UNIVERSITY OF NORTH TEXAS

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Employability skill development is being increasingly investigated among higher education scholars, corporate hiring managers, and governments around the world. Understanding employability skill development is important because it has implications on educational policy, teaching techniques, curriculum designs, and recruitment practices. This study was conducted at a public research university in a southwestern state of the United States. It was designed to understand the difference in employability skill development among students who participated in a leadership development program compared to those who did not. Additionally, the study investigated what skills were seeing the most change among student participants in the leadership development program, and if a student’s major of study played any role in their overall employability development over the course of a year. Eight employability skills were tested in a pre- and post-test model. Results indicated that students in leadership development programs are more likely to see an increase in employability skill development. From the skills tested among participates, those in the leadership program found the most change over time in the area of problem solving skills. Finally, the results also indicate that a student’s major does have an impact on their overall employability skill development. Students who major in business had significantly higher employability scores than those in other majors at the university.
ACKNOWLEDGEMENTS

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CHAPTER 1
INTRODUCTION

Concern over diminishing work-ready skills for the common college graduate have policymakers and business leaders in the United States and around the world questioning the methods and results produced by higher education. Even though the United States has more college graduates now than in decades before, there is a gap in these graduates’ ability to be employable. The concept of employability skills in the global workforce has been increasingly investigated on a variety of levels that affect policy, teaching techniques, curriculum design, and university recruitment practices. Although research is growing, there are still little data available regarding the effects co-curricular programs have on the development of employability skills.

The term “employability skills” carries multiple meanings throughout the research literature across a range of disciplines. For the purposes of this study, employability skills are defined as the skills acquired by an individual to successfully navigate the working environment (Yorke, 2006; Chamorro-Premuzic, Arteche, Bremner, Greven, & Furnham, 2010; Hoyt, 1978; Tseng’s, 1972; Salovey & Mayer, 1990). Employability skills are described as being outside of the technical or industry-based information students typically gain from their academic experiences in the classroom. While there were many terms in the literature referring to this same concept, for simplicity’s sake, employability skills will be used throughout this study.

With employability skills defined, now the question is: who is responsible for developing these skills in students? Governments and corporate stakeholders around the world continually push this responsibility to educators at both the secondary and postsecondary levels. Many governments around the world developed education policy initiatives to help offset program development costs. Additionally, some governments require accountability of the program
results, while most others allow educational institutions to determine how best to meet the demands and design the programs themselves (U.S. Department of Education, 2012; U.K. Commission for Employment and Skills, 2014; McKinsey & Company, 2009; Sheldon & Thornthwaite, 2005). Policymakers around the world, however, still debate who is responsible for developing employability skills. Some argue employability skill development is meant to be part of the academic curriculum embedded into students’ academic disciplines (Milner, 2014; Pereira, 2013), while others pass the task on to student affairs professionals to develop co-curricular programming that addresses these developmental needs (Savitz-Romer, Rowan-Kenyon, & Fancsali, 2015). Both avenues reported studies in support of the development of employability skills for college students (discussed in later chapters), though no best practices for appropriate programming or avenues have yet been found.

As a practicing student affairs professional, I tend to agree with those who believe in the responsibility of developing employability skills through student affairs and university co-curricular programming initiatives. Though faculty can add these skills to their curriculum, they already have extremely limited time to deliver the content of their courses. Additional course hours could be added to the university core curriculum, which occurs at some universities; however, this adds to the number of credits students are required to complete for their degree and increases individual tuition costs. While I do believe student affairs offices could provide this vital training for students, support from faculty and other university departments is still needed to help fund, design, execute, and recruit students to participate in such programming for it to be successful on any college campus.

In an effort to understand the importance of student programming, specifically employability skill development programming, we must first understand how students develop in
Higher education scholars Astin (1985) and Tinto (1975) stressed the importance of development for the whole student and seeing the individual as more than just an academic, but also as a social, emotional, and professional being. Astin and Tinto individually investigated the whole student through a variety of research initiatives and theories, with the most relevant findings to this study being the concept of engagement in co-curricular activities. Tinto (1975) focused on the importance of integrating students into the community (academically and socially) to increase student retention. Keeping students involved on campus was just one of the areas Tinto highlighted in advising the whole student toward successful completion of their degree. Astin (1985) explained many sought-after outcomes for college students, including being involved in co-curricular activities on campus. The focus of this study was to better understand how co-curricular programming in employability skill development helped to develop the whole student and prepare them for the workforce following their college graduation.

**Professional Leadership Program (PLP)**

At a Tier One research institution in the south, co-curricular programming is vital to the development of their college students. Understanding what skills these students learn through programming is critical for student affairs professionals to know and be able to articulate to institutional stakeholders. Through reliable data, programming from all areas of the university substantiates the importance of their work with quantifiable evidence that is more relatable to policymakers, financial decision holders, and university and business executives.

With this mindset, the Professional Leadership Program (PLP) was created in 1994 and has existed as an extracurricular program within the College of Business at the University of North Texas (UNT). Though housed in the College of Business, PLP is a mentoring and
leadership development program available for any student at UNT. It was created to develop students with employability skills in college students and prepare them to be leaders in the workplace. The program’s mission in summary, is to help students gain skills, knowledge, and a servant leadership mentality, in order to enter their career knowing how to lead and succeed.

PLP was designed for any juniors, seniors, and graduate students at UNT to participate. Students first apply through an online application, interview with a panel of PLP stakeholders, and are selected based on a combination of their interview, GPA, and university staff or faculty recommendations. PLP applicants must provide two references on UNT’s campus that could speak to their academic, leadership, or professional success. PLP also has a GPA requirement of 3.25 to apply. While this GPA requirement is not strict, students admitted under the GPA threshold are given provisional status, and a follow-up grade check is performed at the end of the first semester. There is no set number of students admitted to the program, however, for the 2017-2018 year, 125 were selected. PLP typically sees a 10% drop rate within the first few months of the program due to schedule conflicts or commitment concerns. The 2017-2018 program year ended with approximately 100 students completing program requirements and successfully graduating from PLP.

PLP students participated in a yearlong development curriculum crossing many employability skill areas and were also partnered with a mentor in the industry they hoped to enter after graduation. Topics for classroom sessions include best practices in communication, networking skills, interviewing and resume preparation, team leadership, critical thinking exercises, servant leadership, negotiating skills, global awareness, ethics and integrity, diversity and inclusion, and more. The content was provided by outside corporate professionals who specialize in these specific areas. Over the year, students were exposed to 22 workshop style
lectures on the previously mentioned areas and attended 4 corporate events to further their networking abilities.

In addition to the weekly workshops, PLP students were matched with a mentor in the industry they aimed to enter upon graduation. These mentors represented all levels of management, executives, and staff across a wide range of industries and companies. They spanned both for-profit and not-for-profit sectors of the global workforce. PLP students and mentors met on their own schedules and had individual agendas and goals to accomplish. PLP staff did not facilitate these interactions; however, they offered tools for mentors to utilize should they seek materials. It was recommended by the PLP staff for mentor/mentee pairs to meet in person at least once every 4-6 weeks throughout the year. This drastic intervention in the students’ lives, both with participation in weekly PLP workshops and in the mentorship program, made PLP students ideal candidates for a study of employability skill development.

**Purpose of Study and Research Questions**

The purpose of this study was to investigate the impact extra-curricular programming had on a college student’s employability skill development. Since universities and community stakeholders have a growing interest in the employability skills students gain from their college experiences, this study provides data for higher education professionals on what employability skill development are being learned through co-curricular programs like PLP, offers suggestions on how universities can better utilize co-curricular experiences in an effort to develop the desired employability skills, and also gives insights for corporate and community partners as they seek to hire college graduates.

The following research questions guided the study:
1. Was there a significant difference between the pre-testing and post-testing of employability skill development among students who participated in PLP and those who did not participate in PLP?

2. What areas of employability skill development saw the most growth among PLP students?

3. Was a student’s major a factor that affected their employability development after controlling for other demographic and academic factors?

Conceptual Framework

Today, going to college is not just about gaining knowledge, but also to increase social stability, provide a defined career path, and gain an understanding of cultural and professional norms and acumen which influence a student’s ability to navigate the working environment. This study examined the effects of employability skill development, focused on co-curricular programming at the collegiate level. The potential effects can be conceptualized through two theoretical frameworks, Becker’s (1975) human capital theory and Super’s (1953) theory of career development.

From a human capital perspective, students invest their time, effort, and money into an educational experience they expect will increase their chances of gainful employment. Becker’s (1975) human capital theory argued that, “education increases individuals’ productivity, which consequently enhances job performance” (Cai, 2012, p. 459). Becker had three criteria which helped to align his framework to this study. To meet the framework requirements, there must either be (a) a universal benefit to all participants regardless of other attributes, (b) a reduction of the effect of negative characteristics such as lack of specialized preparation (deficit reduction), or (c) an enhancement of other assets, such as ability (asset enhancement) (Becker, 1975). The third criterion of Becker’s theory most closely applies to this study.
From Becker’s theory, the third criterion concerning asset enhancement in the higher education context means that with an overflow of graduates, students must find additional ways to supplement their employability skills and experiences in order to differentiate themselves from other job candidates (Becker, 1994; Sagen, Dallam, Laverty, 2000). Thus, the development of employability skills becomes an asset enhancement by Becker’s standards and a minimum requirement for the 21st-century college graduate. While the market and employers are the ultimate determinants of success in employability skill development for students, employment was not examined directly in this study. The focus, rather, was on the ability to predict and explain differences in learning outcomes of employability skills in co-curricular programming.

For the purposes of this study, educational investment was not the only concept utilized. Since employability was examined, career exploration and development theories were included in this discussion as well. There were a variety of theories associated with career exploration and development, but Super’s theory of career development, or theory of vocational development, is the one most widely recognized by career counselors today (Long, 2012).

Super (1953) suggested that individuals advance through careers, career preferences, and competencies in stages throughout their lifetime. He developed a concept of vocational maturity consisting of five developmental stages: growth (age 4-13), exploration (age 14-24), establishment (age 25-44), maintenance (age 45-65), and disengagement (age 65+). Super (1957) framed his theory over a life-span, with each stage associated with a chronological period in life; however, he did acknowledge that people cycle through multiple careers and adapt to workplace trends and lifecycle choices as needed. Thus, age groups may vary from those listed above who are in similar stages of their career development or move through the stages more than once throughout their working lives.
This study utilized the growth stage and the exploration stage concepts, as they were most relevant to the assessment of employability skill development. The growth stage, where people build a general idea of the world of work and the need to work, and the exploration stage, where people try out various occupation choices through class, work experiences, and hobbies, best described a college student’s experience. The exploration stage provided the closest relationship with college students as they gathered information about careers, built an understanding of the skill sets and qualifications required by specific careers, and developed career interests (Long, 2012). In the exploration stage, Super (1953) also argued the following competencies were vital for students in the exploratory stage of development to master prior to joining workforce: decision-making skills, long-term planning skills, knowledge and use of information resources, general information about the culture, rules, and etiquette of the work world, and detailed information about occupations. Many of these competencies were mentioned in the literature review as areas other educational scholars and researchers have studied and expressed their concern for how colleges and universities send graduates into the working world.

Definition of Terms

There were a variety of terms used to describe, define, and determine employability skill development. These are defined in the literature review section that follows. However, a few key terms are operationally defined below for the purpose of clarification and unity within this study.

- Student classification referred to the level at which the student was in their studies at the university level, i.e. sophomore, junior, senior, and graduate student.

- College major was defined as the program of study entered by the students on the survey.
• Business majors were those areas of study listed by the UNT College of Business for which they received their degree through the college. Any students who listed one of the following majors were considered business majors: accounting, business integrated studies, business analytics, business economics, entrepreneurship, finance, marketing, professional selling, operations and supply chain management, organizational behavior and human resource management, real estate, residential property management, risk, insurance and financial services, aviation logistics, business computer information systems, or logistics and supply chain management. There were 16 total majors.

• Non-business majors included any student who did not list one of the above majors categorized as a business major. They came from any other college or area of study on the UNT campus.

Significance of the Study

The results of this study provided information regarding employability skill development of students who participated in career-oriented co-curricular programs like PLP. Information from this study can assist policymakers, university stakeholders, and student affairs professionals in understanding the importance of employability skill development in the higher education arena. Governments and corporate stakeholders from all over the world have a need for institutions of higher education to provide a best practice structure to mold future programs on campuses worldwide. This study sought to help both students and practitioners gain more insight regarding employability skill development and reverse the corporate and economist perception of under-equipped graduates from institutions of higher education.
Further, this study sought to identify any differences that existed in employability skill development between the various majors of student participants, specifically business majors and non-business majors. The results of this study contributed to the research about business students and how their exposure and/or growth in the specified employability skill development areas differed from non-business majors. Understanding this concept may help student affairs professionals as they seek to better serve students in a particular major or college.

From a policymaking perspective, increasing awareness and programming of employability skill development is a driving force behind several government initiatives and funding in education. As discussed earlier in this chapter, the success of college graduates in a working environment depends on a wide range of skills and engagement; however, their success upon entering the workplace depends on their ability to navigate employability skills well and utilize them at the appropriate time. Results of this study inform policymakers of the programs designed to increase employability skill development, thus enabling college graduates to enter the workforce prepared to face all aspects of the job requirements.

