving for their future, while others considered higher education at the last minute. With such mixed, and oftentimes discouraging, perceptions of their abilities to succeed academically, many of the study participants may not have matriculated to college or persisted to the end of their sophomore year (Bandura, 1977; Margolis & McCabe, 2006; Owen & Froman, 1988). The PCI program was able to successfully challenge, teach, and mold each of them into students capable of reaching his/her academic potential.

Three elements of the Pre-College Institute summer bridge program significantly influenced this change: structured study times, workshops, and the classes offered during the PCI program. These three elements directly correspond to elements of Bandura's (1977) theory of the development of self-efficacy. The workshops presented, specifically

when students were able to hear from Rowan University alumni who also participated in the PCI program, built academic self-efficacy through *Vicarious Experience* (Bandura, 1977); the students were able to seem themselves succeeding because someone like them has done the same. Additionally, self-efficacy is developed through *Performance Accomplishment* (Bandura, 1977) due to the experience of passing classes offered during these six weeks; matriculated PCI students begin their first semesters knowing that they can achieve academically in rigorous classes. Finally, as study skills are learned through repetitious practice during the structured study times, participants are able to enter their freshman year confident that they have the skills to succeed on their own, thus increasing the likelihood of persistence through more difficult academic challenges (Bandura, 1977).

Participant Four stated that he had thought about his future academic goals much in high school; however, because of his experience in the PCI program, he is confident that he will succeed beyond his undergraduate degree. In fact, four out of the five participants in this study indicated that they were looking forward to continuing beyond their undergraduate education and earning a master's degree; this is one of the most telling answers to the question of increased academic self-efficacy. Additionally, the participants indicated that they are more proactive in their studies, even going so far as to develop self-directed learning habits; these are traits normally found in self-efficacious students (Bandura, 1996; Bouffard-Bouchard, Parent, & Larivee, 1991).

Notable growth was seen in other areas that indicate academic self-efficacy. Participants indicated that they were more willing to participate in class discussions and asking questions either in class or privately with the professor. They were more likely to study instead of cramming, were comfortable using the library, and were comfortable

using on-campus student support services like tutoring or writing labs. Overall, the study participants reported earning good grades as all but one had self-reported grade point averages above a 3.0; the one participant under that mark indicated drastic improvements in the 2013-2014 academic year.

This study confirmed data collected in past studies of the Rowan University PCI program, as well as other summer bridge programs. Participants indicated that they were more likely to ask questions in class as well as to interact with the professors outside of the classroom (McGlynn, 2012; Sader, 2013; Schell, 2010; Walpole et al., 2008). Two of the greatest areas of growth were found in study skills and time management. All of the students either directly mentioned specific aspects of the PCI program that positively impacted their development in this area, or indirectly mentioned noticeable improvements in their daily lives (Cheung, 2012). Additionally, participants in this study indicated that they were more confident in locating and using resources on campus (like tutoring services and the library)

Schell (2010) found that some of the PCI participants expressed uncertainty as to whether they were prepared to face more advanced courses while maintaining quality in their work. This study seemed to find a possible relationship between the level of difficulty of classes taken during the PCI program and a more positive outlook on difficult classes. Participants Two, Three, and Five all took what they described as being the hardest course offered in the PCI program, specifically *Indians in North America*. This course was described as an immediate introduction to the academic expectations of college professors, as well as the demanding nature of college-level work, and the necessity of completing assignments on time. These individuals indicated that they felt

they knew what to expect when beginning their freshman year thanks in part to the rigorous nature of their courses. Further research into the connection between increased confidence with the high expectations of professors, and the difficulty of courses taken during the summer bridge program, may be able to shed light onto this question.

Strayhorn (2011) and Walpole et al. (2008) both indicated that participation in a summer bridge program does not always create an increased sense of belonging on campus. In this study, Participants One, Two, Three, and Five specifically indicated that this was not the case in their experience. All four women indicated that the relationships they formed with other members of their PCI cohort became foundational for their integration into college life. Even on move-in day, they were aware of the difference between PCI participants (who were greeting friends from the program and helping each other unload vehicles) and non-PCI freshman (who seemed anxious, quiet, and alone). Participant One stated that the connections she made during the summer bridge program aided in expanding her appreciation for diversity, as well as helped her meet new people. Participants Two, Three, and Five attributed this increased sense of belonging, and the strong relationships formed during the program, to the leadership's decision to confiscate all cellular phones at the beginning the program. Without their electronic devices, the students had no choice but to interact with each other and their surroundings.

