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Northeastern University

Curating Innovation within Entrepreneurship Centers: An IPA Study Exploring the Entrepreneurial Learning Experiences of Center Directors Across Different Types of Post-Secondary Institutions

by

Anna L. Etienne

Committee: Dr. Margaret Gorman, Chair

Dr. Tova Sanders, 2nd reader

Dr. Kellie Byrd Danso, 3rd reader

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Abstract

Entrepreneurship within the U.S. economy has long been established as a source of economic growth for job creation. According to “The Facts about Small Business,” small businesses contribute up to 75% of new jobs (Bohdan, Tipton, Kiefer, & Djatej, 2014). Entrepreneurial centers (ECs) are tools that can develop a culture of entrepreneurship, increase human capital skills, and increase revenue (Fernández Fernández, Blanco Jiménez, & Cuadrado Roura, 2015), thus, contributing to the entrepreneurial ecosystems via the networks established (Redondo & Camarero, 2018). Although higher education has developed a platform of curating innovation within entrepreneurship centers (EC), there is a limited amount of information regarding the experience of directors and leadership responsible for creating and expanding these centers within an academic environment. The purpose of this qualitative, interpretive phenomenological analysis is to uncover how entrepreneurship centers’ directors, with a post-secondary institution, describe their learning over time. Guided by entrepreneurial learning theory (ELT), the study incorporates a conceptual framework of entrepreneurial learning as an experiential process that addresses four phases of transition in entrepreneurial knowledge, entrepreneurial work experience, the transformation process, and factors influencing the transformation process. Semi-structured interviews adopted from IPA. Four themes emerged included: a sense of support, proficiency, limitations, and impact. Leadership within secondary institutions and entrepreneurship centers can benefit from this study. This research explores the problem, encourages discussion, and introduces ways to improve and cultivate an EC’s potential.

Keywords: Entrepreneurship Center, Universities, Institution, Innovation, Entrepreneurial learning, Entrepreneurship
DEDICATION

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Chapter 1: Introduction

Entrepreneurship has evolved into an overall standard as societies, governments, and educational institutions focus on stimulating new endeavors to enhance economic productivity. Entrepreneurship centers (ECs) within higher education encourage innovation and collaboration. This environment traditionally creates and provides access to multiple resources such as consulting, business incubator programs, business accelerators programs, and maker-spaces, playing a pivotal role in formalizing small businesses (Joseph & Holm, 2017; Redondo & Camarero, 2018; Stayton & Mangematin, 2018). The concept of providing resources for a small business during its most vulnerable state was first established in the private sector during the mid-’50s (Ahmad & Ingle, 2011). Later, during the recession in the 1970s, government officials identified best practices from other countries and created grants that would encourage entrepreneurial collaboration between the university, corporations, and community leaders (Hayter & Link, 2018). U.S. institutions within higher education later infused entrepreneurial activities within the early 1980s, expanding its initial mission of researching and teaching, to include innovative resources intended to support entrepreneurs (MIAN, 1997). There is a distinctive difference between the mission of an academic entrepreneurship center within a post-secondary institution and privately-owned entrepreneurial programs and consulting. Private firms traditionally seek tangible benefits from the companies that participate (Redondo-Carretero & Camarero-Izquierdo, 2017). Universities and colleges that decide to curate an entrepreneurship center (EC), traditionally do not seek financial gain, but do so to cultivate entrepreneurial resources, create jobs, support the local economy, and endorse an encouraging appearance of the school (Cooper, Hamel, & Connaughton, 2012). The overall goal of such collaborations is intended to provide an environment of support, which typically includes shared space,
equipment, and shared administrative services (Peters, Rice, & Sundararajan, 2004). Such support created within an innovative academic environment created alumni such as Zip Car, Home Depot, Khan Academy, GrubHub, etc. (Eli, 2014).

Although higher education has developed a platform of curating innovation within entrepreneurship centers (ECs), there is a limited amount of information regarding the experience of directors and leadership responsible for creating and expanding these centers within an academic environment. The purpose of this qualitative, interpretive phenomenological analysis is to uncover how EC directors with an institution, describe their learning over time; hopefully concluding to an understanding of the potential impact and outcome. The potential benefits of the researcher's study may lead to best practices that can be utilized by colleges and universities that aspire to affect economic development, such as job-creation via its EC. Therefore, the researcher seeks to assess the lived experience of leadership responsible for curating innovation within an EC, gain an in-depth understanding of the challenges they may face, and review best-practices they have learned throughout their years of experience.

**Research Question:** *How do center leaders describe their entrepreneurial learning based on experiences creating and managing their centers in Higher Education?*

**Sub-question:** *To what extent is a transformation process expressed, as the Entrepreneurship Center Director describe their learning experiences over time?*

**Statement of the Problem**

Entrepreneurship within the U.S. economy is an established foundation of job creation and economic growth. Based on the data, small businesses provided up to 75% of new jobs within the United States (Bohdan et al., 2014). Educational institutions that create entrepreneurial centers seek to contribute to their students and community and increase
employment, not necessarily for financial gain (Cooper, et al., 2012). A concentrated review of entrepreneurial hubs, from 1984 to 2002 advised that efforts have just begun to comprehend the value of the phenomenon of its resources such as business programs, consulting, overall supporting startup businesses during its most venerable stage (Hackett & Dilts, 2004a). During the 1990s, numerous studies were led to evaluate this developing industry of ECs throughout the nation (Mian, 1996); two of these studies, the Smilor model and the Hackett and Dilts model (Ayatse, Kwahar, & Iyortsuun, 2017; Hackett & Dilts, 2004a), approached evaluating the performance concerns, and assess the position of universities in giving business EC support (Mian, 1996). Currently, ECs continue to increase regional expansion through nurturing small businesses and create employment (Mas-Verdú, Ribeiro-Soriano, & Roig-Tierno, 2015). Unfortunately, there is little research regarding the individuals developing these centers, and a shortage of data regarding the outcome as it relates to meeting the goals of the institution. Therefore, this study seeks to gain an understanding of the personal perspective of each participant within their particular context and explore challenges and best practices from leaders responsible for entrepreneurial programs within higher education.

**The Significance of the Research Question**

Business ownership is a significant resource for communities facing financial challenges. (Rahman, Ullah, & Thompson, 2018). Entrepreneurship provides a pathway for individuals and their families to acquire financial sustainability, utilizing their talents and creativity; in addition, it accelerates economic reassurance and increasing progress (Puryear et al., 2008). Unfortunately, reports have found that entrepreneurs experience some barriers, and a vast majority of these entrepreneurs operate in regions with a larger national and diverse population (Rahman et al., 2018). These entrepreneurs face challenges such as access to capital, access-to-
market, consultants, and a shortage of co-ethnic staff (Rahman et al., 2018). ECs that seek to address these challenges can impact positive change. The amount of centers that assist small businesses here in America have improved from 12 in 1980 to over 1,100 in 2006 (Qian, Haynes, & Riggle, 2011). In the United States, there has been a resilient drive to apply entrepreneurial centers as assistances towards regional expansion and supplementary revitalization in regards to diminishing metropolitan environments as a segment of the evolving efforts in reference to place-based approaches for regional economic improvement (Masutha & Rogerson, 2015).

Post-secondary institutions are a source that traditionally impacts its local community as a resource for educational growth. Various states officials and academic stakeholders such as colleges presidents and deans have partnered in an effort to leverage its local internal (staff/faculty) and external (mentors/business owners) industry expertise to help small businesses grow and employ its local community (Cooper et al., 2012). ECs within colleges and universities are positioned to assist in the creation of successful businesses based on its resources and ability to create a successful “opportunity development process” for startups and small businesses seeking growth (Ardichvili, Cardozo, & Ray, 2003). The rationale for this study is to uncover insight and best practices from leadership responsible for developing solutions, by gaining an understanding of their experiences curating and managing processes for their centers, designed to support a startup into a sustainable and scalable position. This study consists of purposive sampling, inviting eight specific directors from academic institutions, responsible for entrepreneurial resources and programs within post-secondary institutions EC for at least two years.
Research Problem and Research Question

During the 1970s, America faced a downfall in manufacturing production, layoffs, failing market shares, and bankruptcies better known the recession (Hayter & Link, 2018). Policymakers noticed that the Japanese government's implementation of Keiretsu: industrial alliance in which significant suppliers, manufacturers, and public institutions collaborated to create and produce high-quality products to export (Hayter & Link, p. 33). Most countries suffered from the recession except for Japan, and the sources of their stability can be contributed to the Keiretsu design of public and private collaborations intended to support innovation and job creation (Hayter & Link, 2018). Learning from this model, legislation was soon developed by Senator Birch Bayh and Senator Robert Dole to stimulate innovation and passed the University and Small Business Patent Procurement Act of 1980 (Hayter & Link, 2018). The impact was not immediate and fell short of expectations, compared to the Japanese Keiretsu, but awareness began to change with emerging successes such as the Axel patents (foreign DNA into cells) via Columbia University in 1983 (Hayter & Link, 2018). Increasingly, private and public sectors began to understand the potential, and today's Yahoo, Lycos, Google, and Amgen can be linked back to research published from universities (Hayter & Link, 2018). Government leaders yearly identify new companies established from ECs as evidence of economic development, but the data does not indicate tangible outcomes to confirm its goal of creating economic impact (Hayter & Link, 2018). Some researchers believe that leaders responsible for creating ECs lack a professional network, such as individuals with financial expertise, entrepreneurial experience, or technical background, while other researchers believe more studies are needed towards understanding entrepreneurial culture, professional background of leadership, and motivations for creating and managing an entrepreneurial center (Hayter & Link, 2018).
The purpose of this study will be to uncover how EC Directors of post-secondary institutions describe their entrepreneurial learning experiences. Within this setting, the overarching research question of this dissertation is:

**Research Question:** How do center leaders describe their entrepreneurial learning based on experiences creating and managing their centers in Higher Education?

**Sub-question:** To what extent is a transformation process expressed, as the Entrepreneurship Center Director describe their learning experiences over time?

The following section of this chapter will include a description and discussion of entrepreneurial learning theory as an experiential process that will serve as the theoretical lens for this study.

**Theoretical Framework: Entrepreneurial Learning as an Experiential Process**

Researchers discovered that various entrepreneurship learning, identified their knowledge about entrepreneurship in a broad-spectrum, or regarding the entrepreneurial experience of launching a small business, but less entrepreneurial resources offered comprehension specific to the process of starting a new venture (Mwasalwiba, 2010). Researchers addressed the practice of building content from experts for entrepreneurial resources and programs, as well as the creation of a more personalized process for new ventures (Sarasvathy, Dew, Read, & Wiltbank, 2008), leading to one of the founding theories that assess resources and experiences, the “theory of effectuation” (Hardee, 2017). This theory proposes that the individual considers what resources they have, including their personal qualities, the people they recognize, and what they are capable of, in an effort to make decisions as they interact and develop their venture (Williams Middleton & Donnellon, 2014). This concept builds empirical logic based on identity, commitment, and action (Williams Middleton & Donnellon, 2014). Researchers propose that most of the learning that happens in an entrepreneurial context is experiential (Politis, 2005).
Developing a pedagogical approach towards measuring the correct ratio of acquired knowledge and individual entrepreneurial experience is the Politis (2005) approach in developing a framework evaluating entrepreneurial learning as an experiential process.

Experiential learning is any learning that encourages an individual to apply their knowledge and provides theoretical comprehension to real life difficulties or circumstances, first introduced as Kolb’s cycle of experiential learning (Konak, Clark, & Nasereddin, 2014). Kolb’s cycle was the theoretical foundation and one of the imperative components which led to Politis’ (2005) entrepreneurial learning as an experimental process, the framework for this study.

Entrepreneurial learning theory (ELT) is a continuous method which supports the expansion of essential knowledge for being useful in creating and managing new endeavors (Politis, 2005). Researchers have investigated the potential learning effects of entrepreneurs’ experiences, but there has been a limited amount of effort in distinguishing the difference between “entrepreneurial experience” and “entrepreneurial knowledge” (Politis, 2005). Politis identified a way of separating the two concepts would be to review individual experiences as directly participating in, while the knowledge represents what was learned from participating in the experience (Politis, 2005). A conceptual framework of entrepreneurial learning as an experiential process emphasized two essential components of experiential learning, which is attainment and transformation leading to Politis’ framework, which includes the following:

- Assess the specific connection between entrepreneurs’ career experiences and the expansion of entrepreneurial knowledge
- Evaluate an improved understanding of how entrepreneurs’ abilities to transform experience into knowledge while influencing a specific type of knowledge developed
- Review factors that influence the entrepreneurs’ strengths as they relate to transforming experience into knowledge

The Politis (2005) framework encouraged an in-depth assessment of the individual’s ability to assess their own experience and knowledge and address the transformation that occurs within a particular period. Leadership within ECs, ideally, would have the expertise to assess external dynamics that can impact the development of their participants (Ardichvili et al., 2003). Examples of factors could be sensitivity to market needs, ability to identify necessary resources, or any other factors that would help the participants (i.e., entrepreneurs) develop and achieve their goals (Ardichvili et al., 2003).

**Figure 2 A conceptual framework of entrepreneurial learning as an experiential process**
Entrepreneurial Knowledge

When learning is implemented to the notion of entrepreneurship, it is frequently associated with learning how to manage complications, managing liabilities, recognizing, and acting on opportunities (Politis, 2005). When creating a procedure surrounding the process of learning, describing or defining how learning evolves, can become a challenge (Politis, 2005). Focusing on the outcome regarding the process of learning is ideal and is discussed in multiple studies. From a theoretical perspective, as it relates to the outcome, creating resources within a center designed to help entrepreneurs act on potential opportunities. As it relates to entrepreneurial knowledge, Politis (2005) identified two potential outcomes:

- **Increased effectiveness in opportunity recognition**: The capability to determine and develop potential business prospects is a vital concern to examine and clarify in literature and research regarding entrepreneurship (Politis, 2005). Researchers have identified that “experienced entrepreneurs” have a competitive advantage because their experience has allowed them to acquire valuable knowledge regarding components relative to their company’s growth. Industry data such as reliable suppliers, product availability, significant contacts, feasible markets, and competitive resources is key to enhancing the entrepreneur’s ability to spot and seize entrepreneurial opportunities (Politis, 2005). Researchers believe that experienced entrepreneurs develop an “entrepreneurial mindset” that encourages them to search for and pursue prospects with a level of discipline, and the experience enhances their ability to aim for the best opportunities. Politis (2005) identified that not all individuals have the same level of opportunities to gain experience that can lead to discovering entrepreneurial opportunities. Individuals would need access to previous information essential to distinguishing opportunity’s, and the cognitive assets
necessary to comprehend its value (Politis, 2005). Access to previous information essential to differentiating opportunity’s is imperative to an individual’s level of understanding that impacts their capability to identify specific opportunities; and the cognitive assets essential to valuing the opportunity, refer to an person's capability towards recognizing new associations in response to specific change (Politis, 2005). The concept of an institution's entrepreneurial center is intended to deliver access to content and space to research the necessary experience at a smaller scale (Politis, 2005).

- **Increased effectiveness in coping with the liabilities of newness**: The ability to cope with liabilities of newness is additional learning outcome that is presumed to be a critical skill of a effective entrepreneur (Politis, 2005). Therefore, it can be debated that earlier experience offers entrepreneurs the chance to expand their skill to manage liabilities of newness, and absorb new information that can be available and redeployed in other endeavors, and thus provide the entrepreneur with the aptitude to engage into new technologies, products, or markets with better success (Politis, 2005). Potential clients have, for instance, has slight basis for believing newcomers without an adequate track record due to their low operating past, and new clients can consequently be cautious to place orders (Politis, 2005).

**Entrepreneurial Career Experience**

Researchers believe that career experience should be considered to have an influence on developing and learning its efficiency in coping with the liabilities of newness and in opportunity recognition (Politis, 2005). Earlier research specifies that previous career and entrepreneurial experience offers tacit knowledge and simplifies decision-making about entrepreneurial opportunities (Johannisson & Rosenberg, 1998). Consequently, parties with additional start-up
experience must identify opportunities as more imperative than other individuals see it, thus becoming more likely to exploit the opportunity (Ardichvili et al., 2003). Numerous experiential studies confirmed the “learning by doing” dispute. Researchers appear to suggest that there are at least three categories of professional experiences that are linked with entrepreneurial learning: start-up experience, management experience, and industry-specific experience (Politis, 2005):

- **Startup experience**
  
  o Traditionally well-thought-out to offer knowledge that benefits an entrepreneur to overcome the liabilities of newness that different ventures face.
  
  o Entrepreneurs’ previous start-up experience had a important and encouraging relationship with business performance.
  
  o Essential evidence about exploiting opportunities and in managing liabilities of newness that can only be absorbed by doing.

- **Management experience**
  
  o Years of work experience increased an entrepreneur's endeavors’ three-year survival rates and thus minimizing the chance of new project failure.
  
  o Having previous paid employment decreased the rate of those that exit from self-employment.
  
  o A healthy connection between the creator's managing experience and new endeavor survival.
  
  o Identifying that a creator with unsuccessful endeavors had limited management experience than the creators of successful endeavors.
  
  o Previous management experience expands the creator's objective to start a new endeavor, thus enabling the opportunity recognition process.
Over-all management experience appears to provide individuals with information about many of the fundamental aspects of that is essential as it relates to identifying and proceeding on entrepreneurial prospects, such as sales, logistics, finance, marketing, technology, and organization.

Previous management experience offers the entrepreneurs training in many of the expertise desired for adjusting to liabilities of newness, such as negotiating, decision making, leading, selling, planning, organizing, communicating, and problem-solving.

- **Industry-specific experience**
  - Industry-specific knowledge can have a convincing impact on the expansion of entrepreneurial knowledge.
  - Individuals with previous experience as a client or supplier in business usually have an enhanced understanding of how to manage responsibilities regarding the conditions in a specific marketplace. Industry experience offers information that external individuals can’t assemble.
  - Creators manage to start companies in industries they were formerly employed. Previous experience allows an individual to take advantage of the information and exploit prospects collected from their former employment.

Each of these categories of experiences does appear to uncover leadership to complications, which the entrepreneur may confront in managing a new endeavor and henceforward facilitate the procurement of information that would assist in solving similar difficulties in the future.
Transformation Process and Factors Influencing the Transformation Process

Politis (2005) identified the importance of acknowledging that entrepreneurs’ work experiences may not necessarily lead to that entrepreneurial knowledge becoming attained. Experience plays a role that can be considered as twofold, suggesting that entrepreneurs focus on two probable approaches when making decisions: exploitation or exploration (Politis, 2005). The value is cumulating new experiences and advancing in new knowledge; this displays as a development where experiences are transformed into experientially attained knowledge, requiring exploration and exploitation (Politis, 2005). Exploitation is about what the individual already knows. This concept implies that the entrepreneur learns from experience by exploiting previous assurances such as routine, refinement, and execution of knowledge, transforming experience into knowledge. Exploration is about individual learning from experience by exploring new opportunities such as discovery, variation, innovation, and experimentation (Politis, 2005). Factors that influence the transformation process are the following (Politis, 2005):

- Outcomes of previous events
- Predominant logic or reasoning
- Career orientation

Entrepreneurs that mainly focus their energy on exploration as the leading method of transformation seem to service the development of their success in opportunity identification, and entrepreneurs that focus on exploitation as the primary method of transformation seem to focus on evolving their efficiency in coping with the liabilities of newness (Politis, 2005). Both modes of transformation can manage the correlation between career experiences and the improvement of entrepreneurial knowledge (Politis, 2005).
This theory has recognized that intermittent experiences during the entrepreneurial method can incite distinguishing practices of higher-level learning that demonstrate essentials to the entrepreneur in both business and personal terms (Shane & Venkataraman, 2007). Entrepreneurial learning theory as the framework for this study will assess the institution's EC design by leadership within higher education and best practices that can benefit future resources and program designs for ECs. Questions throughout the interview process will review the lived experiences of the participant as they developed and managed the ECs admissions criteria (entrepreneurial work experience); evaluate why the participant selected the current construct and content of the EC (entrepreneurial knowledge); evaluate their perspective of the outcome regarding entrepreneurs that have participated (transformation process), assess the benefits and challenges regarding the university policies and procedures that impact the EC (internal factors that influence the transformation process) and gain their perspective regarding the current challenges faced by entrepreneurs (external factors that influence the transformation process).

This study will focus on entrepreneurial learning as an experimental method (Politis, 2005). The researcher's approach will evaluate experiences each leader already has, review the gaps regarding the knowledge they have acquired through the years of creating and managing the EC, and assess the transformation process that occurs as they learn from various experiences (Politis, 2005).

**Critics of Your Theory**

Entrepreneurship is known as the “engine that drives the economy of most nations” (Ben Nasr & Boujelbene, 2014, p. 712), and is an essential economic and societal challenge to which colleges can contribute not only in research, but also in practice (Ben Nasr & Boujelbene, 2014). ECs are one of many enterprises that incorporates a teaching approach as vital for linking
conceptual knowledge to a variety of entrepreneurial activities (Donnellon, Ollila, & Williams Middleton, 2014). Educational institutions have the ideal role in empowering a community, and ECs provide experiential programming to help entrepreneurs and transfer knowledge and innovation (Ben Nasr & Boujelbene, 2014). The approach towards transferring knowledge within this platform has been debated from both the perspective of learning styles and leadership styles. Entrepreneurial learning has critics debate the process between knowledge and experience (Politis, 2005).

**Entrepreneurial Learning as an Experiential Process**

Critics debate the joint static assessment of entrepreneurial learning, which assumes a direct relationship between a specific experience and the knowledge extended from this experience (Politis, 2005). As previously stated, Kolb (Sugarman, 1987) founded the concept and emphasized two essential components of experiential learning, which is acquisition and transformation. Despite Kolb's experiential learning theory (ELT) is one of the most significant theories of individual learning, critics argue that ELT de-contextualizes the learning process and delivers only a partial account of the many elements that impact learning (Petkova, 2009). Critics also emphasized that a theory focus on distinct experience comes at the expense of social, institutional, and psychodynamic aspects of learning (Kayes, 2002).

**Rationale**

Colleges are viewed as part of an innovated ecosystem and deemed as a vital actor in producing and managing the knowledge which is to be commercialized and exploited in the market (Redondo-Carretero & Camarero-Izquierdo, 2017). ECs are specific approaches that can help develop and facilitate learning through engagement (Donnellon et al., 2014). Given the material presented above, this study has justified its reasoning to uncover how EC directors of
post-secondary institutions describe their learning overtime. Educational institutions have
developed an effective role in conveying research results in entrepreneurship activities and to the
market (Redondo-Carretero & Camarero-Izquierdo, 2017). Applying Entrepreneurial learning to
this study will allow the researcher to evaluate how leaders within ECs learn and improve their
approach to helping its entrepreneurs. Chapter Two will expand on the conversation regarding
various entrepreneurial resources and programs within ECs, and the individual drivers
responsible for developing and training the entrepreneurs.