Organization of the Study

This study is organized into five chapters. Chapter 1 includes a review of both the educational aspects of the problem and the program that was investigated, the purpose of the study, the theoretical framework of the study, the research questions, definitions of terms, and the significance of the study. Chapter 2 provides a review of the literature covering the current state of employability literature in the United States and from a global perspective, a guiding definition of employability, policy changes across governments supporting the development of employability skills, reviewing research initiatives around this topic, and integrating a corporate
perspective on the issue of employability skills in college graduates. Chapter 3 describes the
method utilized to conduct this study with data gathered from two student sources over the
course of two semesters. This chapter also includes discussion of the sample size and selection,
variables, and potential data analysis procedures. Chapters 4 and 5 contain the data analysis,
results, discussion, and implications of the completed study.
CHAPTER 2
LITERATURE REVIEW

The debates about higher education are many; however, with higher education becoming a more desirable consumer good among society, questions remain regarding its purpose and whom it serves. These concerns were widely discussed among scholars, with Labaree (1997) being one of the more vocal in examining higher education as a public or a private good. Labaree’s argument can be summarized with two questions: (a) To what extent should higher education be subsidized by the state? and (b) should private citizens take on the responsibility of the costs of higher education? Governments around the world have also pushed higher education institutions to produce more work-ready graduates. Many societies put their faith in higher education institutions to deliver high quality and large quantities of human capital to spur economic growth and stability, and most higher education institutions do their best to keep up with the demands and to accommodate all stakeholders involved. In addition to assisting in the production of an educated society, higher education also serves as a platform for research and innovation. Over the last several years, there is more of an effort and dollars investment from university and government entities into graduate education and research initiatives (NSF, 2017).

While these are only two of the many responsibilities higher education is tasked with fulfilling, inadvertently, the multitasking greatly influences how universities allocate funds and attempt to provide services with limited to no outside financial support. As state funding decreases and the pressure of financing higher education shifts to a tuition dependency model, institutions must be more stringent with their budgets (Archibald & Feldman, 2011). Because of this trend, student affairs professionals should be surgical in the selection of their programming and produce outcomes for such spending ventures to justify their place on the university budget.
This justification forces the student affairs profession to determine program learning outcomes from the co-curricular activities and events they develop. Today’s student affairs professionals must keep asking questions related to outcomes and accountability: What do students gain from all types of student affairs programs? How do student affairs programs affect students as an individual, an academic, and a future professional? These questions drive this present research.

The literature review addresses various facets of employability, including specific traits and concepts determined to be employability skill sets, domestic and global programs which show the effects of employability skill development on their students, policy initiatives in the US and around the world influencing higher education’s participation in the development of these skills for their students, and the corporate perspective on employability skills as it relates to hiring prepared individuals for their companies.

Employability

Researchers have examined college student interactions and skill sets, both in and outside of the classroom, for several decades. Research about employability emerged in the 1970s with Tseng’s (1972) view of employability being the link between labor markets, education, and a society having occupational knowledge and skills. This idea became even more important when the economy changed and people with these transferable skills were able to move to different industries and work environments, all because of the knowledge and skills they were able to acquire (Hoyt, 1978).

Many other scholars added to the research of employability over the years, defining skills and determining qualities employers were seeking in their new hires. Before reviewing the
literature on skills, it is vital to define employability. There is confusion surrounding the terms used to refer to employability and soft skill development (Miller, 2015). Employability can be referred to by any of the following terms, including but not limited to: social, emotional, and affective (SEA) factors, non-cognitive, soft, metacognitive, 21st century, social/emotional, and new basic skills, just to name a few being utilized in higher education literature (Conley, 2005; Heckman & Kautz, 2012; Moore, Lippman, & Ryberg, 2015; Partnership for 21st Century Skills, 2009).

In a recently released review of non-cognitive skills and behavioral terms related to employability, Savitz-Romer and Rowan-Kenyon (2016) identified 43 employability-related skills and behavior terms used in the education field. They categorized these 43 skills into three conceptual areas: an approach to learning and work, interpersonal skills, and social skills (Savitz-Romer & Rowan-Kenyon, 2016). The 43 skills are listed below in Table 1. Due to the many terms reportedly being used in research to refer to these same conceptual areas, it was important to define terms that were used throughout this study to offer a reference foundation and provide a singular mindset, as the effectiveness of student programming for employability development is examined in later chapters.

From the literature reviewed, Yorke’s (2006) definition of employability is one of the most cited. Yorke defined employability as, “a set of achievements—skills, understanding, and personal attributes—that makes graduates more likely to gain employment and be successful in their chosen occupations, which benefits themselves, the workforce, the community, and the economy” (p. 23). While his broad definition and the wide range of scope for those impacted by employability skill sets were frequently cited, they did not give any method for measuring or specifically defining what skills were considered employability skills.
### Social, Emotional, and Affective (SEA) Construct Categories

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<tr>
<th>Approach to Learning</th>
<th>Interpersonal Skills</th>
<th>Social Skills</th>
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<tr>
<td><strong>Attention control</strong></td>
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<td><strong>Commitment to achieving goals</strong></td>
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<td><strong>Goal Orientation</strong></td>
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<td><strong>Growth mindset</strong></td>
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<td>Identification and utilization of social support and institutional resources</td>
<td>Adaptability</td>
<td>Active listening</td>
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<td>Identification of obstacles and strategies to overcome</td>
<td>Conscientiousness</td>
<td>Belonging</td>
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<td>Managing time</td>
<td>Developing strong personal values</td>
<td>Collaborative skills</td>
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<td><strong>Metacognition</strong></td>
<td>Ethical behavior and decision making</td>
<td>Communication (Written and Verbal)</td>
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<td>Monitoring progress towards goals</td>
<td><strong>Future time perspective</strong></td>
<td><strong>Cultural awareness</strong></td>
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<td>Organization skills</td>
<td>Managing emotions</td>
<td><strong>Empathy</strong></td>
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<td>Setting goals</td>
<td><strong>Openness</strong></td>
<td>Managing interpersonal conflicts</td>
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<td>Study skills</td>
<td><strong>Personal responsibility/ Internal locus of control</strong></td>
<td>Organizing thoughts and ideas</td>
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<td>Task analysis and strategy development</td>
<td><strong>Self-awareness and evaluation</strong></td>
<td><strong>Respect for others</strong></td>
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<td><strong>Task value and relevance</strong></td>
<td><strong>Self-concept</strong></td>
<td><strong>Social awareness</strong></td>
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<td>Understanding academic expectations</td>
<td><strong>Self-direction</strong></td>
<td>Social responsibility</td>
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<td><strong>Self-efficacy</strong></td>
<td>Understanding the needs of others</td>
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<td>Stress management</td>
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<td>Taking risks</td>
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<td>Understanding institutional/ academic expectations</td>
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### Additional Definitions

As previously stated, there were many terms associated with employability and the development of soft skills, not to mention the countless descriptions of what soft skills were most desired in new hires. In an effort to provide a basis for this research, and in addition to defining employability, there were a few other definitions worth adding to the context, as they were often
used interchangeably in the literature and across research endeavors. While they have slightly different definitions here, the foundational concepts were the same. These were not individual variables themselves, but rather synonyms used interchangeably with the term employability:

- Emotional intelligence (EQ): a set of skills that involves the ability to monitor one's own and others' feelings and emotions, to discriminate among them, and to use this information to guide one's thinking and actions (Salovey & Mayer, 1990).
- Career readiness: A career-ready person effectively navigates pathways that connect education and employment to achieve a fulfilling, financially secure and successful career (Career Readiness Partner Council, 2012).
- Career competencies: competencies that were relevant for all employees to develop their own career, regardless of the specific job they have (Kuijpers & Scheerens, 2006, p. 305); the attainment and demonstration of requisite competencies that broadly prepare college graduates for a successful transition into the workplace (NACE, 2015).
- Human capital: a worker’s set of skills, broadly defined, that enhance productivity. Can be cognitive skills, abilities, knowledge, dispositions, attitudes, interests, etc. Attributes come from innate ability, education, training, medical care, and/ or parenting, and additional life experiences (Kyllonen, 2013).
- Marketable skills: those skills valued by employers that can be applied in a variety of work settings, including interpersonal, cognitive, and applied skill areas (Texas Comprehensive Center at AIR, 2017, p. 29).
- Soft skills: a set of non-academic attributes, such as the “ability” to cooperate, communicate, and solve problems (Chamorro-Premuzic, Arteche, Bremner, Greven, and Furnham, 2010).

Traits and Skills that Lead to Employability

Developing students’ non-cognitive skills is not a new concept, but it has grown in popularity among educators. Previously, the focus of college admissions was on testing cognitive skills of students in order to determine if they were ready for credit-bearing college-level courses. With foundations for this concept in the No Child Left Behind Act of 2001, testing of student progress and achievement was the main concern for college readiness. However, these standardized cognitive tests never gave credit to non-cognitive skill development or psychosocial development of the student to assist in their success after high school.

In recent years, more and more researchers linked the possibility of human endeavors to non-cognitive traits and skills. For example, personality was shown to predict mortality, divorce, occupational attainment, health behaviors, drug use, alcoholism, managerial success, leadership effectiveness, procrastination, creativity, job performance, absenteeism, team performance, and job satisfaction (Roberts, Kuncel, Shiner, Caspi, & Goldberg, 2007). Continued research on personality factors proved to predict both workplace (Ones, Dilchert, Viswesvaran, & Judge, 2007) and academic success (Poropat, 2009). Other non-cognitive traits or skills which correlate between GPA and/or academic achievement, and higher student perceived engagement on non-intellective traits, include: having academic goals, institutional commitment, social support and involvement, academic self-efficacy and self-concept, conscientiousness, a tendency to procrastinate, a need for cognition, grade goals, time management skills, and persistence/effort regulation (Richardson, Abraham, & Bond, 2012). Another trait some researchers explored was
the concept of grit among college students. Though this was more aligned with personality and academic motivation traits, and less associated with employability skill development, it was also correlated with high academically performing students and their IQ (Duckworth, Peterson, Matthews, & Kelly, 2007; Duckworth & Seligman, 2005).

In his research on student outcomes, Baird (1996) provided five categories of student outcomes in graduate and professional education: timely degree completion, knowledge of the discipline, preparedness for professional practice, preparation for research and inquiry, and preparation for teaching. Baird offered a framework for assessing each one. He included various methods for collecting, describing, and evaluating data on student outcomes, which served as a strong foundation for understanding student learning outcomes and how to assess them. From this background came the push and surfacing of research on employability, career outcomes, or career readiness as a growing interest for higher education researchers. In this advancing field, researchers have taken many approaches and directions in an effort to understand, to measure, to predict, to identify the most needed skills, and to advance students in their employability skill development.

One of the leading organizations in identifying skills employers seek was the National Association of Colleges and Employers (NACE). Over the last several years, NACE conducted a survey with college career placement offices and employers. NACE sought to discover the top ten skills employers look for when they recruit and hire college graduates. From the most recent study, NACE (2015) concluded the following skills sets were most desired, listed in order of importance:

1. Ability to work in a team structure
2. Ability to make decisions and solve problems
3. Ability to communicate verbally with people inside and outside an organization
4. Ability to plan, organize and prioritize work
5. Ability to obtain and process information
6. Ability to analyze quantitative data
7. Technical knowledge related to the job
8. Proficiency with computer software programs
9. Ability to create and/or edit written reports
10. Ability to sell and influence others

Additional research in the U.S. was conducted to determine what skills were the most desired among corporate employers. The HART Research Associates for the Associate of American Colleges and Universities (2015) found that employers favored candidates with increased written and oral communication skills, knowledge of the job, and the desire to be life-long learners (HART, 2015). Schawbel (2012) described Millennial Branding’s efforts to conduct a survey of employers, which was meant to identify the most important skills employees could have for workplace success. This study found communication skills, a positive attitude, being adaptable to change, and having teamwork skills were the top four most valuable traits employers look for in their new hires. These skills were confirmed by an additional study conducted by Robles (2012), which found the top ten skills and attributes categorized from executive listings were: communication, courtesy, flexibility, integrity, interpersonal skills, positive attitude, professionalism, responsibility, teamwork, and work ethic. With little variation among the studies, it is evident there are areas outside of the classroom knowledge that need to be addressed in order to prepare students for their careers and meet the demands of employers.
Because hiring criteria, or employability skills, were popular among academic and hiring literature, the list of desired skills remains relatively unchanged over time. Typical competencies include communications, motivation and personal attributes, problem solving, leadership, and marketing skills (selling an idea or oneself) (Kelley & Gaedeke, 1990; McDaniel & White, 1993; Tomkovick, Erffmeyer & Hietpas, 1996). PLP’s focus on goal setting, leadership, communication (written and oral), teamwork, problem solving, and critical thinking led to their selection for the focus of this study and variables that were examined.

Employability Skill Development Programs

In addition to understanding the traits and skills employers desire from their new hires, researchers also evaluated programs and best practices for employability skill development. In a recent study, Savitz-Romer, Rowan-Kenyon, and Fancsali (2015) highlighted a few such programs that were innovative in developing SEA skills for college and career success. Briefly examining a few of these programs displays commonalities and reveals methods for assessment that were employed by these promising programs around the country.

One program Savitz-Romer, Rowan-Kenyon, and Fancsali (2015) highlighted was the University of Arizona’s My Wildcat Track. The program featured individual meetings with academic coaches to help with learning needs. Students took the Student Self-Awareness Inventory (SSAI) at the start of their participation in the program, which focused on key areas of student development including communication skills, problem solving, self-advocacy, coping with stress, self-management/self-regulation, and anxiety and stress management (Savitz-Romer, Rowan-Kenyon, & Fancsali, 2015). These coaches also helped students become aware of other resources on campus to utilize. The outcomes of the program included: a) the average cumulative
GPA increase was 60-70% each time that the program ran, b) one-third of students were removed from academic probation in one semester, c) over 90% of students who participated in the program reported that they better understood their strengths and weaknesses, knew more about policies and deadlines, and learned successful study skills.

Another campus program Savitz-Romer, Rowan-Kenyon, and Fancsali examined was housed at Charleston Southern University (CSU) and focused on career development. This program implemented a four-year roadmap that included one-credit courses each year for students to focus on career planning. Freshman year focused on, “adjusting to college life and work,” sophomore year on, “selecting a major and identifying career goals,” junior year on “translating experiences into career goals,” and senior year on “implementing your goals.” (2015, p. 25) Students were given assessments like Myers-Briggs and StrengthsFinder, and additional professional-development resources, to guide them in understanding their skills, talents, passions, and how to align those with a major area of study. This type of development was a focus for the entire CSU campus, not just the career development center. CSU placed a strong importance on developing students’ employability skills, specifically in areas of positive attitude, work ethic, communication skills, time management, problem solving, critical thinking, analytical reasoning, and self-confidence, which were assessed at the beginning of their freshman year and again before graduation. CSU’s career development program was a rare example of a holistic, four-year roadmap of workshops requiring student participation, a one-credit course on career planning, and a campus-wide emphasis on critical skills in order to prepare students for the world of work (Savitz-Romer, Rowan-Kenyon, & Fancsali, 2015).