While reflecting on their experiences during the six-week Pre-College Institute summer bridge program, the study participants had very little negative to say about the overall structure of the program. Two individuals were not happy with how early they were expected to wake up in the mornings, and mentioned that they struggled with the requirement that they be 15 minutes early for all scheduled events and classes. Some

valid and useful suggestions for improvement were made, and will be discussed in the recommendations for future development of the PCI summer bridge program. In spite of these, participants presented glowing praise about the overall program, its structure, the courses offered, and the workshops offered. Their responses indicated that the PCI program not only helped to build academic self-efficacy, but improved confidence in adjusting to college living, making adult decisions, and feeling comfortable on the Rowan University main campus.

### **Conclusions**

Based on the findings of this study, the Pre-College Institute seems to continue to make a positive impact in the academic and personal lives of the participants. Students matriculating into their degree programs felt increased levels of academic self-efficacy. Three specific elements of the Pre-College Institute were reflected upon as having the most impact in the lives of the participating Rowan University: the structured study program, the various workshops, and the exposure to college-level classes.

In addition to the increases in academic self-efficacy, PCI participants felt more comfortable accessing campus programs, established initial relationships with members of their cohort, and overwhelmingly felt better prepared for the rigors of college life. Both EOF and MAP participants were positively impacted by the program elements. Students were more inclined to practice positive academic habits and were looking forward to future graduate education goals.

The greatest impact seems to lie with this study's Education Opportunity Fund (EOF) participants; academic self-efficacy seemed to increase drastically following participation. Maximizing Academic Potential (MAP) participants in this study also

showed positive improvement in academic self-efficacy; however, it did not appear to be as extensive. While there were subtle areas of growth, for both MAP students, their level of academic self-efficacy in high school seems to have carried over into current classroom and study habits and behaviors. Overall, the Pre-College Institute summer bridge program continues to successfully prepare students for the rigors of higher education

### **Recommendations for Further Development of the PCI Summer Bridge Program**

At the end of each interview, the participants were asked to offer suggestions of program elements they feel could positively impact the summer PCI program if changed. Common issues were presented, like letting the participants sleep in later each day; however, two very important suggestions were offered:

**Recommendation One.** Consider restructuring the courses offered during the summer PCI program so that more degree credits can be earned.

Participant Four mentioned his frustration that one of the classes he took (a creative writing course) provided no college credit, while other members of his cohort were able to earn three credits by taking a course like acting. His suggestion was to help the participants get ahead by offering for-credit courses throughout the program.

As discussed in the literature review, basic skill courses that usually do not provide students any academic credits towards their degree have extremely low completion rates of approximately 10% (Barr & Scheutz, 2008). Margolis and McCabe (2006) found that academic self-efficacy increases dramatically when a student is able to see success early in their academic career. Bandura (1977) categorized this as *Performance Accomplishment* and described it as one of the most influential ways to

build a student's academic self-efficacy for the future. If students participating in the PCI program can enter their first semester of college already having completed six credits towards their degree program, more students may be inspired to continue succeeding, as well as to try more difficult courses in subsequent semesters.

**Recommendation Two.** Insist on creating a positive and encouraging outlook towards the participants' futures as Rowan University students and graduates.

Participant One commented that during her time in the summer bridge program, the participants were told that they were “not a student at Rowan yet...until you finish this program, you are not a student.” For her, this perception inspired her to push through and succeed; however she stated concern that other students might be discouraged by the lack of encouragement.