**Conclusion**

ECs offer a range of different services intended to support entrepreneurs, including
facilities for small business resources and activities, education in various areas of business,
business assistance, and access to networking activities (Redondo-Carretero & Camarero-
Izquierdo, 2017). Chapter One has addressed the intent for educational institutions involved in
entrepreneurial activities, which is to help startups and small businesses increase revenue,
increase employment, and improve its local economy. Chapter Two furthers the discussion by
providing a historical review of ECs that evolved to running multiple entrepreneurial resources
and programs within an educational institution, assessing the purpose and potential impact
educational institutions can have within its local economy, and reviewing best practices from
ECs.
Definition of Key Terminology

**Entrepreneurship Center**: a base for an entrepreneurial ecosystem that provides substantive opportunities for both formal and informal collaboration through resources and programming such as business incubators, accelerators, consulting, industry-specific programming, etc.

(Crittenden, Esper, Karst, & Slegers, 2015)

**Sustainable entrepreneurial ecosystem**: defined as interconnected groups of individuals devoted to sustainable development through the provision and enabling of a new sustainable venture, within a local geographic community, (Redondo & Camarero, 2018). Several academic institutions Crittenden, Esper, Karst & Slegers, (2015) defined *entrepreneurship ecosystems* as regions where a conducive culture, supporting leadership and policies, quality human capital, availability of finance, venture-friendly markets for products, and a variety of institutional and infrastructural provisions entrepreneurial expansion (Crittenden et al., 2015). This environment, alleged as a resolution to economic problems and both social, suggests that the essential dimensions of an entrepreneurship ecosystem are innovation, infrastructure, governance, and culture (Crittenden et al., 2015).

- Researchers depict the collaborations among the finance community, universities, faculty, service providers, and entrepreneurs that help to support innovation and economic development (Crittenden et al., 2015).
- Entrepreneurship ecosystems is a cooperation of institutional objective, coordination of research initiatives, access to the university and other regional resources, and the involvement of the local government and business community (Crittenden et al., 2015).
Examples of other Centers that have defined their entrepreneurship ecosystem:

**Utrecht University - Centre for Entrepreneurship:** The Centre for Entrepreneurship aims to create connections with entrepreneurs from outside, through internships, guest lectures, entrepreneurs in residence, executive education, and the co-creation of research. This can also be done in collaboration with regional knowledge institutions and other complementary public and private organizations.

**The Babson Entrepreneurship Ecosystem Platform (BEEP)** motivates and supports entrepreneurship by increasing scale-up ecosystems in regions, cities, and countries around the world mainly in mid-income and advanced economies where growth oriented entrepreneurial businesses flourish.

**University of Tennessee – Anderson Center for Entrepreneurship & Innovation – Knoxville** and the state of Tennessee enjoy a vibrant entrepreneurial ecosystem. State, local, and non-profit organizations have distinctive activities and programs for helping start new companies and grow existing companies.

**Northwestern - The Farley Center** is one actor in a dynamic ecosystem of innovation and entrepreneurship activities at Northwestern. Faculty and Students across campus are involved in entrepreneurial activities, and Northwestern’s considerable innovation and entrepreneurship network offers a scope of resources and support.

**Figure 2.3**

**Examples: Entrepreneurship Centers within Academic Institutions**
Entrepreneurial Environments: a tradition where its membership cuts across business start-up accelerators, co-working, incubators, and hackerspace or maker-space entities (Dean, Burstein, Woodsmall, & Mathews, 2000)

Examples of EC Programs

Business Incubators

Incubating a business – working with a startup or small businesses during its most vulnerable state

Types of Business Incubators: assist existing businesses and develop new businesses in the community. The incubator is unique: Incubator staff offers services both onsite (at the university) and offsite (at the business site). (Dean et al., 2000)

- Incubator With walls – A business incubator with walls is an incubation program with a facility and on-site management. An incubator with walls provides entrepreneurs with space in which to operate their business. The primary focus is not on the building, but the business assistance services provided to the start-up entrepreneurs (Qian et al., 2011).

- Virtual incubation - Incubators without walls and virtual business incubators have identical terms. This particular version of a business incubator does not offer on-site space for clients. Potentially, there may be a physical office that houses the management staff and space for entrepreneurs to meet with clients or provide conference space for BI clients. These virtual incubators may not be located in the same physical area as their client companies (Qian, Haynes, & Riggle, 2011).

- International Incubator – This type of business incubation program focuses on helping foreign entrepreneurs enter the U.S. market. The same services are provided to
entrepreneurs by these international business incubators, but they focus on providing a “soft landing” for international companies that want to access U.S. markets, partnerships with U.S. companies, or access other resources. Specific services offered by international incubators include cultural training, immigration, and visa assistance, translation services, language training, housing assistance, and helping to obtain a business and driver’s licenses. Immigration services can be made more accessible for extended to spouses and children of foreign entrepreneurs seeking to settle into their new location (Qian et al., 2011).

**Business Accelerator**

Business Accelerator: The business incubation industry has since evolved and inspired the development of the “business accelerator.” There have been various interpretations as it relates to the definition of a business accelerator. Generally, accelerators defined as (1) a late-stage incubation program, assisting entrepreneurial firms that are more mature and ready for external financing, or (2) a facility that houses a modified business incubation program designed for incubator graduates as they ease into the market. (3) It can be considered expensive and less measurable and is similar to the virtual incubator model. Many industry professionals use the terms business incubator and business accelerator interchangeably, but they are not the same. (Qian et al., 2011)

Technology - A technology process on the growth of companies developing emerging technologies such as software, biotechnology, robotics, or instrumentation. 50% of the participants should be technology-oriented to be classified as a technology incubator (Ilcheva, Alvarez, Cueto, Waltersdorfer, & Walker, 2016).
**Service** - A service process that nurtures the development of entrepreneurial firms in the service industry. Companies range from landscapers, graphic designers, and accountants to Internet-based companies and Web development firms. An incubation program may target a segment of the service industry or a range of service-oriented firms. (Ilcheva et al., 2016).

**Manufacturing** - A manufacturing process is intended to help new enterprises specifically interact with the manufacturing industry. Participants need manufacturing and office space. These incubators maintain at least 50% of the client firms with manufacturing-experience (Ilcheva et al., 2016).

**Mixed-Use** - A mixed-use process or general-purpose that develops the growth of various types of companies; the businesses in a mixed-use incubator are not required to fit into any specialized niche. This structure included services, manufacturing, technology, and other types of firms (Ilcheva et al., 2016).
Chapter 2: Literature Review

There are several reasons for entrepreneurial resources, such as ECs, that provide the means to support small businesses within multiple countries (Wang & Li, 2011). Entrepreneurship within the U.S. economy has long been founded as a basis of economic development for job creation. According to The Facts about Small Business, small businesses provide up to 75% of new jobs (Bohdan et al., 2014). Entrepreneurial centers (ECs) are tools that can develop a culture of entrepreneurship, increase human capital skills, and increase revenue (Fernández Fernández et al., 2015), thus contributing to the entrepreneurial ecosystems via the networks established (Redondo & Camarero, 2018). ECs have become progressively significant to the process of cultivating and fostering entrepreneurship, start-up businesses, and facilitating economic expansion (Qian et al., 2011). These ECs are resources for start-ups and have the potential to increase competition within a globally competitive environment (Wang & Li, 2011). For example, Florida has experienced a surge in entrepreneurial programs and entrepreneurial activities within several colleges and universities, targeting local small businesses in low to middle-income communities (Ilcheva et al., 2016); this may be due to the U.S. Census Bureau’s 2012 Survey of Business Owners identifying Florida as maintaining the third-highest number of minority-owned businesses (Dahlberg, 2015).

Educational institutions participating in creating centers for entrepreneurial activities and programs, do so, not for financial gain, but to develop entrepreneurship activities, help the local community, create jobs, and endorse a progressive image of the school (Cooper, et al., 2012). Although the original concept within the university, profiled its entrepreneurs as researchers and students, the mission has evolved (Redondo & Camarero, 2018). Within the past decade, educational institutions expanded their entrepreneurial process to internal members of the
university and external members of the community (Ilcheva et al., 2016). Aside from engaging in ECs to cultivate entrepreneurship activities for its students (Cooper, et al., 2012), colleges are creating ECs for businesses within its area, to develop direct impact, thus resulting in a sustainable entrepreneurial ecosystem (Acs & Armington, 2004). A functioning and stable entrepreneurial ecosystem is well-defined as connected groups of actors in a local geographic community, committed to maintainable development through the provision and acceleration of new sustainable endeavors (Redondo & Camarero, 2018). ECs have expanded their resources to multiple groups of actors to transfer knowledge, nurture entrepreneurship, and participate in cutting-edge research (Redondo & Camarero, 2018). Understanding how ECs work at a relational level between internal agents (director, program director, manager, consultant, and participants) and with external means under the social capital method can advance both practice and theoretical comprehension of an academic based entrepreneurial ecosystem (Redondo & Camarero, 2018). Unfortunately, there is little research regarding the individuals developing these EC activities and programs. Therefore, the purpose of this dissertation is to uncover how leaders of entrepreneurial centers in higher education describe their learning overtime.

**Historical Review of Entrepreneurial Programs’ Transition into Higher education**

There has been an evolving trend within higher education to expand and engage with external organizations throughout the private sector and academic institutions (O’Leary, 2015). Although the concept of developing an EC within a college or university did not fully evolve until the 1980s, the incubator-incubation process, founded by the late Joseph Mancuso who is considered to be the father of the method for supporting small businesses and also founder of Batavia Industrial Complex, the first incubator infrastructure designed to support businesses, was founded in 1959 (Ahmad & Ingle, 2011). Mancuso, a regional real estate developer, obtained an
850,000 sq. ft. building, vacated by a large organization (Ahmad & Ingle, 2011). Unable to lease the entire facility, Mancuso subdivided partitions of the building to multiple tenants, many of whom requested business advice and assistance with raising capital, thus beginning the first business incubator (Ahmad & Ingle, 2011). That same year, the University City Science Centre (UCSC) commissioned at the University of Pennsylvania (UPenn) also developed a business incubator program (Ahmad & Ingle, 2011). UCSC began as an institution focused on scientific research, recruited and supported scientists, and published research. Today, the UCSC is a technology center with commercialized university research (Ahmad & Ingle, 2011).

Remarkably, in the 1960s, UCSC’s interest in supporting small businesses expanded towards a collaborative effort to develop a process of commercializing necessary research outputs (Hackett & Dilts, 2004b). During the 1970s, the National Science Foundation’s ECs expanded further interest in supporting innovation through an approach to encourage and standardized best practices in the processes of commercializing and assessing selected industrial inventions (Hackett & Dilts, 2004b). The turning point was in 1980, resulting in a surge of business programs and supportive activates (Hackett & Dilts, 2004b). The U.S. legal system acknowledged the value and profit opportunities derived from innovation, commercialization, and intellectual property rights protection, leading the U.S. Congress towards developing the Bayh-Dole Act (legislation addressing intellectual property arising from federal government-funded research) (Ahmad & Ingle, 2011). The increase in business programming progressed into the 1990s, with unfortunate consequences due to several for-profit programs targeting the dot-com and e-business start-ups (Hackett & Dilts, 2004b). The U.S. stock bubble eventually lead to the fall of the dot-com incubator concept, including the media’s contrary conclusion about the entrepreneurial programs model associated with the dot-com era (Hackett & Dilts, 2004b).
Despite these challenges, government support towards ECs, and supporting small and medium enterprises (SME) has transitioned into a tool of economic development (Iyortsuun, 2017). During the 1980s, there were eight entrepreneurship programs, and by 2000 there were 900, which is over 9,900% growth in the United States (Peters et al., 2004).

Summary

Literature regarding the history of the evolving concept of entrepreneurial activities and programs addresses the development of the EC and places its focus on performance and resources for its business owners as an essential function (Iyortsuun, 2017). ECs which incorporate an incubation process evolved from renting out sections of a facility in the 1950s to ECs attempting to surpass traditional market failure challenges (Ahmad & Ingle, 2011). Unfortunately, researchers have identified a gap concerning the need for entrepreneurs’ addressing the degree of networking, collaboration activities, and the role of business support services as an enabling factor for success (Bøllingtoft, 2012). Some scholars believe today's entrepreneur is challenged to evolve at the pace of what’s currently known as “fourth industrial revolution,” (merging technology developments in a number of industries, including automation, nanotechnology, quantum computing, biotechnology, artificial intelligence, the Industrial Internet of Things, the Internet of Things, 3D printing and autonomous vehicles) (Schwab, 2016). This will require an evolving entrepreneurial process capable of supporting such change (Barbero, Casillas, Ramos, & Guitar, 2012). Therefore, the next section assesses the evolution of multiple models of privately-owned entrepreneurial programs from 1959 to today.

Private Entrepreneurial Programs and Hubs

Various models of business programs have evolved (Ahmad & Ingle, 2011), forming into centers or super hubs housing multiple resources and programs (INBIA, 2017). Morris, Kuratko,
and Cornwall (2014) conveyed the importance of entrepreneurial enterprises being designed to impact the environment, instead of being affected by the environment. Entrepreneurs that lack external support are at risk of becoming passive receivers of environmental pressure, such as market and economic failures (Morris, et al., 2014). This section evaluates recent incubation models such as privately-owned centers, incubators, co-working spaces, makerspaces, and seed accelerators. These private firms are diverse regarding innovation, risk-taking, and pro-action (Gao, Ge, Lang, & Xu, 2017) and are intended to significantly improve entrepreneurial performance within the early and growth stage of a small company (Gao et al., 2017).

**Business Incubators**

A business incubator is a shared office space with instructors that seek to provide its entrepreneurs (tenant-companies, portfolio, client,) with a tactical, monitoring, value-adding intervention system for business incubation, and providing business support (Hackett & Dilts, 2004b). Business incubators, generally expand the survival rate of new companies from an average of 20% to 80%, and 84% of companies that “graduate” from incubators remain in the same area ten years later (Mas-Verdú et al., 2015). Programs such as incubators include a range of diverse leaders available for mentoring aspiring business owners (Mian, 1996). Subject matter expertise building a relationship with local entrepreneurs seeking growth is one of the many attributes incubators provide (Khalid, Gilbert, & Huq, 2014). Research has shown that relationship building for business owners within the incubator can be associated with incubation success (Cooper, et al., 2012). Patton and Marlow (2011) specified that incubators should not solely focus on exploitative learning, generating knowledge, or shortcuts; instead, incubators must produce an environment where managers are asserting the boundaries and evaluating opportunities through explorative learning. Patton and Marlow (2011) believed that this higher
risk tolerance is a strategy that has more considerable ambiguity and greater long-term reward. Exploitative learning can help establish the foundations for an incubation program, leading to more exploratory activity. This initiative is implemented by the incubators managers and directors and shared with the resident entrepreneur (Patton & Marlow, 2011).

Generally, the movement of business incubator programs has been accepted and sustained for fluctuating goals within diverse countries (Masutha & Rogerson, 2015). According to the U.S. National Business Incubation Association (NBIA), business incubation supports the method that fast-tracks the active expansion of start-up and new businesses by offering entrepreneurs with multiple services and resources (Qian et al., 2011). Incubators empower knowledge transfer and provide resources and services for entrepreneurs (Albort-Morant & Oghazi, 2016). This creates links between companies and entrepreneurs, bridging the shortage of resources that start-ups often face (Albort-Morant & Oghazi, 2016). Incubators can be a group of diverse businesses or industry-focused. When the incubator is industry-focused, it is labeled as a Sectorial Typology of Business Incubation Programs. Below are a few examples of various business incubators (Ilcheva et al., 2016):

- **Manufacturing Incubator** - A manufacturing incubation program is intended to support new initiatives mainly involved in the manufacturing sector. These individuals are usually involved in manufacturing space, and office space; manufacturing incubators traditionally need additional square footage than different kinds of incubators. Generally, at least 50% of the individual companies should be manufacturing oriented.

- **Mixed-Use Incubator** - A general-purpose incubator or mixed-use incubator, is a platform that nurtures the progress of multiple industries; the businesses within this model are not obligated to fit into any specific niche. Businesses in mixed-use incubators
can incorporate manufacturing, technology, service, and other categories of small businesses.

- **Technology Incubator** - A technology incubator is a program that nurtures the development of businesses involved in developing technologies such as biotechnology, robotics, software, or instrumentation. Traditionally, 50% of the clients need to be technology-oriented to be considered as a technology.

- **Service Incubator** - A service incubation program nurtures the expansion of entrepreneurial companies in the service sector. Businesses might vary from landscapers, graphic designers, web development businesses, and internet-based companies. An incubation program may focus on a segment of the service industry or a range of service-oriented companies where 50% of the consumer businesses must be service businesses to be branded as a service incubator.

Business incubators have been recognized throughout the world to motivate new business creation (Bruneel, Ratinho, Clarysse, & Groen, 2012). As stated before, BIs have become a common strategy and economic improvement functioning as an intervention tool (Lasrado, Sivo, Ford, O’Neal, & Garibay, 2016). However, Lasrado, Sivo, Ford, O’Neal and Garibay’s (2016) research showed that incubated organizations may not profit significantly from their incubator associations, and may even be more susceptible to failure post departure (graduation) from an incubator (Lasrado, et al., 2016). These results propose that the impact of business incubation on the feasibility of a new venture may be contingent on the type of resources vacant by an incubator and characteristics of business environments within which incubation amenities are offered (Lasrado, et al., 2016).
Initial studies on business incubators attention mainly focused on the results of economies of scale (cost rewards that enterprises gain due to their scale of operation), physical proximity, the exchange between incubated companies, and provide evidence that businesses using BIs like a private marketplace have displayed a record of success (Ebbers, 2014). Although incubation models have progressed, not much is known as to whether or not current incubators have altered their value proposition to incorporate new incubation paradigms or have continued merely managing as founded initially (Bruneel, et al., 2012). The following section identifies several entrepreneurial Hubs providing various resources that have evolved since the first business support service established in the 1950s (Ahmad & Ingle, 2011).

**Co-working Space (CS)**

The late 2000s led to an increased innovative workplace referred to as co-working spaces (CSs) (Mariotti, Pacchi, & Di Vita, 2017). The earliest version of a co-working spaces (CSs) was the Hat Factory, founded in 2005 in San Francisco by Brad Neuberg, a computer engineer, and since, the evolution of CSs have been exponential across various countries (Mariotti et al., 2017). The concept is to provide an accessible, collaborative community-based workspace for like-minded entrepreneurs (INBIA, 2017). Many researchers state that the CS business model is scaling global as a collaborative phenomenon in a network economy (Castilho & Quandt, 2017), which has led to a lucrative motive for private developers to retain companies as a sustainable revenue stream (INBIA, 2017). Although there are challenges related to a co-working “bubble” (Mariotti et al., 2017), regarding their predominant exploitation for marketing, business purposes and branding, there are inconsequential benefits of CS micro-clusters for independent workers and freelancers such as informal exchange, cooperation, knowledge transfer, and methods of horizontal collaboration with others, as well as business opportunities (Mariotti et al., 2017).
CSs recommends flexible workspace in the form of individual, dedicated offices or desks (INBIA, 2017). Business-members pay for their space through membership dues or rent (INBIA, 2017). They usually don’t provide required/formal programs (education or training), although they may have meetups, speakers, or other optional, informal learning opportunities (INBIA, 2017). Although CSs usually do not have conventional graduation criteria or competitive application processes (INBIA, 2017), the concept is that sharing space can provide a encouraging and supportive community such as self-employed experts and suppliers that traditionally would not network with a traditional corporate environment (Mariotti et al., 2017). These resources might occur because of social, geographical, institutional, organizational, or intellectual proximity (Mariotti et al., 2017). Today, CSs are viewed as possible “serendipity accelerators” planned to host innovative people and entrepreneurs, and attempts to break seclusion and to locate a welcoming environment that may support collaboration and meetings (Mariotti et al., 2017). The next section introduces the concept of space focused on resources and activities.

**Makerspaces (MS)**

Makerspaces are open sites for creative production regarding multiple fields such as science, art, and engineering (Sheridan et al., 2014). MSs are not program based, but community workspaces that offer equipment for certain sectors (e.g., food, 3D printing, woodworking, technology) and provide the training, tools, and specialized equipment essential for producing and constructing physical products (INBIA, 2017). MSs are critical factors regarding a more significant maker movement comprised of collaborative design and making activities (Sheridan et al., 2014). MSs are also known as fab labs and hackerspaces; makerspaces are community workshops in which members pay fees to access workspace and tools (Joseph & Holm, 2017). Similar to the rise of the original business incubator model gaining government attention in the
1980s (Hackett & Dilts, 2004b), MSs have also acquired consideration from the press, government, and public, specifically for their potential to assistance launching new entrepreneurs. For example, President Obama launched the Education to Innovation campaign, addressing the value of making experiences stating:

I want us all to think about new and creative ways to engage young people in science and engineering, whether its science festivals, robotics competitions, fairs that encourage young people to create and build and invent – to be makers of things, not just consumers of things. (Office of the Press Secretary, 2009)

In 2012, former editor of WIRED magazine, Chris Anderson, wrote the book *Makers*, which evaluated how the convenience of tools can generate a “Third Industrial Revolution” (Joseph & Holm, 2017). Anderson contends that the maker movement will support people convert from customers to producers, and the resourcefulness of the multitudes will be revealed by increasing the convenience of digital building tools (Joseph & Holm, 2017). For example, TechShop, a national MS franchise, is responsible for entrepreneurs that have created products such as the Oru foldable Kayak, the “Square” credit card swipe, and the Embrace, low-cost baby warmer distributed worldwide by GE Healthcare (Maher, 2018). Although the MS movement has expanded within the past decade (Joseph & Holm, 2017), the movement has also experienced its own dot-com market failure, such as the same TechShop company. Despite its success with companies such as “Square,” TechShop filed for bankruptcy (Maher, 2018). Researchers have also had challenges with keeping the pace of the data, resulting in the scarce literature on what it provides to communities or individuals (Joseph & Holm, 2017). Both the CW space and MSs are structured to function at the pace of the entrepreneur. The next section introduces a locked-stepped accelerator, intended to help entrepreneurs scale within a specific amount of time.
**Seed Accelerators (SA)**

The first investor-led accelerator was Y Combinator, which launched in 2005, and since multiple accelerators have emerged (Gonzalez-Uribe & Leatherbee, 2018). The concept of a seed accelerator has been labeled as a form of early-stage investment leading to increased sustainability, rapid developments of venture creation, and product launch (Stayton & Mangematin, 2018). Seed accelerators (SAs), are known as “startup accelerators,” or just “accelerators,” in addition to “A fixed-term,” and “cohort-based program” (Stayton & Mangematin, 2018). Such cohort-based programs provide start-ups an arrangement of shared office space, cash, and entrepreneurship education (Gonzalez-Uribe & Leatherbee, 2018). Traditional SA programs are short-term, accepting companies in cohorts, in the range from 3-6 months, and influential mentoring to each company and providing knowledge opportunities (INBIA, 2017). Space is typically provided to businesses for the length of the program, while some seed accelerators manage cohorts virtually with essential attendance at educational or networking events (INBIA, 2017). Accelerators differentiate themselves from other early-stage investors by concentrating on entrepreneurship education, which is believed to compromise “entrepreneurial capital” to contributors who are otherwise deficient of funding (Gonzalez-Uribe & Leatherbee, 2018). Despite suggestions about decision-making and capital restraints, SAs collective incubation process (which includes educational components and mentorship) ends with a graduation event of each cohort, by providing a demo-day or public pitch event, to investors and other potential vital stakeholders (INBIA, 2017; Stayton & Mangematin, 2018). Seed accelerators have an extremely reasonable submission procedure and will finance equity capital in preferred companies (INBIA, 2017).
Accelerators have surfaced, helping a wide range of businesses, from retail to financial (Stayton & Mangematin, 2018). This specific model was established based on the circumstances, necessities, and comprehension of the angel investors who created the first accelerators (Stayton & Mangematin, 2018). As previously stated, Y Combinator, the first accelerator, was created by Paul Graham in 2005 in Cambridge, Massachusetts, and shortly after was relocated to Silicon Valley (Cohen, Cohen, & Hochberg, 2014). In 2007, investors Brad Feld and David Cohen created TechStars in Boulder, Colorado, with goals to alter the start-up ecosystem through the accelerator model (Cohen et al., 2014). The TechStars program and its associates now run programs in 11 cities (Cohen et al., 2014). Also, the Global Accelerator Network, which is an global umbrella corporation for accelerator programs, follow the TechStars prototype, expanding tinto 50 accelerators in 63 cities on six continents amongst its participants (Cohen et al., 2014). The accomplishment of the first for-profit accelerators developed in a surplus of accelerators (non-profit, for-profit, and university-based), most replicating the identical 90 day accelerator prototype established by investor founded TechStars and Y-Combinator, often accelerating Internet-based enterprises (Stayton & Mangematin, 2018). Currently, approximations of the amount of accelerators range from 300+ to over 2000, covering six continents and the number is rising promptly (Cohen et al., 2014).