Savitz-Romer, Rowan-Kenyon, and Fancsali (2015) also briefly discussed findings of SEA skills that were used to promote college and career success, an endeavor funded through the
Bill & Melinda Gates Foundation. Through their study, Savitz-Romer, Rowan-Kenyon, and Fancsali identified four implications for the practice of advancing the development of SEA skills and behaviors through college programming:

1. SEA skill development should include career readiness and target student populations accordingly.
2. Assessments should measure specific skills.
3. Institutions should prepare faculty to help students develop SEA skills.
4. Institutions should investigate the use of technology to teach and assess SEA skills.

From this study and others, the growing need for SEA skill development was vital, as well as the need for unifying terminology definitions, and for understanding the value non-cognitive skills bring to academic achievement during college and career success following graduation. There was also a growing interest in understanding employability skill development and the implications for the corporate world.

Employability Policy in the United States

Now more than ever, there is a growing need for students of all nations to exhibit skills of employability and be prepared for the competition of a global workforce. Before diving into the world complex, a domestic perspective was necessary to examine the impact of competition on employability research and related competencies.

Three federal legislative acts were implemented in the last several years to increase or replace policy around funding, accountability, and support for students and their employability development. Those three acts, the Perkins Act, the Every Student Succeeds Act (ESSA), and the Workforce Innovation and Opportunity Act (WIOA), were among the most recent policies to be
passed on a federal level supporting career skill development, assessment, and reporting for academic, career, and technical education programs across the United States.

The Carl D. Perkins Career and Technical Education Act of 2006, or shortened to simply the Perkins Act, was the fourth edition of this legislation. Originally a support for vocational education in the early 1980s, now renamed career and technical education, the Perkins Act was the main source of federal funding given to states and grantees for the specific use of improving secondary and postsecondary career and technical education (CTE) programs in the U.S. The act provides over $1 billion in support for technical education, including funding for integrated career pathways programs, and a workforce development strategy used to support the student transition from education to a career. These career pathways programs were meant to develop both technical and employability skills in students at the community college level (Center for Law and Social Policy, 2011). According to the CTE curriculum, the workplace skills, or employability skills, listed for employees to successfully complete work tasks include being able to manage resources, to utilize a variety of information, to demonstrate effective communication skills, to understand systems, and to use technology appropriately (U.S. Department of Education, 2017).

The Perkins Act was reviewed each year by the U.S. Congress. In the most recent review released from FY 2013-2014, approximately 11.6 million students were enrolled in secondary, postsecondary, and adult-level CTE programs, a sizable decrease from the prior year. The reporting year of 2013-2014 was also historically lower, specifically 11.4% lower, than previous years since the implementation of the Perkins Act 12 years prior. These students in postsecondary institutions were largely enrolled in majors related to health sciences, business
management and administration, and law, public safety, and security (US Department of Education, 2016).

Also, in this report, the U.S. Department of Education further explained the data related to how the states performed on each of the six core indicators for career and technical education students which the Perkins Act helps to address: technical skill attainment, credential, certificate or degree, student retention or transfer, student placement, nontraditional participation, and nontraditional completion. The data showed the following percentages of states whose postsecondary core indicators of performance met at least 90% of their performance levels or exceeded their performance levels: 95%, or 52 of the 55 states, reported data on postsecondary technical skill attainment; 87%, or 47 of the 54 states, that reported data on postsecondary student retention or transfer; 83%, or 45 of the 54 states, that reported postsecondary nontraditional participation; and postsecondary credential, certificate, and degrees at 47%, or 26 of 55 states, met at least 90% of their performance levels overall (U.S. Department of Education, 2016).

Overall, the majority of the states operated well under the Perkins Act, and it appeared to be a strong law for the support of students returning to higher education for career-focused degrees, even if there was a decrease in student participation over the last reported year. Even with this decrease in student participation, CTE programs continued to attract students and graduate employable individuals. During 2013-2014, improvements to the Act seemed to center around helping states better implement their Perkins accountability systems and meet the Perkins performance levels. The U.S. Department of Education provided technical assistance to several states as a way to help with the accountability efforts in addition to monthly conference calls to answer questions and focus on the importance of state accountability and reporting of their
Perkins information. The Act was unanimously reauthorized in 2017 to continue the work of supporting strong CTE programs.

The second act to mention when exploring employability movement in policy is the Workforce Innovation and Opportunity Act (WIOA). Signed into law in 2014, this act was created to, “help job seekers access employment, education, training, and support services to succeed in the labor market and to match employers with the skilled workers they need to compete in the global economy” (U.S. Department of Labor, 2017, p.1). This legislation replaced a few acts previously passed to help build a better alignment between workforce, education, economic development, and labor market challenges. The WIOA established funding and specific measures by which youth, adult, and dislocated workers were evaluated by their employers in the coming years as a way to hold states accountable. There were many activities this act supported, but as far as student employability was concerned, youth workforce programs, career pathways, and work-based learning (both soft and technical skills) were to be improved through WIOA.

While this policy was implemented across the country, there was limited research as it started to influence higher education institutions and the U.S. workforce. However, one study out of Johns Hopkins University in 2016 suggested WIOA already had a positive impact on job training programs for dislocated workers. Pedro (2016) sought to measure the effectiveness of WIOA in helping dislocated workers who recently received new skills, training, or education. Pedro’s analysis utilized profit at the national level to predict the probability of workers entering employment after training, and propensity score matching on observational data to approximate an experimental setup. The matched data were then used to estimate the change in earning conditional upon individuals completing the training. Pedro’s research showed that workers who
participated in a training program were estimated to have a higher probability of entering the workforce, and with higher wages compared to those who did not participate in some form of training (Pedro, 2016).

The third act most recently seen in educational policy pertaining to career development and employability skills was the Every Student Succeeds Act (ESSA), which was signed into law at the end of 2015. This act required all students in the U.S. education system to be taught to high academic standards, which will prepare them to be successful in college and into their careers. The law sought to increase state support and influence over CTE programming, including a balanced education, supporting integrated academic and CTE coursework, and encouraging states to include student career attainment progress on state report cards accountability (Perkins, Collaborative Resource Network, 2017). The passing of ESSA replaced the No Child Left Behind Act and reduced the federal government’s role in education policy, giving more room for states to determine the best plan of action for their constituents (Editorial Projects in Education Research Center, 2016).

Another recent piece of legislation passed in the state of Texas from a long-range plan for public education steering committee was the Texas Marketable Skill legislation. It passed in 2017 as a plan to improve employability skills (or marketable skills, as they refer to them as in their legislation) of high school and college graduates. By 2030, all graduates from Texas public institutions of higher education should have completed programs with identified marketable skills. They define marketable skills as, “those skills valued by employers that can be applied in a variety of work settings, including interpersonal, cognitive, and applied skill areas. These skills can be either primary or complementary to a major and are acquired by students through education, including curricular, co-curricular, and extracurricular activities” (Texas
Comprehensive Center at AIR, 2017, p. 29). Examples of the skills desired were, “teamwork, critical thinking, personal responsibility, and problem solving” (Texas Comprehensive Center at AIR, 2017, p. 25).

These four acts do not encompass all legislation involving employability development in higher education. However, they do represent the most recently passed or reauthorized federal and state laws regarding student employability and form a foundational perspective on current trends and insight into the possible direction for future higher education policy and student employability training. These policies will impact the way community colleges and four-year institutions view and implement programming around employability skill development, in addition to how the federal and state governments will hold them accountable for developing individuals who were ready to work.

Employability from a Global Perspective

The demand for skilled workers and the concept of employability is not specific to the United States. This section highlights a variety of international perspectives and policies in order to illustrate the global panorama of the importance of employability, identifying the responsible parties for teaching them and for supporting such development, and how to assess employability development programs.

Global Employability Policy Changes

Previously, three legislative acts were mentioned pertaining to the policy changes in the United States, but they were not alone in the pursuit of skilled workers to meet labor market demands. Most policies outside of the U.S. come from the United Kingdom. U.K. universities
have been charged with defining exactly how they will help students develop relevant skills and experiences that will prepare them for future employment (Department of Business, Innovation, and Skills, 2009). While policy regarding employability was not new for the U.K., it increased in popularity in recent years. Most policies in recent legislation centered on what skills were most needed, how to assess the desired skills, and being proactive in the involvement of employers when writing policy. This mentality was described as providing a link between the supply and demand sides of the employment market (Gore, 2005).

There have been several key pieces of legislation passed in the last few years, notably the Education and Skills Act of 2008. This law increased the age students were required to attend compulsory learning from 17 years old to 18 years old. The Act also provided a greater scope for employability initiatives to be implemented, and assisted society in responding to the idea that the longer individuals receive education the more likely they would be to gain the skills necessary to obtain and navigate the complexities of the workforce (Belt, Drake, & Chapman, 2010). Along with the Education and Skills Act, entities of the U.K. also developed programs in their countries to promote and measure employability among students of all ages. Get Ready to Work (Scotland), Skill Build (Wales), and Training for Success (Northern Ireland), were developed to increase access to skill development opportunities through the initiative called the New Deal for Young People (Belt, Drake, & Chapman, 2010).

South Africa saw a similar shift in educational policy to support the development of employability skills teaching such skills in higher education institutions. South African legislation called for establishments of higher education to become a more active voice and supplier in meeting the societal and economic needs of the nation. These policies and white papers came through the National Commission on Higher Education (NCHE). The policies
revolved around developing human talent and lifelong learners, providing high-level skills training, and the production, acquisition, and application of new knowledge (Kruss, 2004).

Australia also saw an increase in policy around the involvement of higher education in developing and producing students with employability skills. In a desperate response to increasing expectations from employers to hire employees with their own human capital awareness, Australia created the vocational education and training (VET) system to assist employers in articulating the expected attitudes and behaviors from their employees. VET was funded through public and private providers. It was a government-controlled system with heavy influence from industry professionals and associations, as they were the ones responsible for the inclusion of employability skills into the VET program and providing a training market. Employers lobbied alongside politicians to fight for the inclusion of employability skill development in the VET policy. These skills include communication, problem solving, teamwork, lifelong learning, and a variety of personal qualities such as values, attitudes, and personality characteristics (Sheldon & Thornthwaite, 2005).

Global Research Initiatives

International studies in the area of employability saw a dramatic increase in the last two decades, as governments and institutions grasped the understanding of this area for development. Several existing studies determined how best to assess employability skills. Others worked toward the best theoretical frameworks around career competencies, and still more addressed the policy increases seen across the world in this area. In contrast to studies coming from the U.S., the global focus is more on creating an appropriate assessment tool and less on identifying what skills were most desired by employers. There is no way to grasp all studies being conducted;
however, there are a few to highlight in regard to leading-edge research in the area of employability and the role higher education should play in providing this skill set.

In one study conducted in Northern Ireland, Milner (2014) sought to examine employability skills and how they were taught in classroom curricula. She developed an assessment tool called the Employability Development Opportunities Review (EDOR) questionnaire for students, faculty, and staff to survey the skills and the avenues through which the skills were being taught over a two-year period. She found that extracurricular activities were positively correlated with other aspects of employability being measured from the EDOR. Milner utilized a mixed-methods approach and conducted focus groups which further supported the influence of extracurricular activities on students’ employability development. Her results were further confirmed by the work of Stuart, Lido, Morgan, and May (2008), who reported extra-curricular experiences were related to developing personal confidence and effective communication skills, building better occupational status, facilitating transition from school to work (Tchibozo, 2007), and the overall employment outcomes of students (Blasko, 2002).

Additional research was conducted in the Netherlands to better understand the concept of career competencies and creating a tool to assess them. Akkermans, Brenninkmeijer, Huibers, and Blonk (2013), created a framework for their newly developed Career Competencies Questionnaire (CCQ), which assessed six specific career competencies: reflection on motivation, qualities, networking, self-profiling, work exploration, and career control. The assessment was validated through two different groups of young employees and could be a useful tool in assisting institutions and employers in monitoring the employability skill development of their students and workers (Akkermans, Brenninkmeijer, Huibers, & Blonk, 2013).
Another country leading in research on employability is Australia. Australians believe workers should be able to adapt to a changing market, environment, and technologies (Bridgstock, 2007). Australia’s Chamber of Commerce and Industry, along with their Department of Education, commissioned the Graduate Employability Skills report. This document served as a review of employability skill development and as a source of accountability on assessment and reporting in Australia. It focused on generic and discipline-specific skills and initial employment outcomes of graduates. The study found students who had career management skills were most likely to be employed upon graduating from the university. This review offered higher education entities a variety of ways to implement career management skills into their curriculum, but also emphasized how higher education professionals must recognize the influence they have over student career outcomes and their ability to improve the skills needed to be successful after graduation.

From Portugal, another study offered some preliminary insight into graduates’ opinions on employability skills they acquired at the university and then applied to their first work experience. Pereira (2013) used employability assessments to determine the skills universities taught versus the skills employers demanded of their new hires. Pereira (2013) found a significant gap between the perceptions of skills being developed by the university compared to those desired from corporate organizations. Universities spent fewer of their resources on soft variables, or employability skills, that were required to meet the corporate demand for soft and hard skilled new hires. Pereira (2013) believed the best answer to soft skills development, and meeting the needs of employers, was by integrating employability into the academic curriculum.

In addition to determining corporate demands, a study from New Delhi took an exploratory factor analysis (EFA) and confirmatory factor analysis (CFA) approach to
employability skills and their context in higher education. Misra and Mishra (2011) spent 18 months with employers to develop an assessment tool, which included 60 behavioral statements graded by student participants on a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). Results from their pilot of 348 respondents were validated through these two analysis methods. EFA results revealed six factors of employability in (a) challenging assignment and self-development, (b) decision-making, (c) professional networking, (d) teamwork, (e) constant feedback, and (f) trust. The CFA was a six-factor solution taken from the EFA and was cross-validated from the same sample. The findings suggested employability can be measured using these instruments for 6 areas of employability: career management, task-oriented, networking, time management, and enjoying challenging work. While this instrument was helpful in identifying and measuring the level employees have this skill set, the study was not conducted longitudinally. Therefore, to expand the study in the future, Misra and Mishra suggested offering remedial measures to employees to help track changes in their employability skills.