Students who believe they will not succeed create a self-fulfilling prophecy that ultimately leads to failure and unwillingness to even attempt more difficult challenges (Margolis & McCabe, 2006). Ultimately, it is simply their self-doubt that will lead to failure; however, *Verbal Persuasion* is one of the four ways Bandura (1977) found to overcome low self-efficacy. If students are simply told that they will succeed, and if positive behaviors and attitudes are reinforced by mentors, a foundation for success can be created. While it is true that participants in the summer Pre-College Institute are not technically Rowan University students until they successfully complete the program, creating an encouraging dialogue that looks forward towards the goal of matriculation may further inspire students with low levels of academic self-efficacy.

## **Recommendations for Practice**

Based upon the findings of this study and my conclusions, the following recommendations are offered for further implementation and practice:

1. As recommended by the study participants, restructure the courses offered during the PCI program as needed in an effort to maximize the possible credits a student can earn can positively impact academic self-efficacy by increasing a student's sense of *Performance Accomplishment*.
2. As recommended by the study participants, create a positive and encouraging outlook on the topic of the students matriculating into programs of study, rather than reinforce the fact that completing the PCI program is mandatory for acceptance at Rowan University. This practice may create an atmosphere that will nurture success instead of propagating a self-fulfilling prophesy of defeat for some students.
3. Continue to further develop the seminars offered during the summer program. All five participants specifically referenced the seminars as particularly impactful in their PCI experience and development of their academic self-efficacy. Participant Five mentioned how PCI alumni speakers encouraged her the most because their storied allowed her to realize that "sometimes people come through PCI and they mess up, but at the end of the day, they grab a hold of things because of the people who work [in the EOF/MAP office]."

## **Recommendations for Further Research**

Based upon the findings of this study and my conclusions, the following recommendations are offered for further study and research:

1. Further research involving a larger and more diverse sample should be conducted to confirm the findings of this study.
2. Further research using a mixed method design, including a quantitative survey to understand the overall impact of the PCI program on academic-self efficacy, could provide more in-depth understanding of specific changes to this aspect of academic success.
3. Participants Two, Three, and Five specifically referenced the difficulty of their classes as having a direct impact on their academic self-efficacy. A follow-up study should be conducted to see whether the difficulty of the classes taken during the PCI summer bridge program has any impact on the development of academic self-efficacy, specifically contributing to increased confidence in participating in classes, interacting with professors, and completing college-level classes and assignments.
4. Unanimously, the participants mentioned the continuing support provided through the EOF/MAP office and counselors. Participant Five stated that “sometimes [participants in the PCI summer bridge program] come through PCI and they mess up, but, at the end of the day, they grab a hold of things because of the people who work here.” A follow-up study should be conducted to understand what impact the continued support through the EOF/MAP office and counselors has on the development of overall academic self-efficacy beyond the summer bridge program.

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## Appendix A

### Institutional Review Board Approval Letter



March 21, 2014

Patricia L. Zio  
9 Horton Ave.  
Bridgeton, NJ 08302

Dear Patricia L. Zio:

In accordance with the University's IRB policies and 45 CFR 46, the Federal Policy for the Protection of Human Subjects, I am pleased to inform you that the Rowan University Institutional Review Board (IRB) has approved your project, category 7, through its expedited review process.

IRB application number: 2014-160

Project Title: The Sophomore Slope: Understanding the Impact of the Pre-College Institute on Academic Self-Efficacy in Sophomore Students

In accordance with federal law, this approval is effective for **one calendar year** from the date of this letter. If your research project extends beyond that date or if you need to make significant modifications to your study, you must notify the IRB immediately. Please reference the above-cited IRB application number in any future communications with our office regarding this research.

Please retain copies of consent forms for this research for three years after completion of the research.

If, during your research, you encounter any unanticipated problems involving risks to subjects, you must report this immediately to Dr. Harriet Hartman ([hartman@rowan.edu](mailto:hartman@rowan.edu) or call 856-256-4500, ext. 3787) or contact Dr. Shreekanth Mandayam, Associate Provost for Research ([shreek@rowan.edu](mailto:shreek@rowan.edu) or call 856-256-5150).

If you have any administrative questions, please contact Karen Heiser ([heiser@rowan.edu](mailto:heiser@rowan.edu) or 856-256-5150).