Summary

From the first circumstantial incubator during the 1950s to today’s multiple privately-owned entrepreneurial programs and hubs, the evolution of designed processes to incubate a startup into a successful company has led to several models of entrepreneurial programs. Privately own programs and hubs such as co-working spaces like Wework to seed accelerators like Y Combinator have already transformed the way we live, birthing companies such as
Airbnb, Dropbox, Reddit, Zenefits, and Instacart (Soloman, 2016). The university's role in developing ECs with multiple entrepreneurial programs has also had a direct impact on the world we know today. This next section evaluates programs and department structure currently designed within higher education, and government participation regarding this phenomenon as it relates to economic development.

**Entrepreneurship Centers within Post-Secondary Institutions**

ECs are believed to be a cultivating environment for new startup businesses; nonetheless, the role played regarding the university’s relationship in supporting the development of new companies has escaped systematic review in the United States, due to an absence of historical statistics (Mian, 1996). As previously stated, the goal of entrepreneurial resources and programs is to generate results of revenues and employment by assisting future entrepreneurs as they initiate their business activities (Mas-Verdú et al., 2015). Keeping this in mind, concerns of the poverty alleviation, contribution to job creation, acceleration of business growth, technology transfer, enabling of particular groups of entrepreneurs, in addition to producing value for different stakeholders and renewal along with the renewal of national and local economies, seems to be the most shared intentions regarding government support for business incubators throughout the international experience (Masutha & Rogerson, 2015). Such support has been financially allocated to local colleges and universities, creating University Business Incubators (Masutha & Rogerson, 2015).

Although there has been a recent development in the amount of ECs, there is a absence of comprehension of the positioned performed by the college relationships and common advantages arising from this association (Mian, 1996). University-based incubators can support start-up businesses to enhance genuineness, i.e., lower the price of the operation through reliance,
founded on the location of the occupants under the college teaching through its position and reputation (Ayatse et al., 2017; Mian, 1996). This next section identifies the various roles of ECs have played in the economy’s progress towards growth and employment.

**Post-Secondary Institutions and ECs**

Post-secondary institutions created ECs to provide provision for young business start-ups through substantial and insubstantial services, in an effort to help the survival and growth rate of businesses lacking the knowledge and resources needed to succeed (Hayter & Link, 2015, 2018). ECs are designed to support the particularly difficult gap between innovation and its further development into new endeavors (Hayter & Link, 2015). EC resources sought to accelerate nationwide economic growth by supplementing start-up businesses throughout their progression of development and growth (Somsuk & Laosirihongthong, 2014). There are numerous trades that ECs can support, and each involves a particular subject-matter expert. Studies exhibited that knowledge-based and other businesses in ECs experience progressive growth in the amount of sales over time and employees (Lasrado et al., 2016). Some higher education institutions have mastered the art of incorporating entrepreneurial resources and programs into the local community (Dean et al., 2000). These resources are unique because of the use of faculty, student, and community engagement (Dean et al., 2000).

Although the purpose of an EC is to support the acceleration national economic development (Somsuk & Laosirihongthong, 2014), Qian, Haynes, and Riggle’s (2011) documents showed that U.S. business entrepreneurial resources are disproportionately dispersed across rural states, divisions, and regions. A few economic developers aspire to generate an ecosystem that encourages a growing entrepreneurial subdivision, implying that it can profit from an understanding of what resources are required to sustain young start-up businesses
(Lasrado et al., 2016). McAdam, Miller and McSorley, (2016) believed that entrepreneurial resources within an area are essential stimulants of economic development through job creation and innovation (McAdam, Miller, & McSorley, 2016). Research has identified three well-known elements from 28 social, demographic, and economic components taken from public data (Culkin, 2013). These factors involve agglomeration, welfare, and business/entrepreneurship (Qian, et al., 2011). Entrepreneurial activities can offer early-stage endeavors with advice, physical resources, and networks to the comprehensive educational society for internationalization and prompt product development (Stayton & Mangematin, 2016). Although most ECs are non-profit, there is a rise of entrepreneurial support resources available to help more substantial companies, which make use of business venture capital as a calculated method of R&D funding (Arlotto, Sahut, & Teulon, 2011). This reduces the pursuit for finance until after the product is released, and offer timely permitted and structural expansion support throughout the managerial development transitioning to help and establish structure, and legally compliant businesses that can be dependable for internal and external transactions (Stayton & Mangematin, 2016). The next section evaluates government interest in innovation and economic development within a university setting.

**The Partnership between Government & Higher Education**

The U.S. Economic Development Administration's (EDA) strategy is intended to create a base for maintainable employment progress and the constructing of long-lasting local economies throughout America (U.S. Economic Development Administration, 2018). The government in both developed and developing countries has applied and maintained business support services and programs within various development environments and in reaction to diverse, regionally specific growth-related challenges (Masutha & Rogerson, 2015). The primary goal of
government supporting entrepreneurial activities to produce successful companies stimulates regional development and innovation (Wonglimpiyarat, 2016). The Office of Innovation and Entrepreneurship (OIE) was created in 2010 by America COMPETES Reauthorization Act and housed within the Economic Development Administration (EDA), in an effort “to substitute innovation and the commercialization of new products, technologies, processes, and services with the goal of promoting productivity and economic growth in the United States” (U.S. Economic Development Administration, 2010). The EDA-supported college ECs are precisely intended to clarify the assets situated within post-secondary institutions to help local economic growth methods in sections of engrained and critical economic challenges (U.S. Economic Development Administration, 2010). In 2011, the EDA granted $12 million to six college associated organizations in reaction to a challenge competition and in 2012, the EDA awarded $1 million to each of seven new Proof of Concept Centers (PoCCs) (Hayter & Link, 2015). In 2018, U.S. Secretary of Commerce Wilbur Ross announced that the EDA awarded $4.37 million in grants to the State of Illinois to help support the development of the industrial sector (U.S. Economic Development Administration, 2018). These examples highlight the connection and support from government to post-secondary institutions currently working on strategies of growth through entrepreneurial resources and programs. The next section evaluates the department within an educational institution focused on economic development. One great example of government-funded activities that has been implemented into most public higher education institutions is the Small Business Development Center. The following section addresses its growth and impact regarding economic development.

Small Business Development Centers SBDC
Small Business Development Centers (SBDC) is a supportive service-based center that is funded by the SBA (U.S. based), higher education institutions, government agencies (international), or economic development organizations (INBIA, 2017). SBDCs offer mentoring for small businesses and learning opportunities in any industry (Gray & Eylon, 2002; INBIA, 2017). Entrepreneurs join SBDC programs (non-cohort based) on a rolling basis, no graduation, no conditions for participation, and free counseling services (INBIA, 2017). SBDC’s mission is to provide through a national network of service centers informative support to reinforce small and medium size business organization, thus subsidizing to the development of state, local, and national economies (Geho & Mcdowell, 2015). SBDC was founded in 1975 as a partnership between the U.S. Small Business Administration (SBA), U.S. Congress, higher education, the private sector, and state governments that administer SBDCs throughout the country (Geho & Mcdowell, 2015). Since 1977 substantial funding has been directed to SBDCs to provide advice and guidance for small businesses (MIAN, 1997). Also, SBDC peer reviews were introduced in 1984 developing the precursor to today’s SBDC certification and accreditation program (Geho & Mcdowell, 2015). The Association of Small Business Development Centers (ASBDC) was redesigned in 2013, and the national SBDC network became “America’s SBDC” (Geho & Mcdowell, 2015). SBDC includes almost 1,000 services centers and over 5,000 employees offering technical assistance and management to a projected one million small business owners and ambitious entrepreneurs each year (Geho & Mcdowell, 2015; Gray & Eylon, 2002) Centers can be found in all 50 states, including Guam, the District of Columbia, the Virgin Islands, , and Puerto Rico (Gray & Eylon, 2002). Universities have also designed their center, intended to support entrepreneurs internally (faculty, students, etc.) and externally (community members).
The university’s economic development center is designed to support multiple programs that can help to improve economic development within its community.

**Economic Development Centers (EDC) or Organizations**

As earlier stated, post-secondary institutions that participate in entrepreneurial resources do so to encourage entrepreneurship activities, create jobs, assistance the local society and endorse an uplifting and positive image of the school (Cooper, et al., 2012), which aligns with the EDA’s efforts to innovate and create jobs (U.S. Economic Development Administration, 2010). Most universities have a designated department also focused on its local economy. Traditionally known as Economic Development Centers or Organizations (INBIA, 2017), EDCs within higher education is accountable for managing, creating, and overseeing programs and activities that assist, endorse, and improve economic expansion (INBIA, 2017). They emphasize their economic progressive challenges for creating jobs and new ventures within regions (Hayter & Link, 2015; INBIA, 2017). These centers usually do not provide space or formal programming for startups and small businesses (INBIA, 2017), but play a critical role in funding student entrepreneurship centers responsible for launching entrepreneurial programs such as POCCs (Proof of Concept Centers), industry-specific incubators, accelerators, etc. and are traditionally housed within the EDC or its partners with its department (Hayter & Link, 2015; Mars & Rios-Aguilar, 2010). Below are three examples that are not limited to the EDC’s program creation and collaboration:

- **Proof of Concept Centers**: intended to help tackle the gap between innovation and development into new products or applications (Hayter & Link, 2015)
• **Faculty Entrepreneurs**: activities such as collaborative R&D, research services from corporations, and Commercialization of property rights (intellectual property) (Feldmann & Hesbol, 2013)

• **Brand Third-party Entrepreneurship Program**: Privately owned boot camp, incubator, or accelerator program that is replicated or franchised programs, such as Goldman Sachs 10,000 Small Businesses (Brown, 2016; INBIA, 2017).

These resources are intended to be a non-competitive platform or learning opportunities to help promote entrepreneurship in local colleges and the community (Centers, 2017).

Some researchers have identified that a university’s reputation was based on its faculty’s capability to gain sponsored grants, specifically from the federal government, based on research and published results (Hayter & Link, 2018). This pathology began to transform during the 1970s when the United States focused its efforts on the downfall of the economy, while simultaneously observing Japanese Keiretsu, an industrialized coalition through large suppliers, manufacturers and public institutions collaborating to develop and produce products for exports (Hayter & Link, 2018). This eventually led to Senator Birch Bayh (D-IN) and Senator Robert Dole (R-KS) passing the University and Small Business Patent Procurement Act of 1980 (Bayh-Dole Act) to progress the introduction of innovative, university-developed technology into the reserved segment (Hayter & Link, 2018). Gradually, universities recognized the commercial and financial value of entrepreneurial partnerships between government, corporations, and students (Hayter & Link, 2018). The concept initially focused on faculty research, but the expansion and cultivation of student entrepreneurs have led to multiple disrupted industries (Eli, 2014).

The incubation process within a student entrepreneurship center is offered by institutions of higher education and provides entrepreneurs with mentoring and learning opportunities to
further entrepreneurship growth and development amongst students (Ayatse et al., 2017).

Involvement is accessible to students registered with colleges and some centers have a aggressive application procedures to participate in their space or programs (Ayatse et al., 2017). Many new disrupted industries have evolved from student entrepreneurship centers, such as San Jose State University graduate Jan Koum, co-founder of WhatsApp (Eli, 2014). The following Table list 15 post-secondary institutions that have developed student entrepreneurial centers, which lead to the following successful alumni.

Table 2.2

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<thead>
<tr>
<th>College / University</th>
<th>Center</th>
<th>Graduates</th>
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<tbody>
<tr>
<td>2. Brigham Young University</td>
<td>Rollins Center for Entrepreneurship &amp; Technology launched 2003</td>
<td>Alumni: (founders, Property Solutions International) Dave Bateman and Ben Zimmer and Jonathan C. Coon (co-founder, 1-800 Contacts)</td>
</tr>
<tr>
<td>3. University of California, Berkeley</td>
<td>Lester Center for Entrepreneurship launched 1991</td>
<td>Alumni: (co-founder, Intel) Gordon Moore, Danae Ringelmann and Eric Schell (founders, Indiegogo), Marc Tarpenning (co-founder, Tesla Motors) and Steve Wozniak (co-founder, Apple)</td>
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<td></td>
<td>University of Chicago</td>
<td>Polsky Center for Entrepreneurship and Innovation launched in 1998</td>
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<td></td>
<td>University of North Carolina</td>
<td>Kenan-Flagler Center for Entrepreneurial Studies launched in 1998</td>
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<td>----------------------------------------------------------------</td>
</tr>
<tr>
<td>11</td>
<td>Princeton University</td>
<td>The Keller Center launched in 2005</td>
</tr>
<tr>
<td>13</td>
<td>Stanford University</td>
<td>Stanford Graduate School of Business Center for Entrepreneurial Studies launched in 1996</td>
</tr>
</tbody>
</table>
(co-founder, Instagram) and Tim Westergren (co-founder, Pandora)

| 14 | University of Texas, Austin | Herb Kelleher Center for Entrepreneurship launched in 2001 | Alumni: (founder, Tito's Vodka) Burt Butler Beveridge II, (co-founder, CarMax) Austin Ligon, Red McCombs (co-founder, Clear Channel Communications), William Nowlin and Dave Truchard (co-founders, National Instruments) and David Smith (co-founder, Sweet Leaf Tea Company) |

| 15 | Washington University in St. Louis | The Skandalaris Center for Entrepreneurial Studies launched in 2003 | Alumni: (co-founders, Charter Communications) Barry Babcock and Jerald Kent, and (founder, Men's Wearhouse) George Zimmer |

Summary

Although many universities can cite the success of students that have participated or graduated from their entrepreneurial centers, there is a gap in research regarding program design and economic impact (Hayter & Link, 2018). The following section evaluates a method used in ECs to support small businesses, described as the incubation process, evaluating this conceptualized method that can lead to success.

Program Methods & Processes

Incubation Process

Studies have reviewed several attempts to understand the essential conceptions underlying the business incubation phenomenon (Ayatse et al., 2017). The incubation phenomenon is commonly categorized as incubation configuration, incubator growth analyses,
incubator-incubation impact studies, entrepreneur development, and reports that conceives incubators-incubation (Ayatse et al., 2017). This phenomenon has encountered its share of success and failure due to the environment this concept operates in (Ayatse et al., 2017). Researchers have assessed, in isolated studies, the role of incubation in economic development dating back to the 1950s to cultivate entrepreneurship as a solution to economic challenges (Brooks, 1986). Despite the multiple activities and programs that have evolved, the substantial expansion of the building has begun to take superiority over the development of incubation (Brooks, 1986). Notwithstanding its launch in the 1950s, Brooks (1986) expressed the belief that incubator developers have not developed a coordinated, long-term strategy for incubation and economic development.

From the original concept of renting out space to today’s multiple versions of entrepreneurial resources, the incubation process remains a strategy created to assist entrepreneurs in becoming sustainable (Peters et al., 2004). Although multiple entrepreneurial resources have evolved into various models, their primary objective is to create a supportive environment for startup and young businesses, thereby endorsing regional job creation and economic growth (Peters et al., 2004). The incubation process has evolved and has become known for being a cost-effective tool of entrepreneurial advancement and optimistically impacts firm turnover, survival, and employment (Ayatse et al., 2017). Although there are various versions of entrepreneurial support resources, the process of helping small businesses traditionally includes a few or all of the following components: space to work, supportive atmosphere, shared equipment, shared administrative services, and admission to a network of technical advisors and businesses skilled to provide guidance in the areas of business planning, legal consulting, marketing, finance, etc. (Peters et al., 2004). Researchers have identified the
significant predictors for an incubation process is business assistance and professional management services (Iyortsuun, 2017). Therefore, the next section assesses conceptualized methods regarding the incubation process and strategies of measuring success.

**Conceptualized Methods**

A large number of EC support resources and researchers deal with the modifications in performance between entrepreneurial firms, and yet, simultaneously, researchers debate the need to account for the specific components of the incubator to evaluate performance (Barbero et al., 2012). Taking into consideration that the primary objective of an EC is to support businesses that will exit the hub, or program, financially sustainable, several researchers have identified the gap regarding an assessment of each variable leading up to financial sustainability (Somsuk & Laosirihongthong, 2014). Such resources must develop a process that includes services such as guidance on topics of management, consulting for startups, growing companies, etc. (Somsuk & Laosirihongthong, 2014). Several theories have emerged regarding the conceptualized best methods, which incorporate networking, structural contingency, options, co-production of value, and market failure.

The foundation regarding the business support services research is engrained in market failure. Market failure occurs when the sale of goods, production, and ideas fail to construct the anticipated outcome (Hackett & Dilts, 2004). The first year is critical due to a high risk of failure, traditionally due to startup companies entering into a market competing among established companies (Bøllingtoft, 2012). The root of market failure consists of imperfect information, externalization, public goods, and monopoly power, which leads to the implied theory that market failure is structured within the market to inhibit the development of new entrepreneurial endeavors (Hackett & Dilts, 2004). The ECs are considered to be a resolution to
bypassing the market failure challenge, but the implemented procedures have been the debate (Bøllingtoft, 2012). ECs are equipped with industry experts capable of creating resources, programs, and processes that can offer a bridge between its participants and its environment to leverage entrepreneurial resources (Bøllingtoft, 2012).

The concept for resource dependence theory suggests that the behavior within an organization is a direct reflection regarding how external resources are managed (Hernández & Carrà, 2016). If a small business solely relied on its own resources, it would limit its ability to create value. Therefore, organizations need to create interdependencies for cooperating with their external environment in order to increase their survival rate (Pfeffer & Salancik, 1979). The structure of the business support process is intended to implement multiple internal and external components, to support its tenants'/entrepreneurs’ survival (Bøllingtoft, 2012). ECs within a university setting can provide consulting services and activities, incubator or accelerator, but the primary resource is thought to be its facility. Resources such as various colleges within a university partnering with its university’s entrepreneurship center (school of engineering, school of business, etc.), government centers (Small Business Development Center, government-funded SBA, etc.), and alumni willing to mentor are a few examples of vital resources for an EC. The configuration of the EC can also be associated with structural contingency theory (Hackett & Dilts, 2004b). This theory suggests that the configuration of the EC should consist of programming that fits the needs of its participants, according to the internal needs of the entrepreneurs and external/environmental challenges (Hackett & Dilts, 2004b). An example within the context of this study would be a program that fits an entrepreneur’s industry such as healthcare or food & beverage, explicitly. The actual elements that enable entrepreneurial programs to become successful are based on the internal and external structure of the program.
Internal challenges can be associated with the team assigned to designing an EC, as well as external challenges such as market failure described above (Hollenbeck et al., 2002). Organizational theorists have concentrated specifically on the exterior fit between its task environment and the team (Hollenbeck et al., 2002). This study hopes to assess the internal structures that would help the incubation process be successful.

The next emerging concept is network theory. This philosophy suggests that the main value-added reports of entrepreneurial activities is the established institutionalized procedures and norms that carefully structure and channel education and comprehension through the incubator network in order to generate environments that accelerate the expansion of ECs and the commercialization of their inventions (Hackett & Dilts, 2004b). Therefore, the entrepreneurial environments can be deliberated as systems in which to classify methods to prove their sustainability (Qian et al., 2011). Conversely, there is an absence of studies addressing proof relating to the actual networking and cooperation activities taking place among participating entrepreneurs within ECs, in addition to the entrepreneurs utilizing these networks to support the development of the business and growth (Bøllingtoft, 2012).

Options theory emphasizes that decision-makers, regarding these circumstance, the entrepreneur, can create affordable options to introduce, but not wholly obligated to risky investments (Hackett & Dilts, 2004b). From a theoretical viewpoint, ECs can act as a workshop for small and medium size entrepreneurial ventures, which is traditionally reserved to reasonably minimum venture expenditures (Hackett & Dilts, 2004b). ECs that assist their entrepreneurs fail cheaply and quickly are effective ECs because cheap and quick failures offer opportunities for firm recovery, entrepreneurial learning and shifting, an ideal allocation of entrepreneur owner resources and incubator, and an optimal introduction to organizational population mixed with the
local economy (Hackett & Dilts, 2004b). Consequently, a company’s venture is founded in reducing uncertainty and the believed chance of a profit on option investment (Hackett & Dilts, 2004b). Finally, co-production of value theory asserts that the entrepreneurial process is co-produced by the EC leadership and entrepreneur dyad, suggesting that the EC leader, such as a manager or director, must strategically distribute the schedule of business support services to the entrepreneur and that entrepreneur needs to accurately prepare to exploit the information and understandings developing from the interference (Peters et al., 2004). Below are several models and their impact regarding the evaluation of the entrepreneurial process:

- **Campbell, Kendrick, and Samuelson Model:**
  - Campbell Kendrick, and Samuelson are recognized as one of the first to cultivate a business incubation process prototype (Ayatse et al., 2017).
  - Campbell, Kendrick, and Samuelson prototype of four straightforward value addition activities or services, emphases locations where incubators provide to business performance.
    1. Value addition actions begin with a analysis of essentials, which evaluates the perspective of the entrepreneur’s new plans (Ayatse et al., 2017).
    2. When the diagnosis is sufficient, the companies that best fit are selected for incubation and are monitored (called incubator tenants) (Ayatse et al., 2017).
    3. The incubator tenants also have supplementary value addition accomplishments as a result of admission to capital investment, expert networks, and with the possibility of venture capital (Ayatse et al., 2017).
    4. The company then graduates from the program as effective growth ventures or businesses (Ayatse et al., 2017).
• **Simlor extended Campbell, model:**

  o Smilor expanded the Campbell model highlighting the external environment to the negligence of the internal procedures happening within the incubator (incubator affiliation and support systems) (Ayatse et al., 2017).

  o This model conceptualizes entrepreneurship programs as an organization that advises configuration and credibility on entrepreneurs while governing a set of assistive resources (Ayatse et al., 2017).

  o The EC programs function as a system of value-addition activities and support services with an association to universities, government, the private sector, and non-profit (Ayatse et al., 2017; Hayter & Link, 2018).

  o Value-addition activities or Internal support services is one of the essential components of an incubator (Ayatse et al., 2017). Four examples of additional activities: administrative, secretarial, facilities, and business expertise (Ayatse et al., 2017).

  o Internal and external support networks are both intended to accomplish the following goals: technology diversification, job creation, viable companies, profits, economic development, and successful products (Ayatse et al., 2017).