The last study discussed originated in Indonesia. Dewiyani (2015) connected employability skill development to personality types and how best to help students increase their abilities. The qualitative method enabled Dewiyani to investigate the relationship between hard skills, or the technical skills, and industry-focused knowledge students gained from their classroom content, while looking at the cognitive process classified by personality traits, which was proven to enable students the ability to solve problems, one of the sought-after employability attributes. Dewiyani utilized this information to help develop learning methods that enabled students to improve their soft skills based specifically on the student’s personality. While personalities differed, this study suggested growth in soft skills can be improved by
utilizing learning models that encourage cognitive process based on personality type classification (Dewiyani, 2015). This new perspective on how skills can be developed through personality makes Dewiyani’s work unique, and a part of the analysis that was conducted in this study as well.

With this global perspective about employability on a country-specific basis, there was also a cross-country analysis conducted for a global comparison. A qualitative analysis out of Chicago crossed China, Europe, and the United States in order to investigate the curricula for career-ready graduates from the lens of academics and business professionals. Mitchell and Allen (2014) developed a survey to study how teaching methods and instruction lined up with a series of learning outcomes desired by employers from career-ready graduates. They worked with faculty to identify behaviors and skills needed to be a successful graduate of their institution and a career-ready individual. Mitchell and Allen (2014) hypothesized writing to be the most highly valued communication skill, and ethics to be the least valuable behavior taught, and saw little agreement among global professionals for what makes the most career-ready student. It was confirmed that faculty valued written communication skills, and that ethics was the least valuable behavior taught in the classroom. Surprisingly, however, their third hypothesis regarding few commonalities among professionals for what they believed made a student ready for the working world was actually contradicted. They thought there would be more variation among locations to the skills they desire but found significant alignment among behaviors and skills professionals desired to see from graduates. This further emphasized the idea that global employers look for the same career-ready competencies from graduating students.

Corporate Employers’ Perspectives
Educational researchers are not the only ones who have noticed the gap in college graduates as students embark on their careers. Companies have seen the difference as well. Now, a common trend is for Fortune 500 companies to report their own findings as they relate to hiring newly graduated college students to their firms. Some, like Google (Duhigg, 2016), McKinsey & Company (2009), and Deloitte Consulting (2011) work with educational institutions to provide valuable data surrounding this concept of career readiness.

One of the most notable associations studying college and career readiness is the Hart Research Association. Over the last ten years (2005, 2010, 2015), Hart Research Association has been a leader in attempting to understand the gaps between college graduates and the needs employers seek for any new hires they bring to their companies. Their most recent study questioned employers about what they viewed as the most important aspects of a new hire’s education prior to joining their company. They found employers saw written and oral communication skills, teamwork skills, ethical decision-making, critical thinking skills, and the ability to apply knowledge in real-world settings to be the most highly valued employability skills among the 17 skill areas that were tested (HART, 2015). When combining their work with the work of the National Association of Colleges and Employers (NACE), a strong case begins to build for additional research to be conducted on the employability training college students were receiving and the avenues through which they were receiving the training.

In recent years, researchers also studied college students’ perceptions of employability. DuPre and Williams (2011) studied what college students thought employers wanted from them and found that college students did not always value the same outcomes employers did, as listed above in the NACE outcomes. DuPre and Williams emphasized the urgency for higher education to face the issue of career preparation for its graduates, especially as the employer preference and
desires for relevant work experience and skills were unwavering regardless of the economy or job market (2011).

Other research from corporate entities revolved around the influence these soft skills have on the working environment. Duhigg (2016) reported a study Google conducted among their thousands of employees to determine what made the best teams so successful. The study spanned across 180 teams throughout the company, and no single pattern or mix of people was revealed by explaining successful teams. Instead of individual makeup, their research identified group norms to be the drivers of a successful team. The top two group norms contributing to the perfect team were equal communication among team members (being able to work in a team) and social sensitivity (intuiting how others felt based on their tone of voice, their expressions, or other nonverbal cues). Both aspects were known as psychological safety, which was, “a sense of confidence that the team will not embarrass, reject or punish someone for speaking up… it describes a team climate characterized by interpersonal trust and mutual respect in which people were comfortable being themselves” (Edmondson, 1999, p.354). Group norms centered on teams demonstrating communication and empathy, two key characteristics previously included in the sought-after list of employability skills.

Around the same time Google attempted to design the perfect team, Barton, Farrell, and Mourshed with McKinsey and Company (2013) sought to discover why there were so many vacancies across the world, despite having individuals to fill positions. They found 39% of employers surveyed said a skill shortage was the leading reason for entry-level position vacancies globally. Believing employers, education providers, and the students themselves all seemed to live in parallel universes, all stakeholders involved had a wide range of perspectives on the hiring of entry-level candidates. From the data gathered, Barton, Farrell, and Mourshed
(2013) suggested best practices for designing a system that was effective in taking students from their educational environments to that of employment. Their findings found two features that stood out for successful program design where developing employability skills were concerned. The first was a team effort of education providers and employers continually stepping into one another’s worlds to offer support. Support and input from employers might be helpful with designing curriculum and in locating potential adjunct faculty individuals, which education providers can help employers by offering students the opportunity to visit these companies, and thereby helping to solve company problems through case study practices, and assisting them secure quality candidates. Second, the best programs had employers and education providers working together to help students from an early point in their employment journey. Both parties were invested at the start of the student’s journey and were committed to their development for the years they work with them. Additionally, the study provided a way to improve the transition from college to career, including the development of employability skills on the collegiate level.

Summary

Global stakeholders from industry, government, and higher education institutions have executed research in a variety of areas around employability. From insights on the best practices and assessment methods, to identifying the skills employers desired, these wide-ranging studies pointed to the need to increase employability skill development at the university level in order to help meet labor market demands, and to produce a highly-qualified workforce capable of adapting to any environment or industry regardless of training. While these studies have been conducted at companies, in classrooms, and through programs, the still-minimal connection was made to students’ extracurricular activities on the university level, and even less evidence of soft
skills was displayed by students who participated in a leadership development program. This literature review examined a wide range of studies across the globe that were meant to understand, define, and develop employability skills in students prior to their entrance into the workforce. This review also showed the United States was behind many countries in the development of policy regarding employability skill development. The present study has the opportunity to build awareness in employability skill development and offer insights into program design. The next chapter will discuss what methods and procedures will be utilized in order for programs like PLP to assess how they were impacting students’ employability skill development through extra-curricular activities.
CHAPTER 3

METHODS

The following research questions guided the study:

1. Was there a significant difference between the pre-testing and post-testing of employability skill development among students who participated in PLP and those who did not participate in PLP?

2. What areas of employability skill development saw the most growth among PLP students?

3. Was a student’s major a factor that affected his or her employability development after controlling for other demographic and academic factors?

This was a quasi-experimental study using a 2 x 2 factorial, pre-test-post-test design, to test the research questions listed above. Explanation of the study design, participants and instrument are discussed further in this chapter.

Population and Sample

This study sought to understand the effects extra-curricular leadership programming had on the development of employability skills in college students. The population of this study was the general upperclassman population of undergraduate students and graduate students. The sample of this study was drawn from junior, seniors, and graduate students in a variety of colleges at the University of North Texas (UNT). The study included a quasi-experimental group and a control group. The treatment group consisted of students who participated in PLP in the 2017-18 academic year. PLP students were preselected to participate in the program based on an application, interview, a minimum 3.25 GPA, and classified as a junior, senior, or graduate student. PLP students were given the survey at the start of their program experience, along with the announcement pertaining to participation. PLP students were not required to participate in the survey and it had no effect on their standing in the program. Since there were no grades
administered in PLP, it was also reinforced that participation had no effect on their overall standing within UNT. It was projected that around 100 students from PLP would participate in the study.

The control group, which consisted of juniors, seniors, and graduate students who were not participating in the PLP, were selected through a nonrandom procedure by targeting upper level classes at various colleges across the UNT campus.

Data Collection

Instrumentation

The Youth Experience Survey (YES) was originally developed by Hansen and Larson (2002) through a project at the University of Illinois as an instrument for high school-aged students to self-report on areas of developmental experiences they encounter in an organized youth activity, such as extracurricular activities or community-based programming. The YES survey was conducted in 19 schools across the state of Illinois, representing students of lower/working class and middle/upper-middle class across ethnically diverse urban, suburban, and rural communities. The survey was created to help map students’ learning experiences and inventory how they perceived their developmental experiences in extra-curricular activities. The YES survey was then amended into the YES 2.0 survey a few years later to provide a shorter version of the original survey and strengthen the evidence of reliability and validity (Hansen & Larson, 2005), which was one of the primary reasons the adapted version of this survey was used in this study.

The YES 2.0 survey focuses on positive developmental experiences in three areas of personal development (identity work, initiative, basic skills) and three areas of interpersonal
development (teamwork and social skills, positive relationships, and adult networks and social
capital). Additionally, the instrument addresses five areas that deal with different types of
negative experiences: stress, inappropriate adult behavior, negative influence, social exclusion,
and negative group dynamics. For the purpose of this study, I adapted YES 2.0 and kept most of
the questions with minor alterations. To reduce the amount of time needed to complete the
survey and to maintain relevance to the PLP participants, the following sections were removed or
limited. First, I removed integration with family questions under adult networks and social
capital. I also removed questions related to negative peer influences, negative group dynamics,
inappropriate and adult behavior from negative experiences section. The reason for removing
these questions was simply because they did not apply to the college-aged students participating
in the PLP. Additionally, three questions on effective communication were added from a survey
from the National Academic Advising Association (NACADA) out of Kansas State University,
The Communication Quiz, used to help students understand their role as a communicator. This
quiz had three questions:

1. When I finish writing a report or email, I scan it quickly for typos and then send it off
   right away.

2. When someone's talking to me, I think about what I'm going to say next to make sure
   I get my point across.

3. Before I send a message, I think about the best way to communicate it (in person,
   over the phone, in an email, in a text, etc.).

The specific verbs in the YES 2.0 assessment were also altered to allow the language to reflect
the pre-test and post-test nature of the survey being given at the appropriate time.

To test validity, Hansen and Larson (2005) gave the YES 2.0 survey to students and
adults involved with the same extra-curricular youth programs. The sample of 16 programs
included students and adults being involved in sports, community, service, arts, and faith-based
activities. The students completed their own assessments while the adults completed an assessment for each student based on their observations of the students’ experiences in the program. Students’ and leaders’ reports were then examined to evaluate convergent validity. The results found that almost all of the skills areas covered in the YES 2.0 were confirmable experiences from student perspectives, identifying and corresponding to the observations of an adult with very few exceptions (Hanson & Larson, 2005). Hansen and Larson (2005) further tested the validity and reliability of the YES 2.0 using Cronbach’s alpha and results revealed high alpha’s (0.75- 0.94) across and statistically significant intercorrelations among the skills, or YES scales as they call them.

Finally, while the YES 2.0 assessment was originally created to assess high school students, in this study I used Super’s theory of career development as a guiding framework. Super’s theory enabled me to explore the possibility of applying the YES 2.0 assessment to college-aged students as they were the same stage group in his theory, exploration stage (ages 14-24) (Super, 1953). In order for validity and reliability to still apply to this adapted YES 2.0 survey, a pilot study was conducted on an older-than-high-school-aged group to ensure the assessment still tested the areas affectively. There were 57 responses to the pilot study from a variety of individuals: recently graduated college students, current college students, young professionals, and more seasoned professionals. A wide age range of the respondents was sought to insure the instrument’s ability to be adapted to an older age group and to reflect the potential populations involved in the study being conducted at UNT. This university had a large population of non-traditional aged students; thus, the pilot assisted in confirming the use of the survey with an older population. Seven people in the sample indicated they were seniors by classification (12.3%), 14 were graduate students (24.6%), 17 were university alumni (29.8%), 3
were professionals (5.3%), 11 were mentors (19.3%), 4 were other (7%), and only one identified as a junior (1.7%).

Courses from four colleges were suggested from deans, assistant deans, and advisors. From the list provided by university staff, professors were contacted, explained the purpose of the study, and asked if they were willing to have an announcement made in person within the first two weeks of the semester starting along with the survey distribution. Students were then given the opportunity to complete the survey in class, taking no more than 10 minutes of class time to finish. Some of the professors offered bonus participation points for students who participated in the survey, while others did not. For the purposes of the study, only students who chose to participate in the fall (pre-test) and the spring (post-test) semesters were included in the final results. 10 classes were recruited and participated in completing the pre-test survey. The post-test questionnaire was then administered electronically to all who completed a pre-test. The post-test was administered during the final weeks of April and beginning of May within the same academic year as the pre-test.

In total, 776 students completed the pre-test. Of the 776 students who completed the pre-test, 169 students also submitted responses to the post-test survey. Both the treatment and control groups included students from a variety of majors, racial/ethnic backgrounds, genders, and were of at least junior, senior, or graduate level classification.

Pilot Study Results

The pilot sample consisted of 27 males (47.4%) and 30 females (52.6%). The mean GPA for the sample was 3.6 out of a 4.0 scale, with a range from 2.75 to 4.0, where 15 of the respondents failed to indicate their GPA. While majors varied widely, 22 different majors were
specifically listed, there were 29 respondents of the sample who indicated their major field of study was in the college of business (50.9%) and 28 respondents who indicated their major field of study was outside of the college of business (49.1%). Nine survey responders in the sample were African American (15.8%), 7 were Hispanic/Latino (12.3%), 4 were Asian American (7%), one was multiracial (1.7%), and 36 were White (63.2%).