Sincerely,

Harriet Hartman, Ph.D.  
Chair, Rowan University IRB

c: Burton Sisco, Educational Leadership, James Hall

Office of Research  
Bole Hall Annex  
201 Mullica Hill Road  
Glassboro, NJ 08028-1701

856-256-5150  
856-256-4425 fax



## Appendix B

### Permission to Conduct Research with Select Population



To: Patricia Zio

From: Penny McPherson-Barnes,  
Associate Dean for Academic Enrichment  
Director, EOF/MAP

Date: February 6, 2014

Re: Survey/Research Study using 2012 Pre-College Institute Students

This letter is to confirm that Patricia Zio has permission to conduct a survey and qualitative analysis research on the impact of the Pre-College Institute on sophomore students during the spring 2013 academic year. The data compiled will be used strictly for her master's thesis entitled: Sophomore slope: Understanding the impact of the Pre-College Institute on academic self-efficacy on sophomore students, and for no other purposes.

Upon completion of the study, a copy of the thesis will be provided to the Director of the Educational Opportunity Fund/Maximizing Academic Potential program.

Patricia has verified with the College of Education that she has complied with all ethics guidelines and research policies.

If you have any questions, feel free to contact me at 856-256-4086 or [barnesp@rowan.edu](mailto:barnesp@rowan.edu).

Cc: Dr. Burton Sisco, Faculty advisor

**Appendix C**  
**Descriptions of Participants**

## Descriptions of Participants

Participant number one self-identified as a 21-year-old, Hispanic/Latino, female who participated in the PCI summer bridge program as an EOF student. At the end of her freshman year, she self-reported a grade point average of 1.2; this has subsequently increased to 2.8, showing academic improvement. She hopes to ultimately earn a bachelor's degree.

Participant number two self-identified as a 20-year-old, Hispanic/Latino, female who participated in the PCI summer bridge program as an EOF student. At the end of her freshman year, she self-reported a grade point average of 3.1; this has subsequently increased to 3.4, showing academic improvement. She hopes to ultimately earn a master's degree.

Participant number three self-identified as a 21-year-old, White, female who participated in the PCI summer bridge program as an EOF student. At the end of her freshman year, she self-reported a grade point average of 3.2; this has subsequently increased to 3.1, showing slight academic decline in the 2013-2014 academic year. She hopes to ultimately earn a master's degree.

Participant number four self-identified as a 19-year-old, African American, male who participated in the PCI summer bridge program as an MAP student. At the end of his freshman year, he self-reported a grade point average of 3.65; this has subsequently declined to 3.35, showing slight academic decline in the 2013-2014 academic year. He hopes to ultimately earn a master's degree.

### **Descriptions of Participants (Continued)**

Participant number five self-identified as a 19-year-old, African American, female who participated in the PCI summer bridge program as an MAP student. She did not self-report a grade point average for the end of her freshman year; however she did report that she is currently earning a 3.0 GPA. She hopes to ultimately earn a master's degree.

## Appendix D

### Consent to Participate and be Audio Recorded

**The sophomore slope: Understanding the impact of the Pre-College Institute on academic self-efficacy in sophomore students**

**Consent to Participate:**

*This interview is being administered as part of graduate thesis at Rowan University. While your participation is voluntary and you are not required to answer any of the questions asked, your cooperation and participation are important to the success of the project, and are greatly appreciated. Participation in this survey does not pose a risk to you as a student; your responses are kept separate from any identifying information. In turn, you are able to contribute towards data that will be used to make recommendations for improving this program for future students.*

*The purpose of this study is to understand what impact completing the Pre-College Institute (PCI) has had on developing your confidence in performing academically. Information from your responses will be used to suggest changes to the PCI program to improve the impact it makes in the lives of EOF/MAP students.*

*All participants should be Sophomores at Rowan University. Additionally, individuals should be at least 18 years-of-age and should have successfully completed the Pre-College Institute prior to beginning freshman year.*

*If you choose to participate, please understand that all responses are strictly confidential and no personally identifiable information will be requested from you during this interview. You have been randomly assigned a number that will be used to identify you during this interview. This interview should take approximately 45 minutes to complete.*

*Additionally, this interview will be audio recorded. All data will be kept on a secured flash drive which will later be destroyed. Data collected during this interview will be kept for five (5) years after the completion of the research. After that time, all electronic and hard copies of your responses will be destroyed, along with any transcripts, notes, or comments I might make while compiling the data.*

*Please direct any questions or comments regarding this survey to either:*

*Patricia Zio: 856-332-8770 ([ziop55@students.rowan.edu](mailto:ziop55@students.rowan.edu)) OR  
Dr. Burton Sisco (Faculty Advisor): 856-256-4500 x3717 ([sisco@rowan.edu](mailto:sisco@rowan.edu))*

I agree to participate in this interview process.