• **Hackett and Dilts Model:**

  o This model is founded on the idea of the “black-box”, a prototype of small business incubation method as established by Hackett and Dilts (2004a).

  o The procedure was focused on what happens exclusive to the EC (its inner dynamism) and the connection to its ecosystem (Ayatse et al., 2017).
o The Hackett and Dilts model considers corporate EC programs as the assortment of entrepreneurs from a group of potential applicants who submit into the black box of incubation (Ayatse et al., 2017).

o The entrepreneurs experience value added activities in three areas: monitoring and business assistance intensity, selection performance (which is also a characteristic of choosing), and resource munificence (Ayatse et al., 2017).

o The entrepreneur’s exit the black-box of EC program as progressed businesses having consequence that is either failure or success (Ayatse et al., 2017).

o The Hackett and Dilts model has regulated state of the economy, incubator size, variables of population size, and EC program level of expansion (Ayatse et al., 2017).

o This incubation development prototype contains three essential activities: choosing feeble but capable companies to be admitted to an incubation program, observing and supporting those that would be effective, and finally, offering the essential assets to assistance them advance and advance from the incubation program as monetarily sustainable and self-supporting businesses (Ayatse et al., 2017).

Critiques of the Campbell model observed that the method assumed that all incubated businesses would endure (Hackett & Dilts, 2004b). The Campbell prototype is also partial to secluded incubators only with it not reflecting on the proficiencies of the possible entrepreneurs, environmental obstacles, and the absence of a chosen condition in the selection of possible entrepreneurs (Ayatse et al., 2017). Hackett and Dilts (2004b) identified four characteristics imperative to the admissions process (market characteristics, financial characteristics, managerial characteristics, and product characteristics), in addition to the monitoring and business assistance process (Hackett & Dilts, 2004b). This process is accomplished through instance focus and
support offered, the quality of assistance provided, and comprehensiveness of the assistance provided (Ayatse et al., 2017). The final value-added assistances of the Hackett and Dilts standard is the source philanthropy, which they describe as the comparative abundance of EC assets, measured by the following: resource utilization, resource availability, and resource equality. (Ayatse et al., 2017).

Hackett and Dilts (2004b) described the after-effect of the incubation development as four equally select outcomes deliberated regarding entrepreneur financial performance and growth at the time of the businessperson’s exit” (Hackett & Dilts, 2004b). The results state the following (Ayatse et al., 2017):

- The entrepreneur is enduring and developing valuability.
- The entrepreneur is surviving, developing and is on a path to productivity.
- The entrepreneur is persisting but is not increasing and is not lucrative or is only slightly lucrative.
- The entrepreneur processes evolved while still in the incubator, but costs were decreased, and entrepreneur operations were completed while still in the incubator, and the losses were significant.

Moving forward, frameworks, such as Politis’ (2005), evaluate the construct of an incubation process and its ability to assess and evaluate the entrepreneur’s experience, knowledge, and transformation. Patton and Marlow (2011) stated that the learning process for an entrepreneur should be experiential as this vibrant perception affects the ability of small business owners to develop, acquire knowledge, and depends on how they manage their company. These skills may be resulting from performance that is explorative or exploitative (Patton & Marlow, 2011). Exploitation allures current knowledge and pursues to progress incremental developments
through the progressions of re-utilization, refinement, and operation (Patton & Marlow 2011). Explorative learning result from involvement regarding activities addressed through trial and error, experimentation, innovation, and discovery (Wonglimpiyarat, 2016). Schwartz (2013) suggested that keeping an suitable stability between exploitation and exploration is dangerous to firm survival and prosperity (Schwartz, 2013). Grimaldi & Grandi (2005) argued that several EC organizations are ambitious by the development of business needs and requirements (admission requirements), which thrusts ECs towards differentiating the range of services that they offer (Grimaldi & Grandi, 2005). Lasrado et al., (2016) suggested that incubators diverge in the resources and services they offer and that ECs characteristically deliver more excellent connectivity and legitimacy concerning significant possibilities related to community stakeholders and vital businesses (Lasrado et al., 2016). Zhang and Sonobe’s (2011) results addressed an relationship between the graduation rate to the financial resources, infrastructure, human means of the EC resources and courses, but not with the components characterizing the location of the EC, and the diversity and scale of industrial activities.

**Summary**

From this assessment, the economy has benefited from entrepreneurial education and its ability to stimulate entrepreneurial activity in institutions that welcome both community and university members (Walter & Block, 2016). Some researchers debate that the study of entrepreneurship should be the focus and core purpose of today’s university (Morris et al., 2014). Colleges such as Babson is an example of entrepreneurship being the core focus:

‘When Babson decided we were going to hang our hat on entrepreneurship, people thought it was a stupid idea,’ says Dennis Hanno, dean of the undergraduate school. ‘But look at what has happened.’ (Berrett, 2011, p.1)
For the past 18 years, Babson has been listed as the number one college for entrepreneurship according to U.S. News & World Reports and number one for the three years in the Princeton Review (Berrett, 2011).

**Conclusion**

There are no significant differences between post-secondary institutional EC and privately owned entrepreneurial resources and programs in the approach in which their means inputs contribute to the program implementation (Zhang & Sonobe, 2011). We can conclude that the mission of a university EC is intended to empower and aid local entrepreneurs to launch a successful business, which will intern lead to increased employment rates within their community. Such resources are intended to equip business owners with a village approach regarding innovation and creativity. Ahmad and Ingle's (2011) research highlighted the importance of superiority associations with small businesses. Without the voluntary and active participation of the entrepreneur, the instruments/component that accelerate the dyadic between the business owner and ECs will break down (Ahmad & Ingle, 2011).

More studies are needed to contribute further research regarding various types of ECs being created in order to refine policy and best practices for future creators (Barbero et al., 2012). Bruneel, Ratinho, Clarysse & Groen, (2012) conducted a study of seven entrepreneurial programs and their occupants regarding service delivery and assortment criteria. Their results show that although entrepreneurial activities offer comparable support services, occupants in older generation entrepreneurial programs make less use of the service resources (Bruneel et al., 2012). Bruneel et al., (2012) described the root of this issue as weak selection conditions and the deficiency regarding clearly defined exit strategies. These outcomes suggest that older generation
entrepreneurial resources and programs should inform their service portfolio while concurrently executing stricter selection criteria and presenting exit policies (Bruneel, et al., 2012).

Although college and university EC directors and executives could contribute value by vigorously accelerating network formation in practice, Ebbers (2014) believed that this was not the case. This researcher addressed ties between participants and management to be infrequent. Ebbers (2014) believed that center directors and leaders barely introduce firm participants to important individuals, and when they do forge a connection with external parties, it ultimately may or may not lead to concrete outcomes. More studies unearthing leadership characteristics, performance, and unique features of entrepreneurial resources created by leadership should be revealed (Barbero et al., 2012).

This appears to be the gap regarding research of leadership responsible for ECs within higher education. Although the use of entrepreneurial resources has seen rapid growth within communities and universities, there is a limited amount of information regarding the experience of directors and leaders responsible for these centers within an academic environment. The purpose of this study will be to uncover how center leaders within ECs of higher education, describe their learning over time, and how it inevitably impacts resources, design, and outcome.
Chapter 3: Methodology

This dissertation research employed an IPA study to explore the experiences of EC directors and managers, responsible for curating innovation in entrepreneur centers within an academic institution, such as community colleges, colleges, and universities. Concentrating on the personal lived experiences of the leadership, their in-depth perspective of entrepreneurial knowledge, and transferring their knowledge to creating, developing, and expanding the EC’s mission set in place by the academic institution. The primary line of inquiry guiding the IPA is: How do Center leaders describe their entrepreneurial learning based on experiences creating and managing their centers in Higher Education? To what extent is a transformation process expressed, as the Entrepreneurship Center Director describe their learning experiences over time?

Methodology Overview

Interpretative phenomenology analysis (IPA) permitted the researcher to explore the lived experiences of EC directors through semi-structured interviews designed to capture their knowledge and experiences over time. IPA enabled the researcher to explore how the EC directors are making sense of events, relationships, and processes in the context of their particular life (Smith, Flowers, & Larkin, 2009). The researcher acquired an understanding through collected data concerning how entrepreneurship center directors are describing their entrepreneurial learning based on career experiences prior to leading the center, managing the center needs and future goals, and make sense of the phenomenon of its centers impact for the entrepreneur, the college and its local economy (Ponterotto, 2005; Smith et al., 2009). The researcher sought to understand the reality of its participants (Ponterotto, 2005). This study gained a strong comprehension of the trials and recommendations from the participants regarding
their perspectives of the resources and programs provided within entrepreneurship centers they are responsible for leading. The interaction between the researcher and the participant was encouraged, but the researcher suspended personal feelings and focused on the participant's lived experience.

IPAs particularly focus on two levels. The first particular level involved the details, leading to an in-depth analysis; the second level required a commitment to understanding how particular experiential phenomena were viewed from particular people in its context (Smith et al., 2009). Ideography commitment to a single case and moves from the examination of the single case to more general claims. The intentionally selected an IPA small sample and utilizing an idiographic sensibility towards assessing the details regarding the lived experience.

IPA studies are traditionally managed a relatively small sample sizes, and the researcher aimed to find a reasonably homogeneous sample, so that, within the sample, the researcher could examine convergence and divergence in some detail (Smith et al., 2009). Small samples are the norm regarding IPA studies because the selection of participants is purposeful and can offer insight into a particular experience (Smith, 2011). The sampling was theoretically consistent with the qualitative constructivist paradigm selected. The researcher regarding this study found variation within a relatively homogeneous sample of directors responsible for entrepreneurial centers within an academic institution.

**Research Design**

Smith (2011) identified that researchers within the qualitative space are traditionally characterized by a commitment to facilitating change (Smith et al., 2009). In selecting IPA, the researcher anticipated an outcome focused on providing data that will provide the reader with the perspective and lived experience of leadership responsible for entrepreneurial centers within an
academic institution, thus, exploring the participant's involvement in this particular phenomenon.

As previously stated, the strategy regarding this study is the constructivist paradigm. Constructivism assumes a hermeneutical approach, which preserves that meaning is hidden and must be brought to the surface through deep reflection. This approach was an appropriate strategy because it provided the researcher with the opportunity to interact with the participant to uncover a deeper meaning of the findings. This approach also allowed the researcher and the participant to jointly co-construct the findings from their interactive interpretation and dialogue (Ponterotto, 2005). This guided the researcher in shaping the questions asked and guided the process of collecting data and steps of the data analysis.

Table 3.1

Semi-structured interview questions

<table>
<thead>
<tr>
<th>Interview Question</th>
<th>Theoretical Framework: Entrepreneurial Learning Theory (ELT)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Hello (Interviewee Name), I would like to begin at the start of your professional journey assessing your education and various work experiences</strong></td>
<td></td>
</tr>
<tr>
<td>1. (Clients name), tell me about your educational journey</td>
<td>ELT - Entrepreneurial Knowledge</td>
</tr>
<tr>
<td>a. What degree(s) do you currently have?</td>
<td></td>
</tr>
<tr>
<td>b. Why focus on ____ (Major/industry identified by interview)</td>
<td></td>
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<tr>
<td>c. After graduation, what were your next steps</td>
<td></td>
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<tr>
<td>2. Can you tell me about your various work experiences prior to working for a college/university?</td>
<td>ELT- Entrepreneurial Works Experience</td>
</tr>
<tr>
<td>a. What did you learn from that experience? (Prop between jobs described)</td>
<td></td>
</tr>
<tr>
<td>b. How has that previous experience (name what was stated), prepared you for a career within higher education?</td>
<td></td>
</tr>
<tr>
<td>3. Why the interest in Higher Education?</td>
<td>ELT - Entrepreneurial Knowledge</td>
</tr>
<tr>
<td>a. Probe as needed</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Question</td>
</tr>
<tr>
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<td>---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
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<tr>
<td>4.</td>
<td>Tell me about your first experience developing or managing an entrepreneurial Center within a University?</td>
</tr>
<tr>
<td>a.</td>
<td>Can you tell me more about experience</td>
</tr>
<tr>
<td>5.</td>
<td>What did that experience teach you (name the position)</td>
</tr>
<tr>
<td>a.</td>
<td>Can you tell me more about experience</td>
</tr>
<tr>
<td>b.</td>
<td>How would you describe your learning style within the context of a work environment?</td>
</tr>
<tr>
<td></td>
<td>(Interviewee Name), I would like to learn more about your interest in entrepreneurship, and how you see entrepreneurship role within higher education</td>
</tr>
<tr>
<td>6.</td>
<td>How would you define entrepreneurship?</td>
</tr>
<tr>
<td>a.</td>
<td>How has your prior work experience helped you develop entrepreneurial skills?</td>
</tr>
<tr>
<td>b.</td>
<td>How did you discover the connection between entrepreneurship and academic institutions able to support entrepreneurs?</td>
</tr>
<tr>
<td>7.</td>
<td>Can you tell me about your present role?</td>
</tr>
<tr>
<td>a.</td>
<td>Probe as needed</td>
</tr>
<tr>
<td>8.</td>
<td>How would you describe the “entrepreneurial ecosystem” of (name the specific EC)?</td>
</tr>
<tr>
<td>a.</td>
<td>Refer to the details from the website regarding the description of the center's entrepreneurial ecosystem</td>
</tr>
<tr>
<td>9.</td>
<td>As the (Center Director/Manager) of (Center Name), what inspired you to work for (University/college Name)?</td>
</tr>
<tr>
<td>a.</td>
<td>Is there a problem you are trying to solve?</td>
</tr>
<tr>
<td>b.</td>
<td>What issues regarding (a problem they stated) concerns you the most?</td>
</tr>
<tr>
<td>c.</td>
<td>Why so passionate about this subject?</td>
</tr>
<tr>
<td>10.</td>
<td>When you look back and evaluate your past years of work experience, what lessons prepared you for this current role (prior to becoming {Director/Manager} {Center Name})</td>
</tr>
<tr>
<td>d.</td>
<td>Probe as needed</td>
</tr>
<tr>
<td>11.</td>
<td>How would you describe your leadership style?</td>
</tr>
<tr>
<td>a.</td>
<td>How many team members do you currently have?</td>
</tr>
<tr>
<td>b.</td>
<td>If you were to guess, how would your team describe your leadership style</td>
</tr>
<tr>
<td>c.</td>
<td>How do you evaluate the progress of your team?</td>
</tr>
<tr>
<td>d.</td>
<td>How do you evaluate the progress of the (Center Name) mission?</td>
</tr>
<tr>
<td></td>
<td>I want to learn more about (Center Name), and its launch within the University/College.</td>
</tr>
</tbody>
</table>
### 12. Tell me about the college or department (EC Name) reports to (stakeholders)

- What is the overall mission of (University Name) creating an entrepreneurship center?
- What are their expectations?

**ELT - Factors influencing the Transformation process**

### 13. Describe your experience in the first year as EC Director?

- Can you describe some of your challenges during the launch?
- What was successful about the launch experience?
- What challenges have you faced?
- What did you learn from those challenges?
- How did that make you feel?
- How did that experience impact your decisions as a leader?

**ELT – Transformation Process**

### 14. What are the stages involved in (Directing/Managing) your responsibilities for (Center Name) the first year?

- How much of your work experience influenced the design of each stage, (work experience versus knowledge) (name individuals’ degrees/education)?
- How has your team contributed to this process?

**ELT – Transformation Process**

**ELT - Factors influencing the Transformation process**

### 15. What changes did you implement the second year (repeat for year 3 or 4 depending on the years the individual has maintained the position)

- What did you change from that lesson?
- How did that lesson make you feel?

**ELT- Entrepreneurial Works Experience**

**ELT – Transformation Process**

### 16. How would you describe your learning style throughout your time as (Directing/Managing) of (Center Name)?

- How has this impacted your leadership style (probe)
- How has this impacted the current status of your Center (probe)

**ELT - Factors influencing the Transformation process**

### 17. How would you describe the current status of (Center Name)?

- What current challenges does (Center Name) face today?
- Any recent successes you would like to share?
- How do you evaluate this center's impact on participating entrepreneurs?
- How do you evaluate this center's impact on the university as a whole?

**ELT – Transformation Process**
### 18. Describe a day in the life of an entrepreneur participating in (Center Name)

- a. Do you believe these activities are working? (Be specific regarding what was mentioned)
- b. What outcomes are you currently tracking regarding the entrepreneurs participating?
- c. Were there some outcomes you did not expect?
- d. How does this (insert outcome) align with the university mission?

### 19. What have you learned from your center participants?

- a. How does that make you feel (probe)?

### 20. How do you view the future of entrepreneurship and its place within higher education?

- a. If you could predict the future of (Center Name), what would it be?
- b. If you could predict the future of (University Name) regarding its role within entrepreneurship, what would it be?

### 21. Any Final Thoughts

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**Participants**

The process of conducting IPA research began with selecting a relatively small sample size to examine convergence and divergence details within a homogeneous sample (Smith et al., 2009). Following the guidelines of IPA, this study purposively selected eight homogeneous participants. These individuals were leaders responsible for developing and expanding an entrepreneurial centers' mission within its academic institution and its community. The researcher created questions significant to this phenomenology and explored their process and details regarding this phenomenon, as well as the challenges they faced according to their own experience. This study consisted of purposive sampling, inviting specific center directors and managers from academic institutions, responsible for entrepreneurial resources and programs for
at least two years (Smith et al., 2009). Although there may not be a perfect sample size within an IPA study (Smith et al., 2009), the researcher anticipated that the sample size selected would provide an understanding regarding the complexity of the phenomenon.

**Procedures**

The researcher retained approval from the Institutional Review Board (IRB) at Northeastern and the entrepreneurial center within each university. After receiving approval, participants were identified and contacted via phone and email. The researcher informed each participant that their participation is voluntary, they can decline participation at any time, and the identity of the participant would be kept confidential by using pseudonyms. A letter of intent outlining all of this information was provided to each participant explaining how and where the data would be used. The letter also outlined the details of their participation. Each participant was asked to sign a consent form acknowledging that they fully understood their rights and responsibilities.

The process regarding data analysis within a qualitative study is interactive (Creswell, 2012). The first step required listening to the audio recordings of each interview and transcribing the information. Second, the researcher ensured the accuracy of the transcript regarding each interview and provided each participant access to the final transcript to confirm the accuracy or clarify any misinterpreted information. Third, through evaluating transcripts, the researcher collected data, interpreted the data, and reflected on the meaning of the codes, allowing the researcher to assess for themes that emerged from the data (Creswell, 2012). IPA, as a qualitative research approach, seeks to extract individual voices and meanings, emphasizing converging, and diverging themes (Smith et al., 2009). The fourth step required the researcher to focus on the patterns and meanings that emerged from the transcript. IPA prioritizes meaning instead of
frequency (Smith et al., 2009), which is imperative towards the researcher's attempts to comprehend the phenomena of curating innovation in an entrepreneurship center, located within a post-secondary institution. These steps were repeated regarding each interview. The fifth step was to create a table to showcase the evolving themes. This allowed the researcher to evaluate the results of all the data collected from the interviews, finalize the review of patterns, and rename the trends that were found. This inductive process required the researcher to reread the transcripts identifying general codes that can become clearer in detail as the theme was generated based on the codes that were identified (Creswell, 2012). Once the coding process was completed, a narrative was developed to provide a reflection based on the analysis and data collection experience.

**Data Analysis**

This IPA study captured the entrepreneurial learning experiences of eight entrepreneurship center directors. The followings steps outlined the research process that included the inductive approach, which crafted the narratives (Alase, 2017):

- recruited EC directors through a professional network
- preliminary interviews were conducted to confirm participants met sample criteria, an overview of work experiences, collected informed consent, and scheduled interviews
- conducted audio-recorded interviews using semi-structured questions designed to elicit the experiential process of their learning over time
- captured field notes immediately following the interview which captures observations about the conversation and interaction with the participant that enhanced the data captured in the transcript
• virtually followed up with participants 7-10 days after interview capturing any reflective insights about their experiences and validation of their interview transcript
• created a profile of each participant’s experience after reviewing transcripts and field notes written in narrative
• coded the transcripts by using brackets to mark interesting points, underlined compelling passages, and identified words that classified and developed the overall themes for each participant
• made a thematic comparison looking across each participant’s narratives and theme passages
• made interpretations of the findings

Criteria for Quality Qualitative Research

The author, Tracy (2010), identified eight key indicators regarding quality qualitative research designed to provide a parsimonious educational tool (Tracy, 2010). The first indicator required that the researcher select a worthy topic. This specific study focused on the phenomenon of EC directors curating innovation in entrepreneurship centers and exploring the entrepreneurial learning experiences of center directors across different types of post-secondary institutions. Gonzalez-Uribe and Leatherbee (2018) identified thousands of entrepreneurial centers developed worldwide, attracting both government and investors (Gonzalez-Uribe & Leatherbee, 2018). This phenomenon is both relevant and significant because of the economic impact entrepreneurs have on employment (Gonzalez-Uribe & Leatherbee, 2018).

Second, the IPA process guided the researcher through a rich rigor regarding the construct, data collection, sample size, and context. Third, the sincerity of this study was identified in the self-reflexivity section of this study (Tracy, 2010), in which the researcher
described her work experience in higher education and with entrepreneurs. The researcher was transparent regarding her experience and what she hoped to learn, which leads to the fourth quality, credibility (Tracy, 2010). The researcher conducted a detailed analysis showing knowledge regarding the study and provided credibility to the study. The fifth quality addressed the resonance and transferable findings of the study. This research sought to influence other administrative leaders within higher education to create and support entrepreneurial centers within its institution. Six and seven addressed the contribution and ethics of a study (Tracy, 2010). The researcher hoped to provide a significant amount of data to the topic and procedural ethics regarding the participants. Finally, the eighth quality aligns with the IPA methodology, which is a focus on a meaningful study which the researcher achieved what it purports to have been about (Tracy, 2010).