Pilot Reliability Results

To determine the reliability of the survey’s adaptation and the addition of new questions to the original YES 2.0 assessment tool regarding the trait of communication and the application of the tool to an older population, Cronbach’s alpha was calculated for each trait. The Cronbach’s alpha for each trait are listed in Table 2.

Table 2

<table>
<thead>
<tr>
<th>Tested Skill</th>
<th>Cronbach’s Alpha</th>
</tr>
</thead>
<tbody>
<tr>
<td>Goal Setting</td>
<td>0.713</td>
</tr>
<tr>
<td>Problem solving</td>
<td>0.613</td>
</tr>
<tr>
<td>Time Management</td>
<td>0.815</td>
</tr>
<tr>
<td>Cognitive Skills</td>
<td>0.81</td>
</tr>
<tr>
<td>Prosocial Norms</td>
<td>0.718</td>
</tr>
<tr>
<td>Team Skills</td>
<td>0.746</td>
</tr>
<tr>
<td>Leadership</td>
<td>0.805</td>
</tr>
<tr>
<td>Communication</td>
<td>0.632</td>
</tr>
</tbody>
</table>

There were a variety of suggestions on the acceptable level of coefficient alphas, including a suggestion for an alpha above 0.8 constitutes a reliable measure (Carmines & Zeller, 1979; Clark & Watson, 1995). However, due to the exploratory nature of this instrument being
utilized on a new age group, Hair et al (2010) supported the commonly used 0.80 standard to be lowered to 0.60 for exploratory research purposes. Under this standard, all traits were found to have internal consistency and scalable reliability on the pilot population. Employing Hair et al’s (2010) theory, all traits tested fell within this acceptable alpha range above 0.6.

Data Collection Procedures

All students in the PLP were given the opportunity to participate in the assessments. There were approximately 120 students in PLP for the 2017-18 academic year, representing the treatment group in this study. The control group was comprised of students recruited from business and non-business junior and senior level classes across the campus. In order to recruit a diverse set of students, contact was made through email with deans, deans’ assistants, and advisors across campus for courses recommendations as to which courses provided the most diverse group of majors in their respective colleges. From the list provided by university personnel, individual professors were contacted to discuss the opportunity of announcing before their class within the first two weeks of the school semester. There were 25 classes originally contacted to participate in the gathering of data. These courses came from the College of Business, College of Liberal Arts and Social Sciences, College of Engineering, and College of Visual Arts and Design at UNT. This range of college participation provided the study with as close to a reflection of the PLP profile as possible.

PLP students were selected to participate in the program prior to recruitment to this study and were selected to the program based on their application, a GPA requirement (GPA higher than 3.25), be of junior, senior, or graduate level classification in their studies, and their completion of an interview. All students came from a variety of majors and colleges and
represented all gender, race/ethnicity, and age ranges, though most participants were between the ages of 20 to 28 years old. During the first PLP meeting and first classes of the semester, the study was presented to students in a classroom announcement according to the script approved by the UNT IRB. The classroom announcement script can be found in the appendix. The study was explained, offered potential benefits to the student through reviewing their results with them once the study was completed, and allowed them to understand how the study could help the field of higher education. Once the announcement was complete, I left the room and allowed students 15 minutes to complete the survey online or a hard copy survey. The same process was utilized at the end of the academic year for the post-test, which was administered during the final PLP meeting of the spring semester (the end of April for the non-PLP student participants). An informed consent notice was presented to the students before they started the survey. If a student accepted the invitation to participate in this study, he or she had to click “accept” to continue on to the survey. Students were given the opportunity to opt out of the study at any time.

Addition to the YES 2.0 questions, a few demographic questions were added to the survey including the student’s name. The student’s name was necessary in order to match up pre- and post-assessment results. Only completed data and results are presented in Chapter 4 and will be presented in any future publications or presentations.

Confidentiality

The confidentiality of individuals’ information was maintained in all publications or presentations regarding this study. Confidentiality was also maintained to the degree possible given the technology and practices used by the online survey company. All information was housed on a password-protected UNT computer. My dissertation advisor and I will keep two
copies of the original data in a password-protected UNT computer for at least three years following the end of the study.

Data Analysis

Research Variables

YES 2.0 assesses a variety of personal and interpersonal development areas, along with questions that deal with the types of negative experiences students could go through while involved in a program. YES 2.0 covers six of the ten areas NACE (2015) and other scholars mention as the top ten skills employers seek in their new hires, with additional questions concerning social norms not mentioned on the NACE skills. Thus, there were seven areas that YES 2.0 covers included in the instrument being utilized for this study. These areas include (a) goal setting, (b) problem solving, (c) time management, (d) cognitive skills, (e) social norms, (f) team skills, (g) leadership and responsibility, and additional questions regarding communication added to make up the eighth skill to be tested in this study. These tested skills make up the study’s dependent variables. Each skill had three questions on the survey, with a 4-point Likert-type scale for students to select their perceived level of exposure to the eight variables. The responses were coded as: 0=Not at All, 1=Little Bit, 2=Quite A Bit, and 3=Yes, Definitely.

The primary independent variable for this study was whether or not the student participated in PLP. In order to answer research question three, students were further classified into business and non-business majors. Business majors were defined as any student who will receive their diploma from the College of Business at UNT. There were 15 majors that were considered business majors according to this criterion: accounting, business integrated studies, business analytics, business economics, entrepreneurship, finance, marketing, professional
selling, operations and supply chain management, organizational behavior and human resource
management, real estate, residential property management, risk, insurance and financial services,
aviation logistics, business computer information systems, and logistics and supply chain
management (UNT CoB, 2017). All other majors were considered non-business majors. For
research question 3, GPA, race/ethnicity, gender, and student classification (junior, senior,
graduate student) were included as control variables.

Analytical Procedures

Descriptive statistics of survey results are discussed in Chapter 4 to provide a general
idea of the demographic characteristics of the respondents and to determine group norms. The
multiple dependent variables in the study and the one dichotomous independent variable for the
three research questions, along with the pre- and post-test nature of the design, suggested a
variety of ways in which to answer the three research questions.

The first research question addressed if there was a significant difference between
students’ skill development for those in PLP and those in the control group, separately and then
compared to each other. To address this question, the study utilized two-way repeated measures
ANOVA to evaluate whether participation in PLP influenced students’ employability skill
development after one academic year of treatment. Since students were not able to be randomly
assign students to the treatment or control groups, the two-way repeated measures among the
matched groups equated the groups to see if the intervention affected the differences in student
employability skill development rather than the selection bias itself. Being in PLP or not being in
PLP was the grouping, along with time (both pre- and post-test) serving as the dependent
variables. These were tested against the independent variable of employability skills scores.
The two-way repeated measures ANOVA was used to determine if there was a statistically significant interaction effect between two within-subjects factors on a continuous dependent variable. A two-way repeated measures ANOVA was used in experimental designs to help control for factors of the study that cannot be randomized but which can be measured on an interval scale. Like all methods of analysis, there were assumptions that must be met to continue with the approach. Two-way repeated measures ANOVA requires five assumptions to be considered. These five assumptions are: to have a continuous dependent variable, have two within-subject’s factors where each within-subjects factor consists of two or more categorical levels, no significant outliers, normally distributed, and testing for sphericity. (Laerd Statistics, 2018)

A two-way repeated measures ANOVA was run to determine the effect of PLP over time on employability skill development scores. Analysis of the studentized residuals showed that there was normality, as assessed by the Shapiro-Wilk test of normality and no outliers, as assessed by no studentized residuals greater than ±3 standard deviations. There was sphericity for the interaction term, as assessed by Mauchly’s test of sphericity ($p > .05$). Data were mean ± standard deviation, unless otherwise stated.

The second research question examined which skills experience the most growth among PLP students. This question was evaluated through a series of t-tests. The independent variables, or the employability skills, were tested across PLP students only. Those competencies, or variables, were: goal setting, problem solving, time management, cognitive skills, prosocial norms, team skills, leadership, and communication. In this instance, the grouping variable was time, or the pre- and post-survey results, and a t-test was run on PLP student results for each competency, producing eight total t-test analyses. While this approach could lead to an increase in Type I error, or false-positive results, the Bonferroni correction method was utilized to
counteract the problem of multiple comparisons. The Bonferroni correction adjusted p-values when several dependent and independent statistical tests were being performed on the same data set (Hinkle, Wiersma, & Jurs, 2002).

The third research question involved understanding the students’ major and its role in the development of employability skills. This question was examined through ordinary least squares (OLS) analysis. OLS helped to determine if there was a relationship between a student’s major and the amount of development of employability skills, as measured by post-testing scores and then the difference of pre and post-testing scores on the eight employability skill competencies. There are six assumptions OLS requires to be met to utilize this approach: 1) the linear regression model was “linear in parameters,” 2) there was random sampling of observations, 3) the conditional mean should be zero, 4) there was no multi-collinearity (or perfect collinearity), 5) there was homoscedasticity and no autocorrelation, and 6) error terms should be normally distributed (Laerd Statistics, 20018). These assumptions were examined for the post-test results in order to determine if this method was the best approach in analyzing the data sets. UNT offers a combined selection of 145 majors for undergraduate and graduate students. Although all majors were not represented in the sample, they were grouped by business majors and non-business majors to help simplify the results.

Finally, missing data are an inevitable part of all analysis of multivariate data (Newton & Rudestam, 1999). While some practitioners utilize ad hoc practices such as list-wise deletion, this process was now seen as one of the least helpful in dealing with missing data. Over the last several decades, dramatic advances in theoretical and computational statistics have been made and they have provided more flexible procedures in approaching the missing data problem which have stronger statistical basis. (Peugh & Enders, 2004) One technique for missing data
percentage having a significant value of 0.05 or more is Little’s missing completely at random (MCAR) approach, the process of multiple imputation (SPSS, 2007; Rubin, 1987). Multiple imputation replaces each missing data item with a set of \( m > 1 \) plausible values. However, because there is a large number of missing data between the pre and post-test responses, a matched data set selected on pre-test GPA and student classification will be utilized to help reduce outliers and complete other assumptions needed to run reliable analysis. This will be discussed further in Chapter 4.

**Delimitations and Limitations**

The first delimitation was the focus of this study. It did not address all forms of extra-curricular activities, rather one that was focused on employability development. Thus, leadership development and employability development workshop activities will be the best application of this research for future researchers. Also, limiting this study was the small sample size and preselection of the treatment group, PLP students. In research studies and data analysis, randomization of group assignment was preferred; however, with the PLP students already being preselected, the lack of random assignment was a limitation for this study. With only an estimated participation group of 250 students, matched across the control and treatment groups, there was potential for the small size to reduce the power of the study, thus rendering the results less generalizable.

**Summary**

This chapter restated the research questions that guided the study. Information regarding the population and sample, the instrument utilized, and general procedures for recruiting
participants were also presented. Additionally, pilot group analysis and validity testing through Cronbach’s alpha on the pilot group were reported to strengthen the utilization of the adapted YES 2.0 instrument for this study on college students. Finally, the analysis procedures and potential limitations of the study were included. Results of the data analysis are discussed in Chapter 4.
CHAPTER 4

RESULTS

The purpose of this study was to examine the impact PLP had on the employability skill development of students who participated in the program. Also intended in this research was an investigation of which skill saw the most growth among PLP students. Additionally, the study was an examination of how strong an influence majors had on the development of employability skills in students across the university. Presented in this chapter are the results of the data analysis for the three research questions. Descriptions of the variables used are listed in Table 3 and the appendix as noted in Chapter 3.

Table 3

*Descriptions for Recorded Variables Used in Analysis*

<table>
<thead>
<tr>
<th>Variable</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>Dummy Variable</td>
</tr>
<tr>
<td></td>
<td>Male=1; Female =2</td>
</tr>
<tr>
<td>CoB Major</td>
<td>Dummy Variable</td>
</tr>
<tr>
<td></td>
<td>Yes=1; No=0</td>
</tr>
<tr>
<td>PLP student</td>
<td>Dummy Variable</td>
</tr>
<tr>
<td></td>
<td>Yes=1; No=0</td>
</tr>
<tr>
<td>Classification</td>
<td>Dummy Variable</td>
</tr>
<tr>
<td></td>
<td>Undergraduate,=1 Other=0 ; 1=Graduate, Other=0</td>
</tr>
<tr>
<td>Survey Responses</td>
<td>Dummy Variable</td>
</tr>
<tr>
<td></td>
<td>Not at all=0; A little=1; Quite a bit=2; Yes, Definitely=3; No answer=Blank</td>
</tr>
</tbody>
</table>

Missing Data

Before discussing the analysis of the data, the missing data are discussed. As previously mentioned, missing data are unavoidable in research with analysis of multivariate data (Newton & Rudestam, 1999). With this survey being administered twice in a pre- and a post-test model,
and with students given the assessment in different formats (some in-person and others in an online survey) missing data were part of the process. The problem with missing data is when assumptions are made on the analysis where missing data is present: they could potentially give false and unreliable results. A few approaches were utilized to minimize the impact of missing data on the overall analysis.

The original sample of students who responded to the survey in a pre-test was 779 in total, 672 (86.3%) in the control group and 107 (13.7%) in the treatment group (PLP). From this original sample, 169 students completed the post-test survey rendering an almost 22% response rate, 100 (59.2% of sample) from the control group and 69 (40.8% of sample) from PLP. To minimize the impact of missing data, propensity score matching was utilized based on student pre-test GPA. PLP students were matched with a member of the control group who had the same pre-test GPA and classification. When an exact match was not available, the closest GPA (all within .10 points) and classification was matched with the PLP student. A $t$-test analysis was run between the PLP and control group students to validate the matching process and criteria.

Table 4

**Numerical Diagnostics for Matching Process**

<table>
<thead>
<tr>
<th>Unmatched Sample</th>
<th>Pre-Test GPA</th>
<th>No</th>
<th>Yes</th>
<th>Classification</th>
<th>No</th>
<th>Yes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>651</td>
<td>107</td>
<td>672</td>
<td>107</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Pre-Test GPA</td>
<td>3.2691</td>
<td>3.5716</td>
<td>2.34</td>
<td>2.7</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Classification</td>
<td>0.45005</td>
<td>0.29398</td>
<td>0.641</td>
<td>0.815</td>
<td></td>
</tr>
<tr>
<td>Matched Sample</td>
<td></td>
<td>69</td>
<td>69</td>
<td>69</td>
<td>69</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Pre-Test GPA</td>
<td>3.5134</td>
<td>3.5751</td>
<td>2.43</td>
<td>2.61</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Classification</td>
<td>0.52356</td>
<td>0.27215</td>
<td>0.776</td>
<td>0.826</td>
<td></td>
</tr>
</tbody>
</table>

Table 4 displays the numerical balance diagnostics for the same before and after
matching, showing mean and standard deviations for both sample sizes, the whole sample and
the matched sample, along with the p-values associated with the groups. The mean in pre-test
GPA among the unmatched sample size for the control (3.2691) and treatment (3.5716) groups
are vastly different from those reported in the diagnostic for the match sample: control (2.5134)
and treatment (3.5751) respectively. The average classification of the two samples is also
impacted from the matching process. This evidence helps to justify the use of matching to reduce
false statistically significant reporting.

Table 5

*Demographics for Matched Respondents (N=138)*

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Gender</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>57</td>
<td>41.30%</td>
</tr>
<tr>
<td>Female</td>
<td>81</td>
<td>58.70%</td>
</tr>
<tr>
<td><strong>Race/ Ethnicity</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Caucasian</td>
<td>57</td>
<td>41.30%</td>
</tr>
<tr>
<td>African American</td>
<td>20</td>
<td>14.49%</td>
</tr>
<tr>
<td>Latino/a</td>
<td>31</td>
<td>22.46%</td>
</tr>
<tr>
<td>Asian American</td>
<td>19</td>
<td>13.77%</td>
</tr>
<tr>
<td>Multiracial</td>
<td>8</td>
<td>5.80%</td>
</tr>
<tr>
<td>Other</td>
<td>3</td>
<td>2.17%</td>
</tr>
<tr>
<td><strong>Classification</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sophomore</td>
<td>5</td>
<td>3.62%</td>
</tr>
<tr>
<td>Junior</td>
<td>60</td>
<td>43.48%</td>
</tr>
<tr>
<td>Senior</td>
<td>57</td>
<td>41.30%</td>
</tr>
<tr>
<td>Graduate</td>
<td>14</td>
<td>10.14%</td>
</tr>
<tr>
<td>Other</td>
<td>2</td>
<td>1.45%</td>
</tr>
<tr>
<td><strong>CoB Major</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>91</td>
<td>65.94%</td>
</tr>
<tr>
<td>No</td>
<td>47</td>
<td>34.06%</td>
</tr>
<tr>
<td><strong>PLP student</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>69</td>
<td>50.00%</td>
</tr>
<tr>
<td>No</td>
<td>69</td>
<td>50.00%</td>
</tr>
</tbody>
</table>
With this process, fewer than 10 of the PLP student participants did not have an exact GPA match from the control group. Propensity score matching allowed missing data to be kept at a minimum and serve as a corrective device for the data used in this study. Additionally, matching provided an equal sample size populations, helped reduce outliers, and managed the large percentage of what would be missing data. The final sample size used for analysis was 138 student participants, 69 in the control group matched with 69 from PLP. Demographic information on the sample population utilized to answer the research questions are in Table 5.

Of the 138 matched students, the majority of those who participated from both the control and treatment groups, were upperclassmen (junior or senior representing 84.78% of the population) and seeking a major in the college of business (65.94%). The mixture of ethnicity and gender is almost identical to that of the university from which the study was conducted, giving this sample an even stronger applicability to the overall population. The university population breakdown for ethnicity is as follows: Caucasian (48.41%), African-American (14.01%), Hispanic/ Latino/a (22.12%), Asian and Pacific Islander (6.89%), Other (8.57%). Additionally, the gender division for the university is 53% female and 47% male. As mentioned, all of these areas closely align with the sample drawn for this study making it a strong reflection of the overall population.

Research Question 1

The first research question asked, “Was there a significant difference between the pre-testing and post-testing of employability skill development among students who participated in PLP and those who did not participate in PLP?” Descriptive statistics for students in the study, both in PLP and not in PLP, are in Table 6.
Table 6

Descriptives for Matched Respondents: Employability Skill Area Means (N=138)

<table>
<thead>
<tr>
<th>Skill Area</th>
<th>N</th>
<th>Range</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Goal Setting (3 questions)</td>
<td>138</td>
<td>2.33</td>
<td>2.53</td>
<td>0.4603</td>
</tr>
<tr>
<td>Problem Solving (3 questions)</td>
<td>138</td>
<td>2</td>
<td>2.44</td>
<td>0.5189</td>
</tr>
<tr>
<td>Time Management (3 questions)</td>
<td>138</td>
<td>2.33</td>
<td>2.4</td>
<td>0.5722</td>
</tr>
<tr>
<td>Cognitive Skills (3 questions)</td>
<td>138</td>
<td>2</td>
<td>2.44</td>
<td>0.5487</td>
</tr>
<tr>
<td>Prosocial Norms (3 questions)</td>
<td>138</td>
<td>2.33</td>
<td>2.5</td>
<td>0.5347</td>
</tr>
<tr>
<td>Team Skills (5 questions)</td>
<td>138</td>
<td>1.8</td>
<td>2.49</td>
<td>0.4364</td>
</tr>
<tr>
<td>Leadership (3 questions)</td>
<td>138</td>
<td>2.33</td>
<td>2.5</td>
<td>0.5642</td>
</tr>
<tr>
<td>Communications (4 questions)</td>
<td>138</td>
<td>2</td>
<td>2.39</td>
<td>0.4629</td>
</tr>
</tbody>
</table>

A two-way repeated measures ANOVA was run to determine the effect of PLP over time on the overall employability skill development score of students. Analysis of the studentized residuals for the matched pair data set showed that there was normality, as assessed by the Shapiro-Wilk test of normality, and no outliers, as indicated by no studentized residuals greater than plus or minus three standard deviations. There was sphericity for the interaction term, as assessed by Mauchly’s test of sphericity (p > .05). There was statistically significant interaction between groups and time on employability skill, $F(1, 136) = 5.23$, $p < .001$, partial $\eta^2 = .136$. Therefore, simple main effects were run. Time was statistically significantly different in the control group (M=64.78, SD=9.53) compared to the PLP group (M=59.68, SD= 10.37) at the beginning (pre-test) of the academic year. Again, time was also statistically significant in the difference of control (M=66.83, SD= 10.53) and PLP (M=65.73, SD= 7.80) at the final (post-test) survey. Means for the figures expressed in Table 7 originate from the value of each question response, added together for each individual participant. Then, the average was taken of all
participants in each group of the sample. This summation for each participant is their overall employability score. Since each competency had a variety of questions associated with it, having an overall score allowed for each competency to equally comparable. Results displayed in Table 7 suggest that over time, students on average increased their overall employability skill development score. Those who participated in PLP, however, had a larger increase in their overall employability skill development between the pre- and post-test scores. Prior research on employability skill development intervention supports the increase in total score in the PLP treatment group by highlighting student activities focused on employability skill development and influences the improvement of these skills over time.

Table 7

*Summary of Results for Two-Way ANOVA*

<table>
<thead>
<tr>
<th>Group</th>
<th>Pre-test Mean</th>
<th>Pre-Test Standard Deviation</th>
<th>Post-Test Mean</th>
<th>Post-Test Standard Deviation</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-PLP Students</td>
<td>64.78</td>
<td>9.53</td>
<td>66.83</td>
<td>10.53</td>
<td></td>
</tr>
<tr>
<td>PLP students</td>
<td>59.68</td>
<td>10.37</td>
<td>65.73</td>
<td>7.8</td>
<td>0.024</td>
</tr>
<tr>
<td>Group * Time</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Research Question 2

The second research questions asked, “What areas of employability skill development saw the most growth among PLP students?” This question addressed those specifically in the treatment group, or in PLP, to recognize what skills, if any, had a statistically significant improvement over the span of this study. To address this question, a paired-samples t-tests was conducted among the PLP students to compare pre and post-test score totals for each of the eight skills: goal setting, problem solving, time management, cognitive skills, prosocial norms,
leadership skills, teamwork, and communication. There was a statistically significant difference in scores for the pre-test problem solving total (M= 6.8551, SD= 1.66517) and the post-test problem solving total (M=7.4058, SD= 1.61171) conditions; t (68) = -2.4, p= 0.019 among those in PLP. Results of the paired t-test analysis for all eight skills can be seen in Table 8. These results suggested that participation in PLP did have an effect on the development of all employability skills. Specifically, the results suggested that when students participated in PLP for a year, only their problem-solving skills showed a statistically significant increase over time.

Table 8

Summary of Results for Paired t-Tests on PLP students (N=69)

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Mean</th>
<th>Std. Dev.</th>
<th>t</th>
<th>df</th>
<th>Sig. (2-tailed)</th>
<th>Cohen's d</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Goal Setting</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre-Test Total</td>
<td>69</td>
<td>7.5652</td>
<td>1.41918</td>
<td>-1.334</td>
<td>68</td>
<td>0.187</td>
<td>0.1921</td>
</tr>
<tr>
<td>Post-Test Total</td>
<td>69</td>
<td>7.8261</td>
<td>1.29429</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Problem Solving</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre-Test Total</td>
<td>69</td>
<td>6.8551</td>
<td>1.66517</td>
<td>-2.4</td>
<td>68</td>
<td>0.019</td>
<td>0.3361</td>
</tr>
<tr>
<td>Post-Test Total</td>
<td>69</td>
<td>7.4058</td>
<td>1.61171</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Time Management</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre-Test Total</td>
<td>69</td>
<td>7.4493</td>
<td>1.65863</td>
<td>0.757</td>
<td>68</td>
<td>0.452</td>
<td>-0.0966</td>
</tr>
<tr>
<td>Post-Test Total</td>
<td>69</td>
<td>7.2754</td>
<td>1.93181</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cognitive Skills</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre-Test Total</td>
<td>69</td>
<td>7.1014</td>
<td>1.61012</td>
<td>-1.423</td>
<td>68</td>
<td>0.159</td>
<td>0.1934</td>
</tr>
<tr>
<td>Post-Test Total</td>
<td>69</td>
<td>7.4348</td>
<td>1.6313</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prosocial Norms</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre-Test Total</td>
<td>69</td>
<td>7.4348</td>
<td>1.56692</td>
<td>-0.259</td>
<td>68</td>
<td>0.797</td>
<td>0.0351</td>
</tr>
<tr>
<td>Post-Test Total</td>
<td>69</td>
<td>7.4928</td>
<td>1.73733</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Team Skills</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre-Test Total</td>
<td>69</td>
<td>12.1304</td>
<td>2.20903</td>
<td>-1.052</td>
<td>68</td>
<td>0.297</td>
<td>0.1407</td>
</tr>
<tr>
<td>Post-Test Total</td>
<td>69</td>
<td>12.4493</td>
<td>2.32339</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(table continues)
### Research Question 3

The third research question asked, “Was a student’s major a factor that affected his or her employability development after controlling for other demographic and academic factors?” This research question addressed the influence a student’s major may have on their employability skill development. The analysis was run two different times in order to compare employability skill development in various ways. In the first regression model, employability development was defined as the participant’s total post-test score. For the second regression model, employability development was defined by the difference in participants’ scores from pre-test to post-test. This new variable was created to serve as the dependent variable. With a wide range of majors represented among the group, contrast coding was utilized. Students were placed in two categories according to their major. They were either categorized as a College of Business (CoB) major or non-College of Business (nonCoB) major, depending on what college their major was in according to the university website listing. Having only two groups allowed me to have a sample size robust enough to run OLS analysis. This approach enabled analysis to be run on those in the matched set, grouped by what college they were in and their self-reported post GPA.

The first multiple regression analysis was run to predict a student’s post-test employability score based on business major status, gender, race/ethnicity, student classification.
(whether they were a sophomore, junior, senior, or graduate student), if they were a member of PLP or not, and their post GPA. The linearity assumption is not violated as assessed by partial regression plots and a plot of studentized residuals against the predicted values. There was independence of residuals, as assessed by a Durbin-Watson statistic of 2.086. There was also homoscedasticity, as assessed by visual inspection of a plot of studentized residuals versus unstandardized predicted values. There was no evidence of multicollinearity, as assessed by tolerance values greater than 0.1. There were no studentized deleted residuals greater than ±3 standard deviations, no leverage values greater than 0.2, and values for Cook's distance above 1. The assumption of normality was met, as assessed by a Q-Q plot. The multiple regression model was not statistically significant in predicting overall employability scores: \( F(10, 158) = 2.068, p = .030, \text{adj. } R^2 = .060 \). Collectively, the variables did show statistically significant results; the post-test overall score analysis did indicate a student’s classification played a statistically significant role in their post-test employability skill score. Regression coefficients and standard errors are in Table 9.

Table 9

*Summary of Multiple Regression Analysis for Post Test Scores*

<table>
<thead>
<tr>
<th>Variable</th>
<th>( B )</th>
<th>SE(_B)</th>
<th>( \beta )</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Post Test GPA</td>
<td>3.106</td>
<td>2.202</td>
<td>.119</td>
<td>.160</td>
</tr>
<tr>
<td>Gender</td>
<td>.093</td>
<td>1.549</td>
<td>.005</td>
<td>.952</td>
</tr>
<tr>
<td>PLP member or not</td>
<td>-1.560</td>
<td>1.669</td>
<td>-.078</td>
<td>.351</td>
</tr>
<tr>
<td>Business Major or not</td>
<td>3.106</td>
<td>2.202</td>
<td>.119</td>
<td>.160</td>
</tr>
<tr>
<td>Race/ Ethnicity: Caucasian (Baseline Group)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>African American</td>
<td>3.895</td>
<td>2.508</td>
<td>.137</td>
<td>.122</td>
</tr>
<tr>
<td>Hispanic or Latino/a</td>
<td>3.704</td>
<td>1.928</td>
<td>.161</td>
<td>.062</td>
</tr>
<tr>
<td>Asian</td>
<td>-.789</td>
<td>2.519</td>
<td>-.027</td>
<td>.754</td>
</tr>
</tbody>
</table>

*(table continues)*
Results displayed in Table 9 suggest as a student’s classification increases, as they advance in their academic careers, their post-test overall employability skill score will increase. From Table 9, both unstandardized and standardized coefficients are displayed. Standardized coefficients are included in this table to help compare effects across the different measures, in the context of this research question it is comparing dummy variables over time or years. These two units are not the same, thus the standardized coefficient enables these variables to be compared directly. This mirrors results practitioners would hope to expect from students as they mature in their personal and professional environments, as well as advance in their academic curriculum. The student participant’s major also played a significant role in their post-test employability skill. The negative beta weight indicates students with business majors were less likely to see improvement in their scores than students who are in other majors. Additional explanation of the results is discussed in the following chapter.

In the second regression model, the difference in pre- and post-testing was utilized to define overall employability skill development. The same predictors were used as the previous model: business major status, gender, race/ethnicity, post GPA, and student classification. Again, the linearity assumption is not violated as determined by partial regression plots and a plot of studentized residuals against the predicted values. There was independence of residuals, as assessed by a Durbin-Watson statistic of 2.229. The homoscedasticity assumption was met, as

<table>
<thead>
<tr>
<th>Variable</th>
<th>$B$</th>
<th>$\text{SE}_B$</th>
<th>$\beta$</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mixed</td>
<td>2.982</td>
<td>3.255</td>
<td>.072</td>
<td>.361</td>
</tr>
<tr>
<td>Other</td>
<td>4.336</td>
<td>5.766</td>
<td>.059</td>
<td>.453</td>
</tr>
</tbody>
</table>

Classification: Undergraduate Students (Baseline Group)

<table>
<thead>
<tr>
<th>Variable</th>
<th>$B$</th>
<th>$\text{SE}_B$</th>
<th>$\beta$</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Graduate Students</td>
<td>1.292</td>
<td>2.865</td>
<td>.035</td>
<td>.653</td>
</tr>
<tr>
<td>Other</td>
<td>-16.254</td>
<td>5.796</td>
<td>-.219</td>
<td>.006</td>
</tr>
</tbody>
</table>

Note. $B=$ unstandardized regression coefficient; $\text{SE}_B=$ Standard error of the coefficient; $\beta=$ standardized coefficient
assessed by visual inspection of a plot of studentized residuals versus unstandardized predicted values. There was no evidence of multicollinearity, as assessed by tolerance values greater than 0.1. There were no studentized deleted residuals greater than ±3 standard deviations, no leverage values greater than 0.2, and values for Cook's distance above 1. And finally, the assumption of normality was met, as assessed by a Q-Q plot. The multiple regression model was successful in predicting overall employability with a statistically significant result of $F(11, 156) = 2.408, p = .009$, adj. $R^2 = .085$. The difference in pre- and post-test overall score analysis, when broken down, again indicated a student’s classification played a statistically significant role in participants’ pre- and post-test score differences. Regression coefficients and standard errors can be found in Table 10.

Table 10

<table>
<thead>
<tr>
<th>Summary of Multiple Regression Analysis for Post Test Scores</th>
</tr>
</thead>
<tbody>
<tr>
<td>Variable</td>
</tr>
<tr>
<td>----------------------------</td>
</tr>
<tr>
<td>Post Test GPA</td>
</tr>
<tr>
<td>Gender</td>
</tr>
<tr>
<td>PLP member or not</td>
</tr>
<tr>
<td>Business Major or not</td>
</tr>
<tr>
<td>Race/ Ethnicity: Caucasian (Baseline Group)</td>
</tr>
<tr>
<td>African American</td>
</tr>
<tr>
<td>Hispanic or Latino/a</td>
</tr>
<tr>
<td>Asian</td>
</tr>
<tr>
<td>Mixed</td>
</tr>
<tr>
<td>Other</td>
</tr>
<tr>
<td>Classification: Undergraduate Students (Baseline Group)</td>
</tr>
<tr>
<td>Graduate Students</td>
</tr>
<tr>
<td>Other</td>
</tr>
</tbody>
</table>

*Note: $B$ = unstandardized regression coefficient; SE$_B$= Standard error of the coefficient; $\beta$= standardized coefficient.
Results from the second model displayed stronger evidence than the first model for being able to predict overall employability skill development from the variables. Table 10 shows how as classification increases, employability skill follows. Further investigation of the results are continued in the following chapter.

Summary

This chapter started with missing data strategy and explained the reason for utilizing hand matching based on student’s pre-test GPA. As previously discussed, PLP students were matched with a member of the control group who had the same pre-test GPA and classification. This process allowed missing data to be kept at a minimum and serve as a corrective device for the data used in this study.

Results from research question one indicated a significant change in employability skill development scores between pre- and post-testing among those in PLP in comparison to those in the control group. This finding is supported by research previously discussed in the literature review indicating students that are engaged in activities will see higher levels of development on a variety of levels.

The second research question results indicated PLP students were statistically significant growth in problem-solving ability.

Finally, the last research question attempted to understand another layer of influence on employability skill development, that of a student’s major. Two different regression models were run. The first model was statistically significant overall, with one variables being significant when broken down, a participant’s classification. The second model was also statistically significant in predicting the difference of employability development scores between the pre and
post-tests. From this model, only two variables were significant on an individual level, the
classification and the participant’s post-test GPA. Results from the regression analysis indicated
students with a business major showed a decrease in skill development from those in other
majors when controlling for demographic information and GPA. A discussion of the implications
from these results is offered in the next chapter.
CHAPTER 5
DISCUSSION

The purpose of this study was to examine the change of students’ employability skill development over time. Specifically, this study sought to understand the effect co-curricular activities like PLP might have on goal setting, problem solving, time management, cognitive skills, prosocial norms, team work skills, leadership skills, and communication skills. Also intended in this research was an investigation of which skills, if any, saw the most growth among PLP students. Additionally, an examination of how strong an influence majors had on the development of employability skills in students across the university was conducted. Despite the decrease in funding for co-curricular activities like PLP, studies have shown employers want more employability skill development from their newly graduated college hires. In an effort to prove the worth of co-curricular programs, especially leadership development programs, this study highlighted the impact PLP had on their students’ overall employability skill development as a predicting factor in their end results.

This chapter provides a summary of the study and a discussion of the findings, along with implications of the findings for adding to our understanding of how best to improve and support the number of students in the United States engaging in employability skill development activities while in college. The limitations of this study, as well as recommendations for further research to expand on the study findings, are also presented. Finally, conclusions regarding support, or lack thereof, of the intended purpose of this study are presented.

Summary of Findings

Using Becker’s (1975) human capital theory and Super’s (1953) theory of career
development as theoretical frameworks, this study investigated three questions related to employability skill development through a leadership focused co-curricular activity. These questions were: (1) Was there a significant difference between the pre-testing and post-testing results of employability skill development among students who participated in PLP and those who did not participate in PLP? (2) What areas of employability skill development saw the most growth among PLP students? and (3) Was a student’s major a factor that affected his or her employability development after controlling for other demographic and academic factors?

Primary data were gathered through a quasi-experimental study from college students at a large research university who participated in PLP and those who did not. An engagement survey, the YES 2.0 survey, was utilized to explore these participants’ employability skill development in eight major areas: goal setting, problem solving, time management, cognitive skills, prosocial norms, team skills, leadership and communication. To determine the reliability of the survey’s adaptation and the addition of new questions to the original YES 2.0 assessment tool regarding the trait of communication and the application of the tool to an older population, Cronbach’s alpha was calculated for each trait. Due to the exploratory nature of this study, Hair et al (2010) supported the 0.60 Cronbach’s alpha level, which was met for each skill. All three questions were answered quantitatively from the results of two-way repeated measures ANOVA, paired t-testing, and ordinary least squares (OLS) models on the testing scores for each skill and means. Different controls were used based on the research question, discussed in later sections. Findings from the analysis included determination of p-value for each model and effect size.

The study included 169 respondents to both the pre- and post-test surveys, with only 69 coming from the treatment group. Treatment group participants were matched with their control group counterparts, based on GPA and classification, resulting in a matched data set sample size
of 138. Of this group, almost 60% of the participants were female, 41% Caucasian, and 66% were business majors. Descriptive statistics regarding the exact breakdown of race, gender, and classification were provided in the previous chapter. Employability skills were quantified through 3-5 questions for each competency on a Likert-type scale of 0-3.

Discussion and Implications

Question 1: PLP Students

This research question sought to understand if PLP made an impact on their students’ employability skill development over time. In order to meet assumptions and have a balanced population, PLP students who completed both pre- and post-test surveys were matched to non-PLP students who also completed both surveys. The matches were based on GPA and the students’ classifications. The interaction between the two groups was determined by utilizing a two-way repeated measures ANOVA. The p-values, utilizing an alpha level of .05, determined statistical significance (Pallant, 2007). Effect sizes, as well as means and standard errors, were reported previously in Chapter 4.

Results from this analysis showed all student participants improved over time; however, PLP students showed the most improvement of employability skill development between pre- and post-testing means. PLP students in this study met the third criterion of Becker’s theory by, enhancing their assets in the area of ability (Becker, 1975). In this study, asset enhancement occurred in the form of employability skill development over the course of the academic year. Becker’s human capital perspective suggested with an influx of graduates in the job market, students must possess differential skills in order to differentiate themselves from other applicants. From this study, findings indicated PLP students did a significant job of
differentiating themselves from their non-PLP peers when it came to the employability skills employers seek.

Prior research and legislation on employability skill development intervention supports increased student development through co-curricular activities focused on this specific area of knowledge (Astin, 1985; Texas Comprehensive Center at AIR, 2017; Milner, 2014; Stuart, M., Lido, L., Morgan, J., & May, S., 2008). This is not only supported through the analysis, but also my personal experience with PLP. With student services often being the first area targeted for budget cuts, programs like PLP have sought outside support in order to sustain their ability to serve students. With the data analysis for this research question, scholars should wonder how much higher education institutions should invest in co-curricular programming.

PLP has historically been supported in part by university and in part by external corporate partners. While PLP has continued to develop students’ lives for the last 25 years, it is not until recently that stakeholders were able to see the true worth of their investments. The results show how the changes in students’ employability skill development over time grew at a statistically higher and significant rate as compared to students who did not participate in this type of programming. These results should encourage universities and outside sponsors to continue, if not increase, their support in order for programs like PLP to expand their ability to serve students. Most recently, PLP was only able to reach 100 students out of the over 38,000 at the University of North Texas due to budget constraints, staffing limitations, and overall lack of recognition from the university for the work co-curricular programs do for the development of the whole student, and more importantly the employability of the student.

Results of the analysis also suggested that students not participating in PLP still saw improvement in their employability skills. While it was not as drastic as those in PLP, the student
participants saw an increase in pre- to post-test scores on average for the group. This suggests students are finding ways to learn key skills needed to improve their employability skill development, even if it was not through a formal training program such as PLP. The results of this analysis should help policymakers and program designers understand the importance of focused, employability skill development training. From this study, other programs could take PLP to their own campus and potentially see similar results. Leadership development programs come in wide range, so it may be as simple as including these competencies or better defining the ones being taught on existing campuses. These results also encourage those in programming to keep up their quest to improve students’ lives in a variety of ways. Student affairs professionals are not always able to put data to the work they are doing, this study can be used as a foundational example for these types of programs moving forward. If institutions are unwilling or unable to invest in programs like PLP, they may want to include a stronger emphasis of employability skills into existing co-curricular areas such as career center programming efforts, or through established student organizations. Each opportunity has their own advantages and disadvantages of promoting employability skills in unique ways the classroom may not be able to address.

Question 2: Skill Development

Once the results indicated PLP had an impact on the PLP students, analysis was then completed to see in which specific areas employability skills were improved over time. This second research question was focused on the treatment group only, and examined eight employability skills: goals setting, problem solving, time management, cognitive skills, prosocial norms, leadership skills, teamwork, and communication. The skills were analyzed through a
series of paired t-tests to determine if there were any differences in test scores. Using an alpha level of .05 to determine statistical significance, of the eight distinct skills, only problem solving had a statistically significant change from pre- to post-testing of PLP students. Results of this study suggested that students who participated in PLP for the academic year were more likely to see the most growth in the area of problem solving over the other areas. This finding was reflective of the foundational principles of Super’s (1953) theory of career development while students experienced their exploration stage of career growth.

Super’s (1953) structure for career development noted five stages individuals vacillate throughout during the lifetime of their professional careers. The stages were: growth, exploration, establishment, maintenance, and disengagement. College students, Super reasoned, moved from exploring their career desires and interests to beginning the establishment of their professional work. He argued that during this stage, key competencies were essential for students in the exploratory stage of development to master prior to embarking into the working world: decision-making skills, long-term planning skills, knowledge and use of information resources, general information about the culture, rules, and etiquette of the working world, and detailed information about occupations. The competency of problem solving can be seen in what Super described as decision-making skills and knowledge and use of information resources. Being able to find and use the knowledge that is available to a student in conjunction with making a choice is problem solving in its most basic definition.

The other seven areas of employability skill development did not yield statistically significant changes between pre-test and post-test. This is a little surprising, given this information is in direct contrast to the mission and vision of PLP. The organization seeks to help students develop their employability skills in the core areas of: stewardship, servant
leadership, diversity and inclusion, and ethical practices, in addition to the eight skills at the focal point of this study. Perhaps the program is trying to develop students in too many areas all at once, or that students were unable to more clearly distinguish the name of the employability skill that was being developed at specific workshops or class sessions. Students being able to recognize, and in turn communicate, the skill development being grown in them is often essential for their success in any interview or job application process. While many programs seek to develop students in a variety of areas, this study may help program designers realize the opportunity to focus their efforts on two or three key areas rather than eight, for example.

Problem solving as the only statistically significant result brings an interesting perspective to the curriculum design of PLP. Each semester, students work in groups to solve a case study designed for them by a consulting firm. They receive training on how best to approach this problem and work in a team to find an answer. In each case, there is no wrong answer; however, the skills acquired through the formal training session on problem solving seem to have had an impact on the overall area seeing improvement. While the other skills are more subtly taught in workshop setting sessions, the problem solving one is more instructive in nature. Understanding this result and applying it to the current curriculum, it may be worth the effort to explore other styles or formats of instruction for the other areas of employability skills in order to see more improvement in those areas as well. PLP administrators should consider looking at alternative ways of instruction in the upcoming academic year. One option would be to use an immersed or experiential programming format for the other competencies in the next academic year to see if there is any change in the other employability skills areas. When looking at the goal setting competency, for example, PLP speaks to the importance of setting goals and utilizing the SMART goal setting method. SMART meaning, specific, measurable, attainable,
relevant, and timely goals. The program also uses a scorecard to give students a format in which to set goals and write them down. These tools do not have a dedicated session over the year, but a brief mention and training opportunity of how to use the tool. In the coming academic year, PLP should consider committing an entire session to the goal setting practices, similar to the problem-solving training at the beginning of the semester. This could impact overall scores for this specific competency.

Question 3: COB Majors

This final research question explored the impact majors can play on a student’s employability skill development, controlling for gender, race/ethnicity, student classification, PLP membership, and their post-test reported GPA. Research question three was addressed through two similar regression models, each with a different dependent variable but the same independent variables. There are over 140 majors available to students at this institution. The survey had 67 different majors indicated on student responses. To help simplify and create larger sample size needed to run the regression analysis, majors were divided into two categories: business majors or non-business majors. Again, this study utilized an alpha level of .05 to determine statistical significance. Unstandardized and standardized regression coefficients, along with standard error of the coefficient, were reported in the previous chapter.

In the first regression analysis, collective results using the post-test score individually did not show statistical significance for the overall model. However, the analysis indicated one independent variable that had a statistically significant role in the student’s overall employability: student classification (junior, senior, graduate student). Also, in this model, being a business major negatively impacted the results of participants overall employability skill score.
These results indicated that as students progressed through their academic career, they gained more employability skills. This is compatible with Super’s career development stages, as well as Becker’s human capital theory where enhancing one’s skills is concerned.

The second regression model utilized the difference in pre- and post-testing scores as the dependent variable describing employability skill development. With the same predictors used as the previous model, this model was statistically significant in predicting a student’s overall employability skill when utilizing an alpha level of .05 criteria. The difference in pre- and post-test overall score analysis, when broken down, indicated a student’s classification played a statistically significant part in their pre- and post-test score differences. It should not be surprising to see the impact classification had on a student’s development. It is always the hope of instructors and education professionals for students to increase in their growth as they age in their programming. Additionally, understanding the impact GPA can play on a student’s overall employability is important to know as students continue to complete coursework.

These combined results could potentially influence how students are advised in selection of major area of study. If they want to gain higher employability skill development, in an effort to gain employment upon graduation, it is possible exposing them to courses outside of business, minors, or even majors could be beneficial to their success. It may be difficult to determine this discussion without examining the interaction between business majors and PLP students. Additionally, between the time of the pre-test and the post-test distribution, the college of business initiated two unique programs in an effort to increase employability skill development among students. A new tiered progression process was executed in the college that advised students early in their college careers if a business major was a good fit for them or not, along with the addition of employability skill development courses added to the curriculum for all
business majors. These are fantastic additions to the school; however, their addition will make it more difficult for future research at this location to determine the interaction between the college and PLP in regard to who is actually teaching the competencies.

Additionally, with the mention of the interaction between the college and PLP, the integration of course work pertaining to employability skill development will make it increasingly more difficult to study who is solely responsible for the advancement and teaching of employability competencies. Having coursework interactions and co-curricular activities to support employability skill development are both important to the future of ours students, distinguishing influence from one or the other could potentially be problematic in the future.

While student affairs programming typically does not include a for of survey or assessment associated with activities, academic units often have surveys for professors, fellow classmates, and graduation information. This could potentially give academic units the upper-hand in the case for employability skill development remaining in the classroom setting, and funds or resources associated with this mindset. While student receiving these skills is the overall goal, the battle for funding is a constant on campuses around the world and student affairs professionals are continually struggling to provide data justifying their programming efforts.

Also, classification makes a difference. As our students advance in their academic careers, it is reassuring to see their increase in skill development as well. This, however, could be seen as an avenue of opportunity. The program could consider the possibility of starting employability skill development earlier so that by the time students are of junior and senior status their employability skill development would be increased. This approach coincides with the time frame many students are seeking internships and part time positions in the industries they wish to be part of upon graduation. What impact could exposing students to this type of
development earlier in their college careers have on their overall employability skills? On their future internships or full-time careers?

Limitations

There were a number of limitations in this study, the first being the Youth Engagement Survey (YES) 2.0 survey itself. As noted in the Methods chapter, this YES 2.0 survey was originally not designed for college students, but rather for younger aged participants in primary school. The YES 2.0 instrument also did not include questions regarding the employability skill development area of communication. These questions were later added from the Communication Quiz written and distributed by Kansas State University.

Also, this study did not include longitudinal data on students’ employability skill development. With this being an increasingly popular topic, hopefully this study will serve as a foundation for future research and longer studies, understanding how employability skills develop in students throughout their entire college career, not just over one year. Knowing how students develop from year to year as individuals, academically, and socially would all impact how they develop from freshmen to seniors in their employability skill development as well. This information would be an important contribution to the current knowledge.

Additionally, the participants from this study came from one large university in the southwest United States, with the treatment group participants from only one leadership program offered on campus. While the sample size was adequate for the study, utilizing only one type of higher education institution from one geographical area and the single leadership co-curricular activity limited the ability to generalize findings to the larger population of college students and to that of student activities as a whole. Specific qualities of this one institution and the leadership
program itself may not be shared by other entities, and this may have impacted the applicability of the results.

Further, participants of the experimental group in this study were pre-selected. In research studies and data analysis, randomization of group assignment is preferred. However, with the PLP, students were selected prior to their participation in the study, and the lack of random assignment is a limitation for this study. This limitation caused a sample size of 138 matched participants in total, 69 from the experimental group matched with 69 from the control group. The small size could have contributed to the reduction in power of the study, making it difficult to generalize these results. Matching of these participants can also contribute to a limitation as well. In this study, matching was based on GPA and student classification. Future researchers may want to consider other variables that could be utilized to match PLP students with their non-PLP counterparts. These alternative methods of matching may also have impacted the duplication and generalization of this study.

The particular employability skill competencies used to determine employability development could also create a limitation for this study. While the literature discussed a wide range of competencies, those selected for this study did not appear in every study highlighted. Consideration must be given to the fact that the competencies explored in various studies and those tested on the YES 2.0 survey did not all mirror those actually being taught by the PLP, from which the data for this study were taken. Measuring a student’s employability skill development under the limited eight skills tested may have resulted in a definition of employability skill development specific to this institution and this particular program, making the results of this study then only applicable to this institution and PLP. Having a plethora of employability skills themselves creates inconsistency in how the competencies are understood. It
is possible that using a different set of employability skills for defining a student’s overall employability would produce different findings. However, the eight that were measured were consistent among the majority of employability skills, and nevertheless are useful measures and contribute to the overall theory and practice of employability skill development.

Additionally, with the introduction of the tiered progressive programming being implemented from the college of business and courses being added, it would be difficult to remove the influence the college had on PLP students with business majors during the course of the study. This limitation could potentially impact the overall results related to major and its’ influence on the competencies assessed in this study.

One final limitation to this study concerns the division of majors into only two defined groups. With having so many majors represented, many of the majors had extremely low sample sizes, so the decision was made to categorize students into one of two groups: Business or non-business majors. In doing so, it is possible important characteristics of students from one of the other specific colleges and majors were unnoticed.

Conclusion and Recommendations for Future Research

Results from this research study suggested that being in a leadership development program like PLP did have an effect on a student’s employability skill development. Beyond that, classification and major could also play a role. Student program designers and career services centers can use this information to help expand the scope of current programs being used to increase students’ employability skills. Through allocation of funds to methodologies for understanding how employability skills are influential to student success, practitioners may be able to further improve student development as they prepare to enter the workforce.
Policymakers worldwide have already begun to realize the importance of including employability skills into the curriculum requirements for primary and secondary schools (Center for Law and Social Policy, 2011; U.S. Department of Education, 2017; US Department of Education, 2016; Editorial Projects in Education Research Center, 2016; Department of Business, Innovation, and Skills, 2009; Sheldon & Thornthwaite, 2005). For instance, recently, the state of Texas (2017) included marketable skills as part of public education curriculum. By 2030, the Texas Public Education Steering Committee wants all graduates from Texas public institutions of higher education to have completed programs with identified marketable skills, specifically teamwork, critical thinking, personal responsibility, and problem solving. Since funding for education is always a topic of controversy, it may be feasible to utilize existing programs to help facilitate these essential skills.

Another example has happened across the Atlantic Ocean. Milner (2014) created a survey in Northern Ireland to quantify employability skill development being taught in the classroom during core curriculum courses. Additional support for including employability skill development in the existing course work comes from Portugal. Pereira (2013) believed the best answer to soft skills development, and meeting the needs of employers, was by integrating employability into the academic curriculum. However, it is not limited to inclusion in course work. Employability skill development can and should also be included in co-curricular activities, like that of PLP.

Results from this research reflected findings from other studies regarding the increase of employability skill development during college years while showcasing the importance of intentional instruction provided through co-curricular programs. While current research and global higher education policy continues to highlight the variety of definitions for competencies,
the increasing need for employability skills, and the necessity for the creation of a comprehensive measurement tool exists, perhaps the moment has come to broaden the scope of that research to include the instruction being conducted on a co-curricular level. For instance, programs like PLP exist in some capacity on most universities around the world. Though they may come in a variety of programmatic disciplines and missions, leadership programs all have the potential capacity to assist in the growing need for college students to increase their awareness of and growth in the area of employability skill development. Incorporating information into the coursework regarding the influence of PLP and its ability to increase students’ employability competencies, how majors and a student’s classification can also influence their overall employability development, may help us direct students lacking awareness to the best available resources.

Recommendations for future research primarily come from limitations of this study. First, a more robust study would result in the use of larger population of programs and more diverse age groups to participate in the study, not just PLP, but a collection of professional development programs throughout campus activities who seek to improve students’ ability to gain employment through skill development. Alternatively, if more programs could not be found on the same campus, a national or global perspective could be utilized to combine student programming data from a variety of universities and colleges in a given area to help increase the generalizability of the study findings.

One vital consideration for further research in this area is the need for a comprehensive survey tool specifically designed to evaluate all ten areas of employability skill development on the NACE top ten list. As of now, there is no universal survey or theoretical approach being utilized to conduct research on all of the skills desired by employers depicted in the NACE
study. While there are a variety of studies regarding the creation of and searching for a reliable tool, there is still a lack of agreement on a standardized assessment. Having a globally valid and reliable measurement tool to assess employability would provide better understanding across different countries and cultures on this topic, and an avenue for consistent longitudinal studies to be conducted worldwide. This tool could not only influence research, but also provide valuable data for policymakers as they increasingly include employability skill development in their requirements for primary and secondary institutions.

Another recommendation for this study is to begin using employability skill assessment tools at an earlier stage in a student’s academic journey. Having students begin the YES 2.0 survey habit in the high school years, would help them be more aware of the skills they are learning as they advance into their college endeavors. Create the expectation of students reflecting on their activities outside of the classroom and reviewing the skills they are learning, is a critical tool for their development towards a career. They need to be able to articulate skills to future employers and demonstrate a history of success in these areas. Beginning regular survey or assessment of employability skills would help students tell their story, and help administrators determine best practices, refine tools and identify students with gaps sooner.

Finally, to expand on this study, future researchers could include additional information on the survey to include follow-up questions regarding a student’s success in progressing through the interview process, securing employment, and retaining a position. The addition of these elements not only would be essential data points for policymakers as they allocate funds for programming but would also strengthen the results rendered in this study in support of the argument for employability skills to be supported in the college setting, specifically through co-curricular programming.
Study results supported the idea that intervention in students’ lives in the form of intentional programming can help increase their overall employability skill development. Findings from the study highlighted the influence student classification and major have on a student’s exposure to an increase of skills. Results also supported the theories of Becker’s (1975) human capital perspective and Super’s (1953) career development framework. Both Becker and Super stressed the role education and exploration have on an individual’s ability to enhance job performance and desired competencies. The study also expanded the understanding on the role of co-curricular activities, discovering that PLP has the ability to play an important role in student’s development and influence their overall employability skill development in significant ways. The research conducted provides foundational evidence for employability program administrators, higher education professionals, community stakeholders, policymakers, and future researchers to take seriously the growing topic of employability skill development as it appears in the collegiate setting.
APPENDIX

CLASSROOM RECRUITING ANNOUNCEMENT
Hello students,

I am Rachel Cleveland, a PhD student here at UNT. We were so excited to have you be part of the PLP this year. To help us know and understand what all you were learning in PLP, this year we would like you to do a short pre-and post-survey. This survey was complete voluntary and was not in any way required of you as a member of PLP.

The study was called “Understanding Employability Development Skills through Extra Curricular Activities”, and we hope to gain insight to what influences your ability to gain, increase, or develop certain skills which help you gain employment, often called employability skills. The survey will only take about 10 minutes to complete, of which time I will leave the room and you will have the ability to participate and complete the survey or opt out. Should you decide to participate, all answers will be strictly confidential and only handled by myself and the Supervising Investigator, Dr. P. Daniel Chen. We have provided computers for you to use, or the survey can be completed on your phone.

Another survey will be given to you at the end of the spring 2018 semester, in April. Those surveys will be matched with the one you can take today, and results will be made available sometime next year. We hope to share results with you on an individual and confidential basis, and then we will share general results and identity-free statistics with other outlets once the study was completed. There was no compensation for your participation, and your decision to participate or to withdraw from the study will have not have a negative effect on your standing in this course or your course grade.

Do you have any questions?
REFERENCES