\_\_\_\_\_  
Printed Name of Participant

\_\_\_\_\_  
Date

\_\_\_\_\_  
Signature of Participant

**Consent to be Audio Recorded:**

I understand that my comments will be audio recorded; during this interview process, I will not be identified by my name and should refer to any other participants by their random number. I further understand that all audio recordings, transcripts, notes, and other documents will ultimately be destroyed by the researcher after five (5) years.

\_\_\_\_\_  
Printed Name of Participant

\_\_\_\_\_  
Date

\_\_\_\_\_  
Signature of Participant

**Appendix E**  
**Demographics Questionnaire**

Participant # \_\_\_\_\_

**Demographics Information:**

**Please place an “X” on the line or fill in the blank.**

1. What is your gender?  Male  Female
2. What is your age? \_\_\_\_\_
3. When you began the Pre-College Institute, were you considered:  EOF  MAP
4. What is your race/ethnicity?  African American  American Indian/Alaskan Native  
 Asian/Pacific Islander  Hispanic/Latino  White  Other
5. What was your GPA at the end of your freshman year? \_\_\_\_\_
6. What is your GPA now? \_\_\_\_\_
7. What level of education do you plan to complete?  
 Bachelor’s Degree  Some Post Graduate  Master’s Degree  
 Doctoral Degree  Other Advanced Degree: \_\_\_\_\_

**Appendix F**  
**Interview Schedule**

## Interview Schedule / Questions

Introduction: Thank you for your willingness to participate in this portion of my study. Our conversation will be audio recorded today, so I ask that you sign the consent to participate form in front of you. Additionally, you have been assigned a random number; I will refer to you by that number, and I ask that you all do the same, even if you know each other. This is so your identities will remain confidential on the audio recording of our conversation.

This will be an open-ended interview, so feel free to talk about any experiences or thoughts you may have. When I ask about the Pre-College Institute, please think about the 6-week PCI program in which you participated before starting your freshman year. Do you have any questions at this time?

1. How would you describe yourself as a student in high school?
2. What was your greatest challenge as a student in high school?
3. What were you looking forward the most to in coming to college?
4. What were you the most worried about?
5. Who are some people who impacted you the most to achieve academically? (ie: Teachers, siblings, parents, clergy members, etc.)
6. How would you describe yourself as a student now?
7. What academic tools or skills did you learn during the PCI?
8. Are there any areas of your academic life (like confidence interacting with teachers, study skills, testing skills...) that you now feel more confident in because of participating in the PCI?
9. What academic and study skills do you find hardest and why? (For example: time management, understanding ideas presented in class, participating in class, taking understandable and complete notes, and the like)
10. Talk to me about the hardest academic experience you have had since beginning your degree here at Rowan? How well did you do? What strategies did you use to complete this challenge? What did you learn about yourself and your abilities?
11. Do you make decisions the same way as you did before completing the PCI?
12. What difference do you think the Pre-College Institute made on you as a student?

### **Interview Schedule / Questions (Continued)**

13. What elements of the PCI summer program should they never change?
14. What elements do you think should change to make the program even better in the future?
15. What classes did you take while attending the PCI Summer Program?

Thank you for your time and willingness to share.