**Ethical Considerations**

Ethical research practice was one of the most critical processes that were monitored throughout data collection and analysis (Smith et al., 2009). Participants recruited by the researcher were informed of the nature of the study before their agreement to participate. The researcher notified the participant that the study would not cause any conflict or portray any stakeholder in a negative light. Participants were provided with a consent form to evaluate and sign if they agreed to participate. The researcher also sought permission to record the interview session via audio. Due to the nature of this study, it was unlikely that any physical health risk or threats to the mental well-being of the participant would occur. Each interview was confidential. The participant's identity, in addition to their institution’s identity, was secured by the use of aliases.

**Credibility**
Tracy (2010) identified credibility as a way of displaying trustworthiness. This fourth indicator detailed that the interpretive analysis should be plausible and persuasive (Tracy, 2010). It was imperative that the participants, and researcher, incorporated time for reflexivity (Tracy, 2010). As previously stated and to maintain trust with each participant, the researcher conducted a member check by providing the participant with access to data of the study and clarifying the information by providing the participant with a clear understanding of the study (Tracy, 2010). Triangulation of data, member checking, and observations were used within this study.

Creswell (2012) also identified that trustworthy research studies require high-quality data sources. The researcher was thorough in obtaining and exploiting the information, which constructed a deeper understanding of the EC directors learning experience over time and understanding of this phenomenon as it related to the curating and maintaining of their centers intended to support entrepreneurs.

**Transferability**

Tracy (2010) identified that resonance could emerge through a study’s perspective to be valued across a variety of situations. The researcher sought to provide useful data that would be transferable and inspire academic administrators to create entrepreneurial centers within their institution. The objective of the researcher was to create a report that invites transferability through collecting direct testimony, to provide an extensive description, and to write in a way that is accessible to the reader (Tracy, 2010). Tracy described the value of transferability as follows:

Transferability is achieved when readers feel as though the story of the research overlaps with their own situation, and they intuitively transfer the research to their own action. For instance, someone learning about cruise ship employees’ experience of emotional labor
may apply or transfer these ideas to their own work situation in a restaurant, theme park, or elsewhere. (Tracy, 2010, p. 845)

The goal of this IPA study was to explore the stories from the participants regarding their journey, creating and cultivating an innovative environment for entrepreneurship within their college. The researcher hoped to achieve resonance through this context based on data from this unique population during this specific study.

**Internal Audit**

The researcher needed to uphold a paper trail of evidence so that an independent auditor can review all research actions for any given study. All documents related to the study were preserved and kept in a locked file, not only for safe-keeping but for confidentiality purposes as well. These documents included a copy of the research question and sub-questions, audiotapes, field notes, draft reports, annotated transcripts, and additional documentary sources. Finally, the final version of the study will be kept and a copy will be available on ProQuest as well.

**Self-Reflexivity and Transparency: Role of Researcher (Positionality)**

I was interested in researching entrepreneurial centers focused on supporting small businesses within an academic institution. I believed that educational institutions are ideally positioned to support their local ecosystem by supporting local small businesses. Entrepreneurship centers are known to improve the survival rate of small businesses on an average of 20% to 80%, and 84% of small businesses that participated and utilized resources within an entrepreneurship center, continue doing business in the same region ten years later (Mas-Verdú et al., 2015). Centers that incorporate consulting resources, incubators, and accelerators, include a range of diverse leaders available for mentoring business owners and aspiring business owners. Subject matter expertise building a relationship with local
entrepreneurs and seeking growth is one of the many attributes the center can provide. Research has shown that relationship building for business owners within an entrepreneurship center is associated with the center's success (Cooper et al., 2012). Scandura and Williams (2004) believes that industry leaders are ideal counselors to stimulate transformational leadership and indorse positive work mindsets and career opportunities of supporters. I have personal experience working with local business owners as a manager, a corporately funded accelerator program, and now director of an incubator in South Florida for a university (Scandura & Williams, 2004).

I have spent the past ten years working as an administrator within higher education and seven years creating and cultivating entrepreneurial resources intended to support small and medium-sized companies. My experience mainly centers around building and establishing new programs within an academic institution. Initially, my first experience within higher education required launching a few new MBA programs for the college of business. Three years later, I accepted a managerial opportunity to launch a corporately funded accelerator program in Miami. The corporately funded program was located within an EC at a public college and targeted local entrepreneurs of a specific size. The experience allowed me to gain knowledge working with over 200 small businesses and I acquired the necessary skills to execute the college's mission/intention of supporting small businesses. I later accepted a director position developing and launching an incubator within a university setting. I have had the role for three years, creating a model opened to both students and the external community members. Each experience challenged me to accomplish a mission designed by the institution to create impact and an overall positive effect on economic development. The last three years inspired me to learn more.
I believe that anchored institutions are positioned to support small businesses in their early stages. Shelton and Roulston (2015) discussed the importance of researchers being aware of their values, and to acknowledge these values as inseparable from the process of researching the topic (Roulston & Shelton, 2015). Personally speaking, leaders from various educational institutions have an opportunity to share their learned experiences to support its local talent, and collectively be the change its community needs. Initially, I intended to research the issues that caused financial disparity within low-middle income (LMI) communities. I later concluded, it would be best to research a potential solution, then contribute more data regarding the lack of resources within LMI communities. Academic institutions utilizing their resources to support local entrepreneurs is one of the tools to reduce the degree of new business failure and support businesses that help drive nationwide economic growth (Wonglimpiyarat, 2016). I hope to become a part of the solution through this study.

**Limitations**

This specific qualitative approach provided the researcher with samples of a lived experienced that can be shared with leadership from educational institutions that aspire to create entrepreneurial centers. There were specific limits imposed within an Interpretative Phenomenological Analysis (IPA) study. One would be the small sample size of eight participants, which may make the findings not generalizable to the broader population. Participants from various educational institutions had diverse experiences in this study.

Field notes identified feelings of frustration, fear, or concern that could not be captured in a question but transitioned long responses to short responses. Participants that experienced higher levels of support and impact described their experience with excitement, while others shifted in demeanor and tone based on specific questions. The difference regarding the amount
of support the participants receive from stakeholders internally (post-secondary institution) and externally (community members, mentors, etc.). However, this size did maintain the idiographic commitment of a well-developed IPA study, which focused on the particular experience of a specific group and not generalizability (Smith et al., 2009).
Chapter 4: Findings & Analysis

The purpose of this qualitative study was to explore how eight leaders of entrepreneurship centers (ECs), within higher education, developed their work and life experiences towards learning, creating, and managing a center designed to support entrepreneurial learning. More specifically, the study sought to understand the transformation process regarding the lived experiences of each director. The main research question guiding this investigation was: How do center leaders describe their entrepreneurial learning based on experiences creating and managing their centers in Higher Education? To what extent is a transformation process expressed, as the EC director describe their learning experiences over-time? Within IPA, researchers identified that individual cases must be evaluated before a cross-case analysis (Smith et al., 2009). Consequently, the results of the study were addressed case by case and then the researcher presented the major themes through cross-case analysis.

The IPA method mainly focused on the lived experiences of participants. Many quotes were utilized to exhibit the findings. Regarding each quote, the research described a brief interpretation of the excerpt to provide the double hermeneutics required by IPA. The analysis took into consideration the in-depth interviews as well as the narrative accounts. Throughout the process, the participants had ample opportunity to provide feedback on the collected data. It was essential to identify the individuals in the study and each of their experiences developing and working for a center within the infrastructure of an educational institution.

Participants

This study included in-depth interviews of a homogenous sample of eight participants. Each participant worked in a center for at least two years within a leadership role. Each EC is located and supported by a post-secondary institution. These institutions are private or public
university, or public community college. Although the sample size was homogenous, there were both similarities and variations regarding each person’s lived experience.

Table 4.1

<table>
<thead>
<tr>
<th>Name</th>
<th>Institution</th>
<th>Center</th>
<th>Activities &amp; Programs</th>
<th>Funding</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Julie</strong></td>
<td>Public University (University F)</td>
<td>Entrepreneurship &amp; Innovation Center (Center 6)</td>
<td>Events, Women’s E Program, Student E Program, Student Business Plan Competition, Tech Program</td>
<td>Institution &amp; Donors</td>
</tr>
<tr>
<td><strong>James</strong></td>
<td>Private College (College E)</td>
<td>Entrepreneurship Center (Center 5)</td>
<td>Events, 1 on 1 Consulting, Membership Program, Industry Workshops</td>
<td>Institution</td>
</tr>
<tr>
<td><strong>Derek</strong></td>
<td>Community College (College C)</td>
<td>Entrepreneurship Center (Center 3)</td>
<td>Events, Ideation &amp; Startup Program, Mentor Program, 1 on 1 Coaching, Accelerator Program</td>
<td>Corporate External Foundation</td>
</tr>
<tr>
<td><strong>Alexis</strong></td>
<td>Public University (University A)</td>
<td>Entrepreneurship Center (Center 1)</td>
<td>Events, Industry-Specific Consultants, Industry-Specific Training, State &amp; Fed Contract Prep</td>
<td>Institution Federal Center paid-programs &amp; consulting</td>
</tr>
<tr>
<td><strong>Ted</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Kim</strong></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td><strong>Nicole</strong></td>
<td>Community College (College D)</td>
<td>Continuing Ed Dept. / learning innovation center (Center 4)</td>
<td>Accelerator Program, Procurement Center, Resource Center, Incubator Space</td>
<td>Institution Corporate Center paid-programs &amp; consulting</td>
</tr>
<tr>
<td><strong>Anne</strong></td>
<td>Public University (University B)</td>
<td>Entrepreneurship School (2 centers and a master’s program) (Center 2)</td>
<td>Student Engagement Center, Retail Center, Incubator, Internship Programs, E Graduate Degree Program, E &amp; I Learning Community</td>
<td>Institution Donors</td>
</tr>
</tbody>
</table>

Center 6

Julie has a bachelor’s, master's, and doctorate in mass communications. Although her aspirations did not originate in the industry of innovation, her experience working for two startup tech companies led her towards a career in higher education. Julie is a director within the EC
and faculty at University F. She worked with faculty to create the center and develop activities and programs for the EC. She stated:

I went to work for an incubator, and I also worked at the same time, the position was with the office of technology licensing at the university. I know that, from going to different conferences early on in that part of my career, it is pretty standard that most people, the technology transfer industry only started in the mid-'80s. Most people in the industry came into it backwards. They did not necessarily graduate from college or go to college, saying I'm going to do technology transfer; I'm going to work in an incubator. A lot of those did not exist when I was in college.

Julie described being inspired by images of women in leadership, such as Mary Tyler Moore, and shared how those lived experiences led to her interest in mass communication. That aspiration navigated her career choices and current role as the director of a program for women entrepreneurs and co-creator of the university center. This center supports entrepreneurs within its community, university students, and faculty. She stated:

I have worked in the innovative fields; I worked starting an internet radio collaborative for the university with several others about what turned out to be about 20 different universities on the internet, which internet media was starting.

Julie’s lived experiences and expertise played a significant role in creating programs and opportunities for the college.

**Center 5**

James is currently the director of Center 5 within College E, a private college. Before becoming director, James spent his entire career as an entrepreneur, starting his first company in
high school. He has a bachelor’s in international relations and an MBA. James launched a few start-up companies throughout his career. He stated:

I launched a sort-of (startup 1) in late 2004/2005 that focused on logistics and warehousing XXXXX for the last 15 years...Well along the way I started a handful of start-ups that most have come and gone...2006 I launched (Startup 2), which is a non-profit for some tech ecosystem environment....I co-founded and educational software company called XXXXX.

Interestingly enough, James came from a family of educators. Both of James’ parents had extensive careers as faculty, and as James lived through his experiences of entrepreneurship, he expressed the challenges he faced as a start-up and his desire to help the next generation of entrepreneurs. James transitioned to becoming director of the college’s EC, solely focused on supporting student entrepreneurs. Throughout his interview, James communicated lessons learned and aspirations to share his experiences with the student of the center. He stated:

One of the keys things early on, well that I wish I learned early on, I should say, is I wish I had known how to find the available resources in entrepreneurship spaces that could have been available had I known where to look...a lot of the activities that I've had...the meetings are helping others find those resources and connect with those opportunities and acknowledge transfer because...I didn't have that available to me as much as, or as readily as I would have liked.

James decided to take his lived experiences as a career entrepreneur and created new resources within Center 5 for students. Although Center 5 does not work with entrepreneurs outside of the university, it has existed for 11 years, before James became its director, and supported thousands of students, creating hundreds of jobs. James stated:
So in the 10 years that the office has been around it's a little over 11 years now, it's a little over 5,000 clients that we've met with, and there is a little over 3,000 distinct ideas, of which 515 have turned into actual full-fledged businesses that currently employ just over 1,500 people.

**Center 3**

Derek and Alexis joined Center 3 during its launch five years ago. Derek is the executive director of a corporate-funded program within the center, and Alexis manages the EC. This specific center serves students, local start-ups, and small businesses from various levels. Center 3 is within College C, a public community college.

**Derek.** Derek holds a Bachelor of Arts in Sociology and a Master’s in Business Administration. His lived experiences evolved through a career in both corporate finance, sales, and entrepreneurship. After graduating with his bachelor's, Derek transitioned into his first experience as an entrepreneur for four years. He said:

I started or co-founded a not-for-profit organization that focused on essentially preparing high school student-athletes for their transition to college. So, working with them in addition to their athletic ambition, basically preparing them for both their next step academically as well as socially on a collegiate level in an effort to improve their success rates and ultimately graduation rates.

After Derek acquired his MBA, he transitioned to working for a government-funded non-profit for two years, and later banking for 15 years. Derek’s experience working as a banker, transformed his knowledge and comprehension regarding the various funding needs of a small business. He also expressed concerns regarding the limited perspective and support provided by a bank to a small business:
I was working directly with businesses of different sizes, revenues to secure loans from banks. Some of those were what would be deemed as a small business; some are middle market. However, all kinds of the same mechanics of what are the components of good credit…from a banking perspective, banks … from a branding standpoint, they are there for your business. They want to help you grow your business and all those good things for you. However, at the end of the day, they want to get repaid…They want to make loans, make interest, and get repaid.

Derek expressed his frustrations leading to his search for an opportunity to work with small businesses in a way that prioritizes the growth of the entrepreneur. He began working within the center as a business advisor designed to support small businesses within Center 3. Derek transitioned from Business Advisor to Outreach Director, and now Executive Director. His work is corporately funded, and the first program launched within Center 3.

Alexis. Alexis manages Center 3, which has multiple programs that support the college students, business owners in the community, and tech programs for high school students. Before joining the center, Alexis acquired her bachelor's in music business and has an MBA. Alexis had her first experience with an EC as a student during her graduate program, participating in a business plan challenge and creating a toy intended for music therapy. She commented:

I got very involved with the entrepreneurship center, where I did my master’s program, to the point where I was doing a lot of different extracurricular workshops, being part of the business plan competition. My team actually won second place in the business plan competition, and I just took up any opportunities to learn how to further develop entrepreneurial skills.
Alexis transitioned to working for a center while creating her own small business tutoring music students. Her lived experiences as a student in a center, influenced her entrepreneurial career and knowledge. She graduated with her masters during the recession and utilized the EC’s network. Several career opportunities evolved based on EC relationships. She mentioned:

So, that relationship just continued and, of course, after graduating, I had debts, I had the other common concerns of students who had recently graduated in 2008, which was a very low time for employability. At that point, the economy was not doing so well. So, I started off... there was a part-time opportunity to work at the entrepreneurship center to help with planning and executing on different workshops, on marketing workshops, marketing the center, conferences. So, I started getting involved in a part-time capacity, and eventually, that developed into a full-time job after. I spent six years there in total.

Alexis transitioned to Center 3 after her six years of experience at the previous center. Her distinctive experience participating in a center and working for a center, provides her a unique positionality. Alexis was part of the team that launched the center, allowing her to share her previous knowledge, and implement processes learned over time to Center 3. She relayed:

So, a lot of the skill sets I would say that I experienced as a participant in that program enabled me to see and apply the same opportunities to the students now at the center where I'm working.

**Center 1**

Kim is the director and Ted is the assistant director of Center 1. The center receives federal, institution, and grant funding. Center 1 is within University A, a public university. This EC focuses on supporting external small businesses within the community. The center also generates income through various consulting services.
Ted. Ted acquired a bachelor's in English literature and a master's in international affairs. He spent most of his career in government and learning the government’s role in providing support to entrepreneurs at various levels. Ted’s lived experiences exposed him to policies and recourses intended to support small businesses. He stated:

I really got to understand how, does a federal agency work, what do they do, how do they work with the business community. And then making contacts in DC. Working at the Department of Commerce I met a lot of people and ended up kind of getting a feel for DC, and that led me into working my job prior to where I worked here, I ended up getting a job in my home state Senator's office.

Ted worked for the Senate office for four years, becoming chair and Policy Director for the Senate Small Business Committee. Between managing staff and traveling to assess best practices from different businesses, Ted played a significant role in which city received funding for entrepreneurship activities, about which he said:

Because of all the issues that I handled, they were all the agencies that had all the grants. Department of Commerce has got grants, XXXXXX, I did a little bit of stuff with USDA. So, all those agencies have grants or loans, so I ended up working a lot with individual business owners or cities that were trying to do things related to business. Would help a lot getting business, getting city money for an incubator. Or, we had one little town in XXXXXXX, they had an incubator, but they needed broadband, so I basically worked with them on an application to the Department of Commerce and got them two million dollars to build a broadband ring around their town.

These experiences inspired Ted's next transition, which was to work for an EC supporting small businesses. Ted expressed his great interest and focus on previous programs that received
grant funding, and those that did not. Joining Kim’s team allowed Ted to take his previous experience and assist Kim, grow the EC seek various grant funding. Ted also utilized his network to learn best practices to help create programs and resources within the EC.

**Kim.** Kim has her bachelor’s in journalism and a master’s in public administration. Her career has had several transitions. From reporter to editor, to entrepreneur and finally director of the center. Despite a successful career in journalism, Kim expressed her aspirations to own her own publishing company:

I moved to XXXXX, and I was a reporter with a business publication there. And then the Wall Street Journal recruited me out, and I was a reporter with the Wall Street Journal. In XXXX...Actually, my husband and I decided we wanted to get back to XXXXX because both our families were here...I actually quit, but the paper didn't want me to quit. They said, ‘No, just go be a one-person bureau for us down there.’ I did that for about a year, but it gets a little boring being a one-person bureau. Then the Daily Business Review offered me an editor position, and then I went and became editor of that for several years … Then I quit that because I wanted to launch my own publishing company. After I quit, The Herald asked me to go and be Business Monday editor. I did that for about a year, but I still had that desire to have my own business and finally launch my own publishing company.

After leaving the newspaper Kim launched and managed her publishing company for eight years. She shared her lived experiences of growing her company, then experiencing the impact of the recession, leading her to shut down her business. Kim returned to college to acquire her masters. She originally planned to participate in an MBA program, but discovered that the MPA program would better fit her ambitions to incorporate both business and public
service. Kim expressed her desire to share the fundamentals of her own lived experiences within a university setting. She relayed:

Because higher ed…one tends to have a more noble purpose, a more noble goal, which is to expand knowledge. Certainly, in a media company or as a journalist, you're trying to expand knowledge and broaden people's thinking, but in a completely different way, and in some ways less noble because at the end of the day, it is a private, for-profit endeavor. With higher education, hopefully, usually, especially if it's a public institution, the end-game really is kind of to broaden people's knowledge base. For that reason, I think that at least for me personally, a university is a good setting.

Kim is responsible for applying for a federal grant and winning the bid for the university. She is also responsible for the concept of narrowing the center's target market, which are small businesses that are not start-ups but are seeking to scale. She has created multiple funding sources for the center leading to a full team of 20 employees.

**Center 4**

Nicole had a unique journey becoming a director for Center 4 and was recently promoted to the assistant dean. She acquired her bachelor's in education and a master's in education and human resource. Although Nicole’s initial goal was to work in early childhood, she was disappointed in the experience and said:

They were starting special education, even though it's not teaching, but they were starting special education for early childhood, and I didn't agree with it. I felt like they were trying to pigeonhole African-American, minority children into a special education system that I didn't necessarily agree with at the time. And while I was in, pursuing my Bachelor's, excuse me, I was also working at an adult literacy center, full-time, and I kind
of ended up in that arena…So I kind of just ended up in this world of adult and continuing education.

Nicole transitioned into a career of teaching adult education in reading, GED preparation, welfare to work programs, and training programs. During those experiences, her mentor played a significant role in her career. Her experiences transitioned over time, helping her land several director roles within continuing education. She said:

And then one of my mentors, she recommended that I take on the directorship at another XXX college…That same mentor, she was involved in another welfare to work program. It was new, so she asked me to come to apply for that at a different college within the system. This one was XXXXX College. And I took over that area for this new program, the XXXXXXX program which was a program that worked with women who are on public assistance who were pregnant or who had young children…And that was the same mentor who gave me an opportunity.

Similar to many entrepreneurs, Nicole invested in herself, left a continuing education director position at a university, and launched her own publishing company. She experienced levels of success, but the recession had an impact on her growth. Nicole did not quit, but was referred by her mentor, to participate in a new accelerator program being launched at the community college. After participating in this three-month accelerator program, Nicole was recruited to work for the center as the director of the same program located within College D, a public community college, in the continuing education department. Nicole currently leads her EC while still running her publishing company. She stated:
I started with the XXX program. And I joined the last class of the first cohort. And then, from there, then became the EC director from 2010 until February 1 of 2019, I was recently promoted to…Actually to Assistant Dean of Business Services at the college.

Nicole has a blend of experiences that distinctively prepared her for a role that requires comprehension of higher education, and the needs of an entrepreneur.

**Center 2**

Anne is the director for two centers and dean of the entrepreneurship school created by Anne and her team. She has a bachelor’s degree in home economics education, a master’s degree in supervision and administration of secondary schools, and a Ph.D. in merchandising. Anne describes how she would not have anticipated her lived experiences resulting in higher education and entrepreneurship, but her network of relationships and mentors played a significant role in her growth. She stated:

> When I was getting ready to graduate from Xxxxx with my bachelor's degree, my home economics teacher from high school actually called me up and said we have a position open in the school that I'm teaching in now, and I would love for you to apply. So, I went back home, I interviewed at Xxxxx Lakes, and I got the job. So that was really easy.

Anne went to night school for her master’s degree. After getting married, Anne moved to another state and co-founded a retail store with her partner. She maintained her teaching career to help sustain her family financially during the developing stages of the business. They successfully scaled and opened four locations. Anne talks about her lived experience as an entrepreneur and finding unique ways that differentiated her store compared to others at the time:
We were able to not only compete with other XXXXX stores in XXXXXXX, but we put several, at least two County XXXX stores out of business in the malls that we were in because we offered everyone alterations on the spot for no charge.

After separating from her partner, Anne returned to teaching K12 but desired to transition to higher education. Her networking led to meeting someone that suggested she return to school for her Ph.D. who offered her an assistantship that included working with small businesses. Anne moved again and acquired her Ph.D. in merchandising while working with small businesses. During that process, Anne co-created a center for merchandising and marketing and taught workshops and developed content for small businesses. She moved to a new state, for a teaching position at University B. The dean for the business college reached out to Anne and asked her to take over an entrepreneurship program (Program 2) and she became the department chair. Later, Anne was challenged with transitioning Program 2 into a school of entrepreneurship, which would include two centers, advisors, and a master's program. She mentioned:

Then the provost asked me to be the director of this school. So, the whole program in the college of business came out of the college of business. So, we are totally separate. My boss is the provost at the university, like any other dean. But because we didn't have a graduate program when we started, we were identified as a school…So, at that point, the provost is going to start the paperwork for us to be a college.

Anne shared some of her experiences adjusting to bureaucracy, recruiting faculty, networking, and building with the mindset of an entrepreneur within an academic ecosystem:

So, I think the challenge for us was; there was not a benchmark. There was no one that we could model ourselves after. But, because .... so, my time at UNIVERSITY B, since 1990, I've been on the faculty senate steering committee and also the faculty senate
president for two years…on the board of trustees. So, having that information, knowing all of the colleges and departments and being on the faculty senate, being faculty senate president, you represent all the faculty, which there's 2,000 at UNIVERSITY B. So, that was great preparation for me to start this school because I knew all the people in admissions. I knew all the people in the registrar's office. I've been on committees. I was the chair of the university curriculum committee for 16 years, so having all of that service background really helped.

Anne’s various experiences in both entrepreneurship and higher education truly prepared her for this opportunity. Her extensive experiences in multiple industries uniquely prepared her to create as a self-starter and assimilate within the university and higher education industry as a whole. Her diverse capabilities appear to be a critical asset that prepared her for this role.

**Participant Summary**

The background information of each participant regarding his or her experience provided a foundation for understanding the lived experiences and how they can further or delay their ability to develop their center. From the data, it became evident that the level of exposure regarding the industry of higher education and entrepreneurship influences the perspective of the participants and their ability to impact the EC. Although the participants have diverse lived experiences leading to their current role, there were four threads, or superordinate themes, which the researcher constructed from the convergence in the stories. Also, divergences are addressed alongside subordinate themes, which exhibits the distinctiveness of each person’s story. The researcher’s analysis explores how and why these similarities or differences exist.

**Emergent Themes**
Each of these participants had unique experiences leading to their current role. The sample incorporated participants responsible for the programs, resources, and the overall experience regarding their EC. Each individual’s lived experiences became an imperative factor in developing their perspective and strategic lens. The investigator examined the stories and career paths of each individual and recognized similarities and differences that emerged and identified four themes. Table 4.2 provides a summary of the superordinate and subordinate themes, which appeared during the cross-analysis.

**Table 4.2 Superordinate and Subordinate Themes**

<table>
<thead>
<tr>
<th>Experience of being Supported</th>
<th>Feelings of Preparedness and Proficiency</th>
<th>Experience of being Limited</th>
<th>Experience of Creating Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teams</td>
<td>Mindset</td>
<td>External Factor</td>
<td>Outcome</td>
</tr>
<tr>
<td>Institution</td>
<td>Skills</td>
<td>Resources</td>
<td>Metrics</td>
</tr>
<tr>
<td>Network</td>
<td>Methods</td>
<td>Funding</td>
<td></td>
</tr>
</tbody>
</table>

Each of the themes represents common threads regarding the lived experiences of the participants’ journeys. They all conveyed a positive or negative experience regarding the growth and sustainability of their EC. These four superordinate themes surfaced during each participant’s description of their knowledge, career changes, and multiple life transitions.

**Theme 1: Experience of being supported.** During the initial meetings, the participants identified a significant awareness reflecting expressed feelings of support they received or desired support not received. The experience of being support or a lack thereof appeared within this study through discussions regarding their teams, their institution, and their network.
Teams. The participant’s reflection and expressed experiences demonstrated the support of a team or the challenges of having a small team and expressed restrictions due to those limitations. Despite each participant's exclusive conditions within their college or university, one of the essential themes that evolved during the interviews was their expressed “experience of being supported” based on the size and infrastructure of their team. The following table outlines quotes capturing the first subordinate theme.

Table 4.3

Subordinate Theme 1 - Team

<table>
<thead>
<tr>
<th>Teams</th>
</tr>
</thead>
<tbody>
<tr>
<td>Julie</td>
</tr>
<tr>
<td>…you don't have a big team to draw upon, so you're doing things yourself, or with a smaller team, or with people that are part-time. You tend to wear a lot of hats just by necessity.</td>
</tr>
</tbody>
</table>
| James | And a lot of the things we've been doing is doing data analysis to understand what are the factors that determine success and what are the factors that drive failure? What are the things that we can help support that are scalable cause of our small team size. 
So, we have three full-time staff … director, assistant director and then a program coordinator. 
And we have 13 student workers who do a myriad of jobs in the office. |
<p>| Derek | Okay. From a team perspective. We have a local team, which is certainly supported by a national team (corporate donors) to some degree. A local team here consists of myself, we have an alumni manager/business advisor, two additional full-time business advisors, and then we have a program manager and a program assistant. |
| Alexis | We have two part-timers that are on, as I mentioned, on a part-time basis who would cover front desk operations. The rest of our staff is contracted staff, which is kind of a challenge for us in terms of our instructors for specific programs for workshops. Our marketing team ... so we do get some support from the college, but because of the breadth and the amount of programming and communications that are necessary, we |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>have one contractor and then a marketing interim to help support that, which, in my opinion,</strong> <strong>I wish we could extend some more, but that's what we have at the moment.</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Ted</strong></td>
<td><strong>We basically grew the team.</strong> We started with no consultants; then, they started with two, then we added two more, and then over that first year, we hired additional consultants. We spent a lot of time on vetting folks like you would do with a regular business, <strong>making sure you're not going to make a bad hire</strong> and making sure folks are going to work hard, be able to perform at a high level, but also work within that team environment.</td>
</tr>
<tr>
<td><strong>Kim</strong></td>
<td><strong>We have a team of experts</strong> in different areas, whether it's finance, marketing, human resources, international trade, government contractors…So we're just basically trying to make sure that the expertise on our team is helping local businesses. It's a team of about ... right now <strong>I believe we're about 21</strong></td>
</tr>
<tr>
<td><strong>Nicole</strong></td>
<td>So, I'm here for support, that's how <strong>I see my role really is support in the way our team is so connected,</strong> we know pretty much every aspect. Not to the point where you have to be an expert, they're experts at what they do.</td>
</tr>
<tr>
<td><strong>Anne</strong></td>
<td>It was tough, though, to develop everything. <strong>I was very discouraged at first, but then I had such a great team that said, oh, we can do this</strong>…So we just keep going and moving and growing, and I have, <strong>again, a great team.</strong></td>
</tr>
</tbody>
</table>

Entrepreneurial learning theory identified influencing factors capable of impacting the transformation process; this coincides with the outcome of the expressed lived occurrences based on each leader’s unique experience regarding team support. Each of the participants experienced and expressed their perspective regarding different levels of team support. For example, Anne described positive experiences receiving support from her team during the process of expanding their EC’s resources, while Julie expressed adapting to the shortage of staff tasked with
managing the EC. Participants either identified positive experiences from a diverse team of experts, or expressed coping strategies regarding their frustration from a lack of staff.

As each participant discussed the dynamics of their team, it was evident that the infrastructure of the team, whether externally or internally designed, shaped the leader’s sense of security, responsibility, or frustration. In alignment with the framework, each individual implemented a strategy. The director’s conveyed various connections to their team experience and knowledge towards adapting to their current team's subtleties.

*Institution.* One of the subordinate themes was the experience of being supported by the institution. Although the institution's role of support evolved into a recurring theme, Table 4.4 identifies areas of interconnectedness, bureaucracy or a sense of disconnection. The following table outlines quotes capturing the subordinate theme:

Table 4.4

<table>
<thead>
<tr>
<th>Subordinate Theme 1 - Institution</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Institution</strong></td>
</tr>
<tr>
<td>Julie</td>
</tr>
<tr>
<td>We’re not independent. We came through the university through the incubator, and we’re a program within that. We very much work with others, it’s a small community, and it’s pretty interconnected… It’s a very supportive community. It’s growing community. The idea is that it’s in the best interest of everyone if we’re supporting each other and helping the community grow… UNIVERSITY F, our university reaches out beyond the academic with our program. It has an outreach to the community. Strong academic, but also strong community.</td>
</tr>
<tr>
<td>So, CENTER 5 is a non-academic entrepreneurship resource center. And so, we sit outside any of the colleges at the university.</td>
</tr>
<tr>
<td>Fall under this department called XXXX-innovations Which houses tech transfer and builds some of the research centers and things like that.</td>
</tr>
</tbody>
</table>
| James | Everyone in the office has hands-on with the entrepreneurs, and so for me this was the first job I had that wasn't working for myself. *As a born and bred entrepreneur, the real challenge was learning how to deal with the bureaucracy.*

Because there are a lot of things that we have inherited over the years from the previous administration.

Moreover, there are things that may have made sense in 2008 but don't make sense in COLLEGE C in general, but certainly here in the college in particular. I think this entrepreneurial center, probably like many entrepreneurial centers around the city and the country are trying to define what they're going to be just in my ten years at this entrepreneurial center, that it's gone through a few iterations in terms of what its focus is going to be and how to best ... and *I'm not, having been privy to the inner conversation that they have at the college level* in terms of providing direction the center tried to identify ways that to infuse entrepreneurship into the college traditional programs |
| Derek | I guess a lot more energy around entrepreneurship throughout COLLEGE C in general, but certainly here in the college in particular. I think this entrepreneurial center, probably like many entrepreneurial centers around the city and the country are trying to define what they're going to be just in my ten years at this entrepreneurial center, that it's gone through a few iterations in terms of what its focus is going to be and how to best *...* and *I'm not, having been privy to the inner conversation that they have at the college level* in terms of providing direction the center tried to identify ways that to infuse entrepreneurship into the college traditional programs |
| Alexis | Operationally, *I think there needs to be more of a connection through the academic portion of the college and how the activities that are being done at our center*, which is viewed as more of an extracurricular, are of value to the students, and maintaining that relationship

*so we do get some support from the college, but because of the breadth and the amount of programming and communications that are necessary, we have one contractor* and then a marketing interim to help support that, which, in my opinion, I wish we could extend some more, but that's what we have at the moment |
| Ted | *A lot of our time was spent just* navigating UNIVERSITY A process and procedures. Basic stuff, like paying people, paying an invoice. How do you pay for a venue? How do you do travel stuff? You wouldn't think that would take that much time, but just navigating all that stuff, it takes a lot of time |
Also, because we're different, we're not an academic unit, we're a community service unit more, it was a lot of education in getting procurement, getting divisional research. We always have problems people have never seen, because *we're not an academic unit*

---

**Kim**

… the hiring process at our university is not an easy one. Not a quick one.

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**Nicole**

… because continuing ed is not a part of the college

We're fortunate enough that *our president is very supportive* of continuing ed and this is pretty much a really big one in a sense of we've got a mixture of contracts, grant funding from various sources and different grants, contracts and all that kind of stuff

---

**Anne**

I have faculty members in all 16 colleges at UNIVERSITY B who teach for us. So, we're very *interdisciplinary*.

So, I think the *buzzwords now in universities are interdisciplinary, working across artificial barriers and encouraging students to be able to feel comfortable* in taking an engineering class or a biochemistry class when their focus is maybe opening a museum store. So, you know, I think that is my goal and the people that I hire, that work for us, are just so varied and that's very exciting.

---

Politis (2005) addressed debates regarding organizations challenged with a set of occurrences that forces them to make decisions. For example, James expressed frustration in dealing with bureaucracy and inheriting elements from the previous administration, while Nicole expressed gratitude regarding support from the college president. Institutions that participate in creating ECs for the benefit of their internal and external community do so based on a purpose identified by the institution. Politis (2005) believed that the ability to adapt is usually exposed to two interrelated, exploitation, and exploration. Post-secondary institutions appear to be well-
positioned to make choices that could exploit resources already known to the institution’s leadership. The EC director also appears to be positioned to explore ways to expand.

Each of the participants experienced various degrees of support from the institution that either encouraged the participant as they expressed desires to grow the center or expressed experiences of frustration due to existing restrictions ranging limitations to bureaucracy. There appeared to be mixed experiences from each participant, impacting the extent of their involvement throughout the institution.

Network. Another subordinate theme that emerged was a sense of support from the participant's network. This recurring theme appeared regarding five of the participants identifying support from specific individuals, or an expressed a need for support from a specific group. Table 4.5 identifies each participant's perspective regarding mentors, board members, friends, and alumni. The following table outlines quotes capturing this subordinate theme:

Table 4.5

Subordinate Theme 1 - Network

| Network | James | I want the alums who might not need our mentorship programs and might not need our resources to be tightly intertwined with the current students going through the program and going through their studies. I think the stronger the network we can create, the stronger the value we create for all the affiliated people, and the value of the network is the real value that we can generate because there is countless bits of knowledge waiting to be uncovered in the thousands of people who are directly or indirectly related to the UNIVERSITY E |
|         | Alexis | I think part of what helped with the success was the strength of our board and the network that we had. In fact, part of the reason of how I came to the CENTER 3 in the first place was through a relationship I had with a board member, who is also a board member at my previous entrepreneurship center |
| Ted | It was cool kind of being in the belly of the beast and seeing how the federal government operates and got to work with a lot of really great groups. *My mentor* there worked in the international XXXXX program. I ended up doing a project with him.  
I was like man; I met XXXX. The thing I like about a lot of these successful entrepreneurs is they're so willing to give back… They're so willing to basically mentor, to give talks, to participate in round tables. |
|----|----|
| Nicole | And then one of *my mentors, she recommended* that I take on the directorship at another XXX college.  
She didn't deal with the education so much because we had my mentor again. She worked along with the faculty here at the college to develop the curriculum and then XXX approved it for us to roll out our first cohort. |
| Anne | My home economics teacher from high school actually called me up and said *we have a position open* in the school that I'm teaching in now, and I would love for you to apply.  
Met a woman there who said, if you really want to teach at a university, you have to have your Ph.D. If you come out to XXXXXXXXX, *I'll get you an assistantship,* and you can work with small businesses.  
So a lot of my time has been working on proposals, *talking with people,* trying to get other donations, really building out our systems.  
And *I constantly talk about our school to everybody,* you know, everybody wants to know…and I'm talking to the elementary schools and the high schools and the assisted living programs in the city. I've talked to the chamber of commerce and the city commission and the county commission and the legislature and the board of governors. |

Similar to Politis’ (2005) discussion regarding career orientation, the career patterns of these participants appear to imply various competencies consisting of proficiency and diversity. Networking appeared to be one of the most significant evolving skillsets. For example, Ted utilized his government network to recruit mentors, while Anne addressed networking on a larger
scale as a critical strategy to grow, create awareness, attract donors, and maintain the EC’s mission. The literature suggests that this type of strategy is probable to maintain a higher degree of exploration regarding new prospects compared to the focus traditionally put on the exploitation of previous information (Politis, 2005). Each participant identified unique tendencies to develop relationships and networks. These habits appeared to expand into their strategy of working within the college and outside of the college, for the purpose of expanding their center.

Theme 2: Feelings of preparedness and proficiency. The participants of this study described their lived experiences throughout their careers. This led to an emerging theme regarding their perspective, how they felt about their preparedness and proficiency in executing the task at hand. Subordinate themes, such as a mindset each individual felt essential for entrepreneurship, feelings regarding specific skills and ability to perform, and finally implemented methods based on the perspective of the participant.

Mindset. The mindset of each participant evolved into a subordinate theme, showcasing each individual’s perspective concerning what they considered to be imperative to the needs of the individuals participating within their centers. Table 4.6 summarizes the opinions and ideas regarding the participant:

Table 4.6

<table>
<thead>
<tr>
<th>Mindset</th>
</tr>
</thead>
<tbody>
<tr>
<td>Julie</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>I think the biggest thing I've learned is validation. Saying yeah, it's hard. Yes, other people are going through this. Yes, you're not crazy. It sounds really basic but listening. How does that tie into programming is to create programs that help support those findings or those impressions, those experiences</td>
</tr>
</tbody>
</table>
They certainly need the *fundamental* and advanced information. *It's not all just support and encouragement.* It's combined with a strong program of business and foundational elements.

**James**

But by teaching people the *fundamentals* and the frameworks of sort of digging into the businesses you get some universal truths along the way.

**Derek**

I think another valuable takeaway was that ... I think typically *when we think of entrepreneurs and entrepreneurial mindset, there's kind of this rugged individualism that comes to mind, where you're doing everything by yourself.*

I think obviously, to a large degree *as an entrepreneur, you have to make sure that you're moving your vision forward.* No one may feel it like you feel it. But I also realized that once you initiate something, you can create momentum greater than yourself.

**Alexis**

A lot of the time, students will attend classes for two years and then transfer, so there's not really enough time to kind of sit with it, *but it's how much of that exposure to the entrepreneurial mindset can we impart on the students in the time that we have them*.

we focus on now really is just the building of an entrepreneurial mindset, empathy, asking questions, problem-solving... all skills that can serve them, whether they, later on, choose to focus and develop their businesses or just any opportunities that they'll have in the future.

**Kim**

*I think that at the end of the day, a lot of it, as I mentioned is really the fundamentals.* Trying to make sure that good communication is taking place. That doesn't mean it's always taking place. You just *try to be mindful* of it, and when you see it's not happening, fix it … *fundamentals like making sure that resources are being used well.*

**Nicole**

So *to be in continuing ed you have to have an entrepreneurial mindset* because continuing ed is not a part of the college, but continuing ed is responsible for either securing grants or contracts to maintain its people and to function as a business even though it's on a college campus.
As long as they have an entrepreneurial mindset, which is, you know, it's trying to solve a problem, whether it's societal or personal or in their community, not being discouraged by roadblocks, and continuing, I mean, that mindset is very important to all of us.

The literature identifies the importance of having a mindset capable of discovering and developing business opportunities towards entrepreneurial success, subsequently becoming a significant matter concerning activities and programs that provide entrepreneurship content (Mian, 1996; Politis, 2005). Each participant expressed their degrees of concern regarding the importance of industry fundamentals. For example, Alexis expressed negative feelings or concerns about not having enough time to support student's exposure to an entrepreneurial mindset based on her limitations, while Nicole expressed her positive outlook towards utilizing her entrepreneurial mindset as a way to expand and grow her EC.

It was evident that all participants felt passionate about the importance of transferring not just the knowledge, but also the necessary mindset needed to embark on accomplishing their entrepreneurial goals. This outcome also lines-up with the literature, placing a high value on supporting each entrepreneur as they learn from their start-up or business growth experience (Politis, 2005). This method and emerged theme regarding their ability to recognize fundamentals, appeared to help the individual transform and develop an entrepreneurial mindset (Politis, 2005).

**Skills.** Each participant described their journey of growing and developing the skills that would impact their current role. The emerging theme from their lived experiences, regarding their existing position, led to the participants’ feelings and foresight, connecting how their skills uniquely impact their current role.
Table 4.7

*Subordinate Theme 2 - Skills*

<table>
<thead>
<tr>
<th>Skills</th>
<th>Julie</th>
<th>James</th>
<th>Derek</th>
</tr>
</thead>
<tbody>
<tr>
<td>How I came into it was by opportunity, the classic combination of opportunity, luck, and skill, being ready for it. <em>I had a good foundation.</em> I was able to then take the skillset that I had and apply it to this new area. <em>I had a lot of experience in grant writing, which came into play. I had a lot of experience in technology. Impact did have experience with startup companies in that industry of emerging technologies.</em> I brought a lot of different experiences to the table, but it wasn't a straight path. Quite honestly, it wasn't a calculated decision. So, I had the opportunity to see a lot of high-level strategy taking place, and then later be involved in the strategy. My second position was more of a <em>strategist</em> as a manager. I was brought on to help create an international department based on my experience in my first job.</td>
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<tr>
<td><em>I launched my first company</em> in high school. So, I graduated from college in 2004, and I launched a sort-of (STARTUP BUSINESSES) XXXXX shop. Well along the way I started a handful of start-ups that most have come and gone. I co-founded and educational software company called XXXXX, so it's on adult education. I think if I had been a purely academic, I wouldn't necessarily have a practical way of educating, to help the students tackle the problems they see on a day to day basis.</td>
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</tr>
<tr>
<td>I started or co-founded a not-for-profit organization that focused on essentially preparing high school student-athletes for their transition to college. Eventually, after about a year of the credit analyst role, I became a commercial lender. <em>I was working directly with businesses of different sizes,</em> revenues to secure loans from banks. Some of those were what would be deemed as a small business; some are middle market. But all kind of the same mechanics of what are the components of a good credit.</td>
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</tbody>
</table>
| Alexis | *I got very involved with the entrepreneurship center* where I did my master's program, to the point where I was doing a lot of different extracurricular workshops, being part of the business plan competition.  

There was a part-time opportunity to work at the entrepreneurship center to help with planning and executing on different workshops, on marketing workshops, marketing the center, conferences. So, I started getting involved in a part-time capacity, and eventually, that developed into a full-time job after. I spent six years there in total. The first two years was a part-time employee, and then the last four were the full-time employee. |
| --- | --- |
| Ted | I worked on small business, economic development, technology issues, tax issues, and then I ended up getting promoted, so my portfolio was like international trade, government contracting, technology issues, telecom, small business. I worked in the Senator's office for about four years, and then *XXX becoming chair of the Senate Small Business Committee*, so then I went to go work on the Senate Small Business Committee and I was a Policy Director there so I managed all the legislative staff on the Committee, managed the research staff, I would oversee the hearing schedule, and hearing topics, and also the legislative strategy.  

Also, a lot of stuff about going and *checking best practices*, so going to Boston, going down here to XXXX, going to XXXXXXX, flying around and seeing cool stuff that people are doing on entrepreneurship and small business. |
| Kim | So as an area of subject matter expertise, it was always in business. In terms of my skills and ability, it was always more journalism and communications.  

After a year at The Herald, *I quit and had my own company for about eight years.* |
| Nicole | And I utilized the skills that I obtained while I worked at the XXX Public Library and this newly-fresh degree to start teaching adults how to read and write.  

So, what it did was it re-enhanced my leadership skills. It re-enhanced or emerged sales skills, marketing, and selling skills that I didn't think I had. Having to communicate effectively as to what you are offering to people |
I had to learn how to see whether or not I made a profit, or was I just breaking even, or was I losing money, right? I didn't necessarily know that language, right? I mean, I understand a profit and loss, but I didn't really know what a profit and loss was when I did it. So, I learned that and coming to this program I even learned more because we have advisors, and they're at the top of their game when it comes to understanding business.

Anne

I would manage the stores at night after I taught school.

we were able to not only compete with other XXXXX stores in XXXXXXX, but we put several, at least two XXXXX stores out of business in the malls that we were in because we offered everyone alterations on the spot for no charge. I think differentiated us and really led to our success. So, we had four stores.

I moved out there when I was 31 years old and started my Ph.D., and we started a center for merchandising and marketing at the XXXXX Merchandise Mart, and I was able to do some workshops for small businesses there and develop materials on how to keep them in business.

The literature recognized the importance of establishing practical skills that would lead to recognizing processes as an outcome of entrepreneurial learning. As displayed above, Derek discussed his banking experience expanded his entrepreneurial knowledge and skills because it led to working with multiple businesses, and Ted shared his experience working for the government as chair of the senate small business committee. In contrast, Kim & Anne identified their entrepreneurial learning based on their experience of owning and growing their businesses.

Each participant discussed diverse experiences regarding their process and lessons learned from prior occurrences, which enhanced their ability to effectively identify and act on opportunities to grow within their careers and improve their centers (Politis, 2005). The participants addressed developing the skills they believed to be necessary for cognitive properties and evolving their learning over time (Politis, 2005). Most importantly, each individual appeared
to have unique circumstances but expressed moments that played a significant role in their risk-taking.

**Method.** The participant's reflection on their experiences demonstrated methods they felt were essential to the development of the individuals participating within their center. The following table outlines quotes capturing the subordinate themes.

Table 4.8

*Subordinate Theme 2 - Method*

<table>
<thead>
<tr>
<th>Methods</th>
<th>Julie</th>
<th>James</th>
<th>Derek</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>There are certain foundational elements to entrepreneurship and business that are standardized that you can use. However, there are a lot of unique scenarios that come up as well. Especially if you’re building an ecosystem from scratch. <strong>Building out a new ecosystem or new venture within an ecosystem</strong> is a better way to say it. You’re going to have to understand what’s already existing. We provide <strong>programs and mentorship and resources and events</strong>. Different resources to help people in early-stage.</td>
<td>The students are trained to be XXXX Consultants. So, they're trained in our methodology, which is a <strong>Socratic method</strong> of consulting. So their taught how to ask a lot of questions and how to know what type of questions to ask a I think what we found is, we needed to do a little more handholding, just because I think some people joined the program, certainly because they want to improve their business, but it may have been a while since they were in an educational environment. along the way, depending on the stage of the business and things like that because what we have found is that you don't necessarily need to be a domain expert in every industry.</td>
<td>One thing we did was, in our first year, for lack of a better description, we kind of left people to their own vices in terms of more like a ... we handled the <strong>curriculum</strong> part more like a college syllabus. You have the dates. At the end of the course, you're going to have to turn in a term paper. I think what we found is, we needed to do a little <strong>more handholding</strong>, just because I think some people joined the program, certainly because they want to improve</td>
</tr>
</tbody>
</table>
their business, but it may have been a while since they were in an educational environment.

From a certain perspective, you can say, well, that's their fault. They're adults. But I think certainly, as we were, if you're interested in having better outcomes, then as I said, that prompted us to create a roadmap or a strategy for helping people along the way more.

<table>
<thead>
<tr>
<th>Alexis</th>
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<tbody>
<tr>
<td>Starting from the student who we would say that has zero exposure, but perhaps have an idea and don't even ... they haven't tested it out and haven't realized the validity, excuse me, of the idea as of yet, so I would say, very on pre-launch phase (PROGRAM 1)</td>
</tr>
<tr>
<td>We do have a program, which is the (PROGRAM 2) XXXX XXXXX XXXXX program, which is offered for a more, I would say, higher criteria. But, we do have a program (PROGRAM 3) XXXXX, which is just that level right before, so in between six months and a year of operation, I think the minimum is $100,000 or slightly less than $100,000.</td>
</tr>
<tr>
<td>So, it's from the idea to the pre-launch phase to the launch and then to developing a sustainable kind of scalable model from there.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Ted</th>
</tr>
</thead>
<tbody>
<tr>
<td>The focus of our center is focused on business growth, so we focus on growing, helping somebody start a business. We focus on helping them grow revenue, grow employees, access capital, get a government contract, export.</td>
</tr>
<tr>
<td>So once they register, then they have a client file which is created, and then under that client file, we put in all of our consulting notes and sessions and things like that. Also, that's where we track current progress. Because we put in there what is the revenue, what is the employee, when do they get a contract, when do they get a loan, things like that</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Kim</th>
</tr>
</thead>
<tbody>
<tr>
<td>Now we work with pre-ventures and startups, but most of our focus is with existing businesses</td>
</tr>
<tr>
<td>That one-on-one consulting obviously is a big hole because it's expensive. It's very expensive. You have to have a team. You have to have the money to pay the team. So that was a big hole in the marketplace in terms of being able to assist entrepreneurs and business owners. So, we kind of just overlapped all of those things of focusing more on a growing business as opposed to starting a business,</td>
</tr>
<tr>
<td>Nicole</td>
</tr>
<tr>
<td>----------------------------------------------------------------------</td>
</tr>
<tr>
<td>So, the program that exists, the <em>business advisor’s piece, the alumni piece, the first curriculum</em> was built upon something that we created here at CENTER 4</td>
</tr>
<tr>
<td>Anne</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>

The participants’ descriptions regarding their own unique experiences addresses various levels of exploitation and exploration regarding pre-existing knowledge from leadership and team members, a network of industry experts, and developed contrasts methods towards executing the mission of their center (Politis, 2005). Several participants identified factors at multiple levels, impacting, or supporting their ability to create within an existing system. Several participants, such as Kim and Ted addressed focusing on one method, such as consulting, while others addressed the importance of multiple programs such as Nicole and Derek utilized resources such as advisors, competitions, and curriculum. Despite the numerous displays of preparedness and the participant's sense of proficiency, they all showcased great care and concern to provide the best resources within their center.
Theme 3: Experience of being limited. Remarkably, several participants identified limitations they experienced at different stages. Surprisingly, concerns such as the recession, limited resources, and funding, appeared to have some degree of impact in their decision-making, career, and learning experience. The following three subsections will expand upon these concerns.

External factors. External circumstances arguably became a significant turning point for each participant. This emerging theme evolved as participants addressed lived experiences during economic or environmental challenges. The following table outlines quotes capturing those subordinate themes.

Table 4.9

<table>
<thead>
<tr>
<th>Subordinate Theme 3- External Factors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alexis</td>
</tr>
<tr>
<td>After graduating, I had debts; I had the other common concerns of students who had recently graduated in 2008, which was a very low time for employability. At that point, the economy was not doing so well. So, I started off ... there was a part-time opportunity to work at the entrepreneurship center to help with planning and executing on different workshops, on marketing workshops, marketing the center, conferences</td>
</tr>
<tr>
<td>Kim</td>
</tr>
<tr>
<td>Everything was going great. We were growing. It was beautiful until it wasn't because then the great recession hit, all advertising just completely froze, and my partner and I decided we would shut down. We shut down, and that was when I kind of went through my mid-career crises where I'm thinking, &quot;Okay, what do I really want to do next?&quot;</td>
</tr>
<tr>
<td>Nicole</td>
</tr>
<tr>
<td>I started a publishing company, yeah. And so, I left XXXXX State to go directly into my business full-time. And then the recession hit. Having an academic career, a continuing ed career, I didn't have a business knowledge except for what I learned in my own business. So, I didn't necessarily recognize what was going on. There was a shift because I got less calls.</td>
</tr>
</tbody>
</table>
James: I would say that they shouldn't focus on the volume of people coming in through the office. They should focus on the volume... the quality of the companies coming out of the office. *Because one thing to keep in mind is there is macro factors at play. So, when the economy goes down, more people go into entrepreneurship. When the economy goes up, less people go into entrepreneurship.*

Ted: But I started working there in April of 2005, and of course XXXX hurricane) hit. So pretty much *it was like everybody got a promotion when that happened.* But the issues that I worked on, I worked on small business, economic development, technology issues, tax issues and then I ended up getting promoted.

The literature discussed path dependence, which addressed entrepreneurial learners adjusting their strategies in response to ongoing change (Politis, 2005). Additionally, previous events, such as the recession and hurricanes, had positive or negative impacts on the participants, for example, Kim and Nicole having a negative experience due to an external factor such as the recession, which forced Kim to close her business and Nicole to seek assistance from an EC to keep her business from closing during the recession. This is in contrast to Ted's positive experience, being promoted due to an external factor such as a hurricane.

These leaders all showcased coping with liabilities of newness, as described within entrepreneurial learning theory (Politis, 2005). Each participant appeared to have unique personal experiences regarding external factors that played a significant role in their life as an entrepreneur or career orientation.

**Resources.** One of the subordinate themes that emerged was expressed feelings regarding desired resources or limited resources. The following table outlines quotes capturing these subordinate themes:

<p>| | |</p>
<table>
<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>James</td>
<td>I would say that they shouldn't focus on the volume of people coming in through the office. They should focus on the volume... the quality of the companies coming out of the office. <em>Because one thing to keep in mind is there is macro factors at play. So, when the economy goes down, more people go into entrepreneurship. When the economy goes up, less people go into entrepreneurship.</em></td>
</tr>
<tr>
<td>Ted</td>
<td>But I started working there in April of 2005, and of course XXXX hurricane) hit. So pretty much <em>it was like everybody got a promotion when that happened.</em> But the issues that I worked on, I worked on small business, economic development, technology issues, tax issues and then I ended up getting promoted.</td>
</tr>
</tbody>
</table>
**Subordinate Theme 3- Resources**

<table>
<thead>
<tr>
<th>Resources</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>James</td>
<td>And a lot of what the work we’ve been doing is <em>how do we make ourselves more effective without additional resources</em>.</td>
<td>I’d like CENTER 5 to be seen as the go-to resource for anyone affiliated with the University. I’d like it to be seen as the hub for entrepreneur activity at UNIVERSITY E.</td>
</tr>
<tr>
<td>Alexis</td>
<td><em>I would like to see</em>, just from my past experience in the four years at the center, more of instructional individuals as full-time staff, <em>just due to some limitations</em> that we have on having contracted staff, and, in particular, on a regular basis, <em>there should be mentorship</em> available to the students.</td>
<td></td>
</tr>
<tr>
<td>Kim</td>
<td>We know that businesses need to have a better understanding of technology and how they can use technology to be more effective, be more efficient, be able to serve their clients and customers in different ways, but that's not assistance that we provide. <em>We don't have that expertise.</em></td>
<td></td>
</tr>
<tr>
<td>Anne</td>
<td>But I cannot hire tenure track faculty who are going to teach in the master's and eventually the Ph.D. program on soft money. They have to come from the state. They have to come from the provost, and it's a challenge. I mean, XXXXXX is not very well funding their higher education. So, <em>I'm competing</em> with all of the other deans to try <em>to get those resources</em>.</td>
<td></td>
</tr>
</tbody>
</table>

Literature contended that transforming experience into knowledge is fundamental to maintain learning, but EC directors contend for scarce resources (Politis, 2005). For example, individuals experiencing limitations, yet still attempting to expand their organizations, do so through the exploration to the exclusion of exploitation and endured the cost of experimentation without gaining many of its benefit (Politis, 2005). This emerging theme surfaced based on expressed concerns due to the participant's perspective regarding what they believe to be the resources needed by the team and center participants. The director’s reaction displayed coping to
newness via acceptance, adjustment, or competitiveness. For instance, James expressed levels of adjusting, still wanting to provide quality service despite limited resources, while Anne expressed competitiveness regarding other departments in the college competing for similar resources.

**Funding.** Most of the ECs are supported by external funding sources, such as grants or government funding. Concerns regarding limited funding became one of the significant themes that evolved during the interviews. The following table outlines quotes capturing the subordinate theme:

Table 4.11

*Subordinate Theme 3- Funding*

<table>
<thead>
<tr>
<th>Funding</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Derek</strong></td>
<td>Obviously, the <em>lack of certainty around funding</em> could cause planning issues. Just in terms of, like I said, under normal circumstances, you'd be looking out to the future and planning what your organization is going to look like, what course of action should you take to remain viable.</td>
</tr>
<tr>
<td><strong>Ted</strong></td>
<td>We get federal money from XXXX, and it's kinda seed money. So basically that money is the largest source of our budget, but then we also get money from the state of CITY-X; we also have UNIVERSITY A that matches XXXXXX money and hosts the center locally. And then we hustle, just like entrepreneurs, and raise money, and <em>bring in funds</em> to do other services, or do workshops and training and things like that… I think there's more we could do with the center, whether that's <em>bringing in additional funding</em> or changing up some of the stuff we do.</td>
</tr>
<tr>
<td><strong>Kim</strong></td>
<td><em>We receive funding from lots of different sources.</em> UNIVERSITY A is also a significant funder at the College of Businesses. Also, we work with a lot of other organizations, foundations, banks that also help support the program</td>
</tr>
</tbody>
</table>
| Nicole | *My role is where can I see them in the event that the program is no longer funded?* They all have excellent skills; I could put them, offer them I should say, an opportunity. So it's like how do I, one look at what we have existing, that they may be interested in or what new program can we develop so that if they want to continue being at this college, then there's an opportunity for them to do so, but it’s an opportunity for them to take over  
…but continuing ed is responsible for either securing grants or contracts to maintain its people and to function as a business even though it's on a college campus. |
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Anne</td>
<td>So, a lot of my time has been working on proposals, talking with people, trying to get other donations, really building out our systems… So, I find that as probably now my biggest challenge is to get those funds that are very, very, very limited.</td>
</tr>
</tbody>
</table>

The literature recognized increased efficiency to cope with the liabilities of newness through creating new opportunities, applying for funding through multiple resources, and creating for-profit activities in relations to commercial facilities. EC directors can exploit the influence they possess by developing their social networks, creating a positive reputation, and contributing to efforts of securing additional financial support (Politis, 2005). As each participant discussed the financial structure regarding how various grants and donors impacted the center’s sustainability, diverse reactions evolved. The theme that emerged expressed concerns surrounding the topic of funding, resulting in diverse reactions of either fear, security, or a sense of responsibility. For instance, Derek showcased high levels of fear regarding his fear-based on funding, while Nicole discussed developed sustainable strategies outside of donations and grants, they have already received.

**Theme 4: Experience of creating impact.** Although the participants had varied experiences, their aspirations to impact individuals within their EC became one of the major
themes. In this study, participants identified several outcomes and metrics, providing them ways of tracking their progress and assessing their impact.

**Outcome**. Each individual identified different types of individuals participating in ECs and their director’s desired outcomes. The participant expressed their preferred outcome regarding the individuals they are focused on, previous outcomes, and the number of businesses that have participated within the center. The following table outlines quotes capturing these subordinate themes:

Table 4.12

*Subordinate Theme 4- Outcome*

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Julie</th>
<th>James</th>
</tr>
</thead>
<tbody>
<tr>
<td>** Outcome**</td>
<td>We're trying to <strong>increase the number of women entrepreneurs</strong> and leaders</td>
<td>So in the ten years that the office has been around it’s a little over 11 years now, it’s a little over 5,000 clients that we’ve met with, and there’s a little over 3,000 distinct ideas, of which <strong>515 have turned into actual full-fledged businesses</strong> that currently <strong>employ just over 1,500 people</strong>. I think we are averaging about 40 to 45 companies a year that are being created. And they are on average lasting more than three years. Currently, that is a huge economic impact. We are not designed as an economic impact office. And that’s not one of our drivers, but it is still something that we in the organization should be proud of.</td>
</tr>
<tr>
<td>** Julie**</td>
<td>Trying to <strong>increase the awareness</strong> as to why it's important to have diversity. We're trying to address the issue of lack of diversity, but simultaneously helping people understand the reasons behind this are... There are good reasons to promote this. More so than just a straight statistic number.</td>
<td></td>
</tr>
<tr>
<td>** Derek**</td>
<td>We've touched a small fraction of small businesses as we would define them by our mission's criteria. A small fraction. <strong>458 businesses to date.</strong></td>
<td></td>
</tr>
<tr>
<td>Name</td>
<td>Statement</td>
<td></td>
</tr>
<tr>
<td>------</td>
<td>-----------</td>
<td></td>
</tr>
<tr>
<td>Alexis</td>
<td>I would say that the center has had a pretty deep impact on the community overall of XXXXX, and would desire the same amount of impact within COLLEGE C, which I think we're still kind of reaching to achieve. Because when I think of community, I'm putting it kind of in an all-encompassing focus, but I can see definite areas of where there needs to be more awareness and more availability for the students, the faculty, and the staff of the college itself.</td>
<td></td>
</tr>
<tr>
<td>Ted</td>
<td>I would say basically for year one; it was mainly just about building the processes and building the base. Year two was where we actually had to perform. We did have some additional consultants in the second year. And then also we started looking at in the second year, was ways our center could be different from other centers.</td>
<td></td>
</tr>
<tr>
<td>Kim</td>
<td>Helping businesses understand what they need to do to grow. I think it's that simple. Again, we have actual measurements of that impact. We measure how much money we help businesses get, how much their sales increase with our assistance. It's not us saying it. It's them saying it.</td>
<td></td>
</tr>
<tr>
<td>Nicole</td>
<td>I don't have a percentage for the community, but if we don't just look at XXX City because being that we're in XXX city, we've had people from Buffalo. We've had people from Albany. We even had one business from Georgia. So, we have impacted communities just from our one location.</td>
<td></td>
</tr>
<tr>
<td>Anne</td>
<td>I'm continually trying to connect our students with the community, and the community wants to keep them, the brightest, the best and the brightest, so they're offering shadowing and internships and so the community loves we're</td>
<td></td>
</tr>
</tbody>
</table>

The literature implied that a successful outcome is associated with experiences that can lead to long-lasting effects on strategies following attempts due to propensities toward path dependence (Politis, 2005). For example, Julie expressed the desired outcome of increased awareness and more participating women entrepreneurs while Derek focused on the number of businesses that participated. There appeared to be diverse perspectives regarding outcomes from
each individual. While some equated outcomes to community impact, others identified building awareness, improving processes, or addressing the number of businesses supported by the center. The outcome appears to be of significant importance, but each participant showcased different goals.

**Metrics.** The participants identified various Metrics while addressing the impact of their center. Due to the unique style of programming and activates within the center, an emerging theme of various metrics deliberated from the participants. The following table outlines quotes capturing these subordinate themes:

Table 4.13

*Subordinate Theme 4- Metrics*

<table>
<thead>
<tr>
<th>Metrics</th>
<th>Quote</th>
</tr>
</thead>
<tbody>
<tr>
<td>Derek</td>
<td><em>Surveying</em>, intermittent surveys is the way we've been able to measure impact</td>
</tr>
<tr>
<td>Alexis</td>
<td>Collecting <em>survey feedback</em>, ensuring that information, analyzing the cost, understanding, again, through serving what the needs actually are of the students, and sharing that information</td>
</tr>
<tr>
<td>Ted</td>
<td><em>Surveying</em> is where we catch a lot of the progress with the clients, but also it's really great because we get feedback from the clients</td>
</tr>
<tr>
<td>Nicole</td>
<td>So, we follow along with the <em>measurement and evaluations</em> required by the program. So, they take a baseline going in before they start classes and when they graduate they take a <em>graduation diagnostics</em>, and then we follow up with them 18 months and 30 months</td>
</tr>
<tr>
<td>Anne</td>
<td>I think we are being evaluated on not only the students and the GPA and their <em>graduation rates</em> and our retention of those students, but you know we'll look forward to what are these alums doing and can they get jobs.</td>
</tr>
</tbody>
</table>
The literature recognized entrepreneurial learning theory as imperative to the process of identifying critical factors concerning the skill to evaluate and utilize outside knowledge such as feedback, metrics, and exploiting this data for future opportunities (Politis, 2005). Different surveys, feedback, GPA, and evaluations appeared to be an important theme that emerged during the participant's discussions about impact. For example, Nicole assessed financials through pre and post diagnostics (based on the requirements of her donors); in contrast, Ted solely focused on surveys. While some developed these metrics to improve their process, some also expressed the metrics as the source of being judged.

**Conclusion**

In this study, there were four superordinate themes, including the experience of being support, feelings of preparedness and proficiency, the experience of being limited, and experience creating impact. There were also eleven subordinate themes: teams, institutions, network, mindset, skills, methods, external factors, resources, funding, outcome, and metrics. Table 4.14 is a final review of the participant's feelings of what occurrence showcased as a positive or negative experience.

**Table 4.14**

<table>
<thead>
<tr>
<th>EC</th>
<th>EC Director</th>
<th>Expressed Pros</th>
<th>Expressed Cons</th>
</tr>
</thead>
<tbody>
<tr>
<td>Center 1 COMMUNITY</td>
<td>Kim &amp; Ted</td>
<td>- large team</td>
<td>- challenges adjusting to the University process, but not enough to hinder their progress</td>
</tr>
<tr>
<td></td>
<td>- EXPERIENCE: journalism, publishing, Entrepreneurship, government</td>
<td>- multiple funding sources including the university</td>
<td></td>
</tr>
<tr>
<td>Center 2 STUDENTS</td>
<td>Anne</td>
<td>- taking one program and growing it into two centers and an EC</td>
<td>- she so competitive, she considers her area of limitation in raising more capital</td>
</tr>
<tr>
<td></td>
<td>- EXPERIENCE: faculty, designer, dean Entrepreneurship, previous experience creating</td>
<td>- although Anne has been the most successful in raising capital</td>
<td>- hiring more faculty</td>
</tr>
</tbody>
</table>
| Center 3 | STUDENT & COMMUNITY | Alexis & Derek | - EXPERIENCE: banking, Entrepreneurship, previous experience working for an EC | - multiple programs for companies at various levels for both students and community | - expressed frustration due to a small team  
- expressed desire for support from the college  
- significant concerns about funding and sustainability |
| Center 4 | COMMUNITY | Nicole | - EXPERIENCE: administrator, continuing ed., entrepreneurship, Assistant dean, previous experience creating programs | - large team  
- multiple programs  
- lots of support from the college leadership  
- multiple funding sources including the college  
- Nicole, laser-focused on the future | - concerns about the future but coincided with conversations about the team and provost |
| Center 5 | STUDENTS | James | - EXPERIENCE: serial entrepreneur | - focused on consulting  
- students trained to consult | - small team  
- lots of politics  
- James has significant desires to interact with more industry leaders and receive more support |
| Center 6 | STUDENT & COMMUNITY | Julie | - EXPERIENCE: communications, small business - technology, faculty | - multiple programs  
- university support | - small team  
- significant concerns regarding sustainability and maintaining day-to-day operations |

Although each participant had unique backgrounds, education, and lived experiences, there appeared to be multiple similarities regarding their concerns, approach, and challenges. The themes demonstrated a holistic experience, the findings of a homogenous sample from EC director’s, and are indicative of an in-depth IPA Study. A dialogue of the results and implications for the study will be presented in the following chapter.
Chapter 5: Discussion

The purpose of this qualitative study was to identify entrepreneurial learning based on experiences in creating and managing their centers within a higher education environment. In this final chapter, the researcher will discuss the implications of the theory, research, and practice in light of the findings presented in the previous chapter. Theoretically, the study demonstrated how Politis’ (2005) model guided cultivating the entrepreneurial learning experience of each participant. Concerning this research, the investigation added qualitative knowledge for future administrators developing entrepreneurship centers, highlighted the continuous entrepreneurial learning experience over time through in-depth interviews, and offered a broader perspective regarding numerous development strategies for small businesses and managing a current or new center. The study identified limitations that the EC directors faced within an academic institution. Also, participants offered alternative programming promoting a self-sustaining model not solely dependent on grants, corporate funding, government funding, or donations. Each of these areas highlighted numerous entrepreneurial learning experiences, discussed in this chapter, affirmed the importance of advancing entrepreneurial centers designed to support the next generation of creators. This chapter contains discussion and future research possibilities to help answer the research questions:

**Research Question:** How do center leaders describe their entrepreneurial learning based on experiences creating and managing their centers in Higher Education?

**Sub-question:** To what extent is a transformation process expressed, as the Entrepreneurship Center Director describe their learning experiences over-time?

The participants of this study described their entrepreneurial learning through a variety of lived experiences creating small businesses, working with small businesses, and collaborating
with stakeholders to support small businesses. Each contributor described their transformation process regarding themselves and their EC, recounting several forms of support and progression. The entrepreneurial learning experiences that motivated and influenced eight entrepreneur center administrators led to diverse and multi-dimensional lived experiences comprised of four themes: (a) a sense of support each individual identified as imperative; (b) a sense of preparedness and proficiency regarding the responsibilities of their current role; (c) a sense of limitations regarding the challenges of their day to day operations; and (d) a sense of impact towards the participants of their center. The connection regarding each theme to the participant varied. Showcasing dynamics specific to the individual, industries, and a combination of entrepreneurial learning based on their lived experiences. All of these factors helped contribute to cultivating an environment designed to challenge and support the individuals that took part in the center's programs and activities.

Implications of the Findings

Although their education, experiences, and ECs are diverse, each of the four common themes was prominent factors in cultivating the entrepreneurial learning experience of the participants within this study. These themes identified evolving fundamentals the participants appeared to have in common as it relates to their individual experiences over time. Each theme is described in detail in the following section.

Experience of being Supported

During the various stages of their lived experiences, each individual identified the support they received or desired. This study concluded that support is imperative to the EC’s staff. The participants also identified a connection between the level of support received from the institution and the direct impact of the EC’s growth. In addition, EC directors discussed a “sense
of support from a network” essential to the center. Each participant identified variations of gratitude regarding the support they received or expressed concern regarding the lack of support.

Participants cited observed team support as the most important influence (Sheng, Tian, & Chen, 2010). This study concluded that when individuals feel they are valued and supported, it reflects in their efforts and their wellbeing within the team (Sheng et al., 2010). The participants of this study all identified the correlation between their vision for the EC and experience of being supported due to implicated restrictions or areas of success. For example Kim mentioned that “usually, the bigger the achievement, the more important it is to have a good team and usually a bigger team,” while James questioned “what are the things that we can help support that are scalable cause of our small team size?”

All participants described an authentic love for their work, but the notable difference evolved based on the infrastructure of the team. Those with a larger pool of staff/experts, showcased higher levels of success and satisfaction. Those that expressed concerns regarding limited or a shortage of support connected those limitations to their ability to achieve set-vision for the EC. Alexis said, “We have one contractor and then a marketing interim to help support that, which, in my opinion, I wish we could extend some more, but that's what we have at the moment.”

In this study, participants that identified higher functioning team members simultaneously addressed expanding their EC with additional programs and creating a supportive environment for their team. The participants that expressed limitations based on staff did not necessarily address the expansion of the EC but expressed a desire for team expansion or collaboration to supplement for challenges felt by the participant. Although perceived team
support and expansion were both evaluated based on the individual’s perceptions, the influence of team support differed significantly (Sheng et al., 2010).

This study concluded that support from the institution is essential to the EC’s impact. While all participants expressed ownership towards cultivating each EC's mission, various degrees of support from the institution appeared to have a direct influence on the center's growth. With institutional support, the EC director is better equipped to expand and impact economic development within the surrounding area of the institution. An example showcasing sentiments of received support or desired support from the institution comes from Anne when she said, “We cross over the entire university. I have faculty members in all 16 colleges at University B who teach for us. So, we're very interdisciplinary. So, the students aren't just pigeonholed into one thing.”

There have been several studies regarding stakeholders within a public or private institution increasingly prioritizing skillsets that will improve success for its graduates (O’Leary, 2015). Support from internal stakeholders within higher education also evolved in this study. Participants either addressed leadership supporting their efforts to create successful outcomes or feelings of political challenges preventing their progress. Nicole stated:

We're fortunate enough that our president is very supportive of Continuing Ed. and this is pretty much a really big one in a sense of, we've got a mixture of contracts, grant funding from various sources and different grants, contracts and all that kind of stuff that makes up for the big division.

Additionally, James relayed that “the real challenge was learning how to deal with the bureaucracy. So, it’s kind of like diving into the deep end.”
Institutional support is a component which traditionally includes resources, funding, space, and technology with commercial potential (Wielemaker, Gaudes, Grant, & Murdock, 2010). This study further suggests that the institution should consider expanding its support and efforts through interdisciplinary relationships with faculty from multiple colleges, and leadership collaborating with the EC director regarding the development of the center.

The literature emphasizes the value of social networks as a means to overcome barriers that may progress towards acquiring resources necessary to develop a new venture (Camara, 2012a). Some of the noticeable supportive factors that evolved as a result of this study were the following:

- Personal supportive network
- Desiring a network for the center
- Devoting their efforts to build a network for the center

Concerning social networks, Alexis mentioned:

I think part of what helped with the success was the strength of our board and the network that we had. In fact, part of the reason for how I came to Center 3 in the first place was through a relationship I had with a board member.

Most of the participants attributed their current role and career experiences to the help they received from colleagues and mentors. Although most participants expressed benefiting from a personal social network, others implemented social networking as a strategy to support the center, and as a result, they experienced more significant outcomes for the center and indirectly for themselves. A great example would be Ted, utilizing his government experience and network to navigate the grant writing process and learn best practices from entrepreneurship programs he has worked with in the past. Ted related, “I really got to understand how, does a
federal agency work, what do they do, how do they work with the business community. And then making contacts in DC.” Anne is also another great example, networking inside and outside of the university to expand awareness regarding Center 2/University B. She said:

I'm talking to the elementary schools and the high schools and the assisted living programs in the city. I've talked to the chamber of commerce and the city commission and the county commission and the legislature and the board of governors.

This study identified the potential role and value of a supportive network, critical to both the proficiency of the director and the development of a new or evolving center (Camara, 2012b). Networking and creating a supportive network for the center is imperative to the learning process, motivation, and promotes action (Camara, 2012b).

Feelings of Preparedness/Proficiency

In previous literature, the assessment of competencies as a fundamental building block of has progressed in the selection process of teams and leadership (Hagan, 2006). The results of this study would agree with the literature regarding the importance of the hiring manager accountable for selecting the ideal person they believe is the most qualified and prepared to accomplish the mission of the center (Fadairo, Williams, & Maggio, 2013). Although all of the participants of this study have diverse work experiences, their perspectives of being prepared for the role varied. Some of the participants addressed their qualifications for the role based on working with entrepreneurs, working as an entrepreneur, or a combination. Derek shared how he “was working directly with businesses of different sizes, revenues to secure loans from banks. Some of those were what would be deemed as small businesses; some are middle market.” Nicole stated:
So, I started the XXXXXX Publications, which is a publishing company that helps authors who want to self-publish release their books. So, the services we provide are cover design, interior layout, editing, and we also provide print on-demand distribution.

One of the most exciting findings from this study was the discovery of the participants that had diverse career experiences. Those that expressed higher levels of success and fewer limitations described a vast range of experiences. They worked in multiple industries and positions, and they described experiences leading, following, creating, and supporting. Those with less exposure to various experiences or fewer years of experience appeared to have more challenges in comparison to the other participants.

**Table 5.1**

<table>
<thead>
<tr>
<th></th>
<th>Entrepreneur</th>
<th>For-profit Startup or Corp.</th>
<th>Non-profit / Gov</th>
<th>Higher Ed Admin</th>
<th>Higher Ed Faculty</th>
<th>Center Participant</th>
</tr>
</thead>
<tbody>
<tr>
<td>Julie</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>James</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
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**Experience of being Limited**

The literature emphasized an EC’s risk of limited stability despite its potential for growth (Youtie & Shapira, 2008). Participants in this study all voiced various concerns of their feelings
being limited regarding what they believed hindered the potential of the EC’s future. Concerns such as a shortage of staff, backing from institutional stakeholders, and a lack of funding sources. Kim said that “a lot of what we do is determined by the ultimate grant provider,” while Julie shared:

Realizing that you have to make it viable to run with limited staff and budget and you want to do so much and realizing okay, what is going to have the most impact, and what can we do that's going to be sustainable without limiting yourself? Really saying this is what's working.

While many colleges now seek to transition to knowledge hubs such as ECs, thus creating a more significant impact within their institution and its surrounding community, there are diverse perspectives regarding the approach towards achieving the desired results (Youtie & Shapira, 2008). The participants of this study expressed different perspectives or a sense of restriction towards curating the center. The voices of the participants in this study confirms the current literature. Alexis mentioned:

I would like to see, just from my past experience in the four years at the center, more of instructional individuals as full-time staff, just due to some limitations that we have on having contracted staff, and, in particular, on a regular basis, there should be mentorship available to the students.

Although numerous studies identified multiple approaches and activities regarding ways to support startup companies, they all revolve around developing links and experiences that require collaborating and cultivating successful experiences for the individuals that participate in the center (O'Leary, 2015). Youtie & Shapira (2008) recognized the importance of suitable
entrepreneurial activities complementary to the needs of the start-up companies; this study showcased limitations based on the institution’s strategy towards its aspired impact.

**Experience of Creating Impact**

This study’s results emphasized the entrepreneurial mindset and behavior concerning the participants and their experience creating impact regarding students, the institution, and their local community in terms of several measures (Wielemaker et al., 2010). The literature identified the impact of entrepreneurial workspaces, innovation, face-to-face consultations, and numerous processes towards outcomes (Toker & Gray, 2008). Ted related:

> I would think we have a good impact. For us, we work with about 900 business owners a year. And we're very collaborative with other organizations. We'll work with different lenders, with different folks that provide consulting as well. So, we're very collaborative.

James added:

> So in the ten years that the office has been around it's a little over 11 years now, it's a little over 5,000 clients that we've met with and there's a little over 3,000 distinct ideas, of which 515 have turned into actual full-fledged businesses that currently employ just over 1,500 people.

Derek summed up in saying, “In reality, we've touched a small fraction of small businesses as we would define them by our mission's criteria. A small fraction. 458 to date.”

Entrepreneurship has long been acknowledged as an element in economic prosperity (Donnellon et al., 2014). The participants of this study identified unique approaches to creating impact beneficial to the multiple entrepreneurs participating in their center. Literature confirms the growth potential, economic impact, and profound potential impact for the institution (Barbero et al., 2012; Toker & Gray, 2008).
Implications for Theory and Research

Chapter One included descriptions of a framework regarding a process of entrepreneurial learning as an experiential process. The framework categorizes three main sections in the process of entrepreneurial learning: entrepreneurial knowledge in terms of adapting to change and recognizing opportunities, entrepreneurs’ career experience, and the transformation process (Politis, 2005). The following section identifies how the framework fits within the study.

Entrepreneurial Learning as an Experiential Process

Entrepreneurial learning is traditionally described as a continuous process that enables the necessary growth and knowledge for being effective in start-ups and managing new ventures (Politis, 2005). In this study, the participants identified their own entrepreneurial learning experiences over time through launching their own business, working for a startup, or working with multiple startups through corporations or government roles. The results of this study aligned with Politis' (2005) framework, highlighting the entrepreneurial learning of the participants as they experienced the process of developing their entrepreneurial knowledge throughout their professional lives.

Entrepreneurial Knowledge

When comparing this study’s results with entrepreneurial learning, entrepreneurial knowledge evolved during the participant's experiences, recognizing opportunities, and adapting to the challenges of developing the EC and coping with the liabilities associated with it. The literature aligned with the study identifying two factors that influenced the ability of each participants aptitude to apply prior information necessary to identify opportunities and the cognitive capability to understand its value (Politis, 2005). Kim related:
Well, really, you learn the fundamentals. The fundamentals in terms of the importance of good communication. That's good communication within your team and everybody communicating, understanding each other, having an idea of what the vision is, and where you're trying to get to. That's true whether you're running a newspaper, or you're running a consulting firm, anything. You need people to be communicating, and to be on board, and to have a shared vision.

The framework also recognized coping with liabilities of newness as it relates to the learning outcome (Politis, 2005). The results of this study identified several moments of the participants coping with the liabilities associated with developing entrepreneurship resources, a qualified team, and a scalable entrepreneurship center. Limitations regarding the financial and marketing challenges identified within the research also evolved in the study due to the financial structure of EC grants or donor funding, marketing the center within the center and community, and the coping strategy of developing paid programs and developing interdisciplinary relationships throughout the institution (Politis, 2005). While the results of this study confirmed similar conditions of entrepreneurial knowledge, the skill of transitioning knowledge into experience varied per person.

**Entrepreneurial Work Experience**

Earlier research suggests that prior start-up experience offers tacit knowledge that supports decision-making about entrepreneurial opportunities under uncertainty and pressure (Politis, 2005). The results of this study identified entrepreneurial work experiences such as creating a startup, management experiences that incorporated working with small businesses, and experience participating in a center as an entrepreneur. James shared, “Well along the way I started a handful of start-ups that most have come and gone.” Anne added, “So, I, when we
moved to XXXX, started building out our first store... I would manage the stores at night after I taught school... we had four stores.”

The literature addressed how entrepreneurs, years of work experience, applied to support entrepreneurs, helped them increase the survival rate of their endeavors, and reduced the likelihood of failure (Politis, 2005). The results of this study identified benefits associated with work experiences, not just as an entrepreneur, but working with or for organizations that supported entrepreneurs. According to Derek, “I joined a management training program within the banking industry… I was working directly with businesses of different sizes, revenues to secure loans from banks.”

When comparing this study to the entrepreneurial learning, many of the participants addressed a range of different work experiences. Creators tend to start businesses in industries in which they were previously employed, such as Anne creating a retail store and Kim’s publishing company. Their previous work experience allows them to benefit from the information regarding the opportunities gathered from their previous employment (Politis, 2005). In alignment with the research, directors with industry-specific experience appeared to have a strong sense of their entrepreneurial knowledge (Politis, 2005). Leadership with experience participating in a center such as Nicole and Alexis, or participants with previous experience supplying resources to entrepreneurial centers such as Ted, appeared to impact the passion and outcome of the center they currently manage (Politis, 2005). Alexis shared:

I got very involved with the entrepreneurship center where I did my master’s program, to the point where I was doing a lot of different extracurricular workshops, being part of the business plan competition.

**Transformation Process & Factors influencing the Transformation process**
The participants interviewed in this study expressed their commitment to the mission and vision of their center. While many credited the support to their team, leadership within the college, and mentors, these directors expressed their confidence and capabilities towards achieving the center's mission. Each participant provided their perspective of learning as they described their occurrences of transformation, sharing several career experiences that continuously evolved (Politis, 2005). They each discussed their lived experiences regarding challenges and opportunities. In alignment with the literature, the directors expressed their comprehension of the skills necessary for curating an entrepreneurship center (Politis, 2005).

Entrepreneurial knowledge can be considered as the result of the combination of both grasping an experience in addition to transforming the experience (Politis, 2005). The results of this study identified the transformation process the participants expressed as they described curating their center through strategies of exploitation, exploration, or both (Politis, 2005). Several of the participants described their practices of exploitation, regarding their process of implementing best-practices and advice from other leaders. Ted said that “we spent that year trying to identify best practices from other centers” and James shared, “And so we do workshops, we do mentoring, we have a formal mentor program where we bring in industry experts to do long-term engagements with the students.”

Other participants described their practices of exploration, regarding their process of implementing variations of new programs and experimentation with ways of becoming sustainable. For example, Julie stated that “creating programming to help support those experiences that it has. It looks like a number of different things, but basically, getting the connection, providing support while you're learning as well.” Nicole contributed:
So, the current opportunities where you know now, we don't know how long this is going to go, so the current opportunities is how do we then maintain ourselves in the event that we no longer have a grant. Newer opportunities as to reach the underserved population, get more of them into the program. Another opportunity is they want us to teach current cohort scholars and the alum how to advocate for themselves properly. So, we're working on that with them. And how do we become self-sufficient?

Both strategies of exploitation and exploration played a significant role in the process of each leader’s approach to developing a center that would accomplish the mission and vision of the center and its intended support for entrepreneurs.

**Implications of Practice**

Although the participants of this study led different centers with different visions, they are all housed within institutions of knowledge designed to develop and promote experiences that will benefit its area and beyond (Youtie & Shapira, 2008). Colleges and universities have evolved its process of creating resources, acquiring existing resources, and developing knowledge hubs such as entrepreneurship centers to deploy as a core function to benefit the entrepreneurial goals of its students and community (Youtie & Shapira, 2008). The outcome of this study indicated the following four suggestions that could greatly benefit future and current entrepreneurship centers, aspiring to expand its influence based on the institution's mission and vision.

- **Recommendation 1** – (institution) Essential experiences to look for when reviewing a potential EC director’s resume
- **Recommendation 2** – (institution) Develop a fiscally sustainable strategy for the EC’s objectives
• **Recommendation 3** – (EC director) Collaborate and develop a “center leadership team” of industry experts, institution leaders and the colleges Foundation department

• **Recommendation 4** – (EC leadership team) Build the EC's social network and create recognition internally and externally

The study demonstrated institutions creating ECs for diverse purposes, such as supporting entrepreneurs within the college and community entrepreneurs at various levels. In many stories, participants voiced their gratitude concerning the institution's provision and involvement in the process of developing the center, or voiced their frustration concerning limited support, a disconnection between the center and the institution comprehending the resources needed to complete the mission the EC is charged with executing. Current and future leaders within post-secondary institutions, responsible for creating or growing an EC should consider the proceeding recommendations.

**Recommendation 1 Resume Review - Recruit a Center Leader with Diverse Career Experience**

This study identified that leaders with a range of diverse career experience, and a skillset of networking within the college and expanding the social capital of the center, are better positioned to attract industry experts, and expand the center's potential growth. An EC’s director's capability to communicate and collaborate with different factions can help them achieve their projected goals. Leadership tasked with recruiting an EC director should consider an individual with the ability to maneuver in an entrepreneurial environment (creative/self-starter), and a non-profit environment (adapting/thriving within an existing culture). Also, identifying experiences leading, following, and collaborating with a team.

**Figure 5.1**
Based on Figure 5.1, The figure below identifies how these four skillsets can impact the growth of an EC. Figure 5.2 showcases an example of varies experiences (based on examples participants of this study identified) EC directors communicates and collaborates. Some leaders discussed their experience working with their team, institution, and community successfully, and some addressed challenges during the process. Figure 5.2 showcases communication and collaborative skillsets significant to the role of an EC director.

**Figure 5.2** The Communication and Collaborative Process

**EC Director to EC Team**
- Provide Direction
- Collaborate & Support EC Team
- Listen & Assess (Team & Participants)

**EC Director to Leadership within the College**
- Shares EC Success & Challenges
- Collaborates for support and networking opportunities

**EC Director to Community Partners**
- Communicates EC Mission and resources with the following areas:
  - College
  - Community
  - Potential Donors / Grants

EC Director gathers data and communicates support needed by the Center. Articulates EC needs. Collaborates within the college for solutions

EC Director utilizes the results of the collaboration, the network and assets of the college. Share awareness and recruit EC supporters and participants
Recommendation 2 - Post-secondary Institution (PI) – Developing a Fiscally Sustainable Strategy for the Center’s Objectives

Before launching an EC, one should develop a fiscally sustainable strategy for the center’s objective. In this study, all the participants expressed various levels of concern regarding the sustainability of the EC, due to its traditional funding source of government grants, corporate grants, and/or donations. The funding source appears to have a direct impact on the directors’ focus, the size, and the quality of the team. Perhaps, the institution’s leadership team should consider strategizing with the EC’s director in the following ways:

- **Institutions Budget**: In addition to the original grant/donation funding, incorporate the EC into the budget

- **Institutions Foundation department**: incorporate the college's foundation department to assist the EC’s director in searching for additional grants and donors.

- **For-profit programs**: in addition to maintaining non-profit programs within the EC intended to support entrepreneurs, design for-profit resources and programming for medium-size companies

Whether an EC is serving its students, community members, or both, formalizing start-ups and developing local businesses has a direct impact on economic development within the area. Assisting the center to expand its funding source can play an imperative role in strategizing towards a successful and sustainable EC.

Recommendation 3 – (EC Director) Collaborate and Develop a “Center Leadership Team” of Industry Experts, Institution Leaders, and the College’s Foundation Department

Institutional backing can impact the center's growth and fidelity to the overall mission of the center. Participants of the study expressed gratitude for a highly qualified team with expertise
specific to the needs of the center. Other participants conveyed frustration based on a shortage of qualified team members. Leaders that expressed satisfaction from a qualified team articulated their focus on developing the future of the center and developing pathways of growth for the current team. Leaders that conveyed dissatisfaction from a shortage of qualified staff articulated their focus on maintaining day-to-day operations, playing multiple roles, and concerns for sustainability.

The EC director is already tasked with building a team for the EC internally. The researcher suggests creating a center leadership team, which should include both the EC team and a board of industry experts, internal college leaders, faculty, and internal leaders from the college's foundation department. The results of this study highlighted the importance of positioning the EC to succeed and recruiting a diverse “center leadership team” of experts (See Figure 5.3) capable of meeting quarterly and executing the mission of the EC, both at the macro and micro-level. From primary EC needs such as funding and industry-specific partnerships, to EC programs and activities, assembling a center leadership team can help develop the EC’s pathways of growth, and increasing fidelity within the team.
Recommendation 4 – (Center Leadership Team) Build the EC's Social Network and Create Recognition Internally and Externally

Based on the mission of the EC, institutional support in creating awareness of the EC’s mission, could prove to be a beneficial resource for the EC’s expansion. Participants