**The sophomore slope: Understanding the impact of the Pre-College Institute on academic self-efficacy in sophomore students**

**Consent to Participate:**

*This interview is being administered as part of graduate thesis at Rowan University. While your participation is voluntary and you are not required to answer any of the questions asked, your cooperation and participation are important to the success of the project, and are greatly appreciated. Participation in this survey does not pose a risk to you as a student; your responses are kept separate from any identifying information. In turn, you are able to contribute towards data that will be used to make recommendations for improving this program for future students.*

*The purpose of this study is to understand what impact completing the Pre-College Institute (PCI) has had on developing your confidence in performing academically. Information from your responses will be used to suggest changes to the PCI program to improve the impact it makes in the lives of EOF/MAP students.*

*All participants should be Sophomores at Rowan University. Additionally, individuals should be at least 18 years-of-age and should have successfully completed the Pre-College Institute prior to beginning freshman year.*

*If you choose to participate, please understand that all responses are strictly confidential and no personally identifiable information will be requested from you during this interview. You have been randomly assigned a number that will be used to identify you during this interview. This interview should take approximately 45 minutes to complete.*

*Additionally, this interview will be audio recorded. All data will be kept on a secured flash drive which will later be destroyed. Data collected during this interview will be kept for five (5) years after the completion of the research. After that time, all electronic and hard copies of your responses will be destroyed, along with any transcripts, notes, or comments I might make while compiling the data.*

*Please direct any questions or comments regarding this survey to either:*

*Patricia Zio: 856-332-8770 ([ziop55@students.rowan.edu](mailto:ziop55@students.rowan.edu)) OR  
Dr. Burton Sisco (Faculty Advisor): 856-256-4500 x3717 ([sisco@rowan.edu](mailto:sisco@rowan.edu))*

I agree to participate in this interview process.

\_\_\_\_\_  
Printed Name of Participant

\_\_\_\_\_  
Date

---

Signature of Participant

**Consent to be Audio Recorded:**

I understand that my comments will be audio recorded; during this interview process, I will not be identified by my name and should refer to any other participants by their random number. I further understand that all audio recordings, transcripts, notes, and other documents will ultimately be destroyed by the researcher after five (5) years.

---

Printed Name of Participant

---

Date

---

Signature of Participant

Participant # \_\_\_\_\_

**Demographics Information:**

**Please place an "X" on the line or fill in the blank.**

1. What is your gender?  Male  Female
2. What is your age? \_\_\_\_\_
3. When you began the Pre-College Institute, were you considered:  EOF  MAP
4. What is your race/ethnicity?  African American  American Indian/Alaskan Native  
 Asian/Pacific Islander  Hispanic/Latino  White  Other
5. What was your GPA at the end of your freshman year? \_\_\_\_\_
6. What is your GPA now? \_\_\_\_\_
7. What level of education do you plan to complete?  
 Bachelor's Degree  Some Post Graduate  Master's Degree  
 Doctoral Degree  Other Advanced Degree: \_\_\_\_\_

## Appendix G

### Rules and Procedures for Content Analysis of Qualitative Data

## Rules and Procedures for Logical Analysis of Written Data

The following decisions were made regarding what was to be the unit of data analysis (Sisco, 1981):

1. A phrase or clause will be the basic unit of analysis
2. Verbiage not considered essential to the phrase or clause will be edited out – e.g., articles of speech, possessives, some adjectives, elaborative examples.
3. Where there is a violation of convention syntax in the data, it will be corrected.
4. Where there are compound thoughts in a phrase or clause, each unit of thought will be represented separately (unless one was an elaboration of the other).
5. Where information seems important to add to the statement in order to clarify it in a context, this information will be added to the unit by using parentheses.

The following decisions were made regarding the procedures for categorization of content units:

1. After several units are listed on a sheet of paper, they will be scanned in order to determine differences and similarities
2. From this tentative analysis, logical categories will be derived for the units.
3. When additional units of data suggest further categories, they will be added to the classification scheme.
4. After all the units from a particular question responses are thus classified, the categories are further reduced to broader clusters (collapsing of categories).
5. Frequencies of units in each cluster category are determined and further analysis steps are undertaken, depending on the nature of the data – i.e., ranking of categories with verbatim quotes which represent the range of ideas or opinions. (p. 177).

## **Rules and Procedures for Logical Analysis of Written Data (Continued)**

Sisco, B. R. (1981). A study of the attitudes of select academics and selected decision-makers toward adult learners (Unpublished doctoral dissertation). Syracuse University, Syracuse, NY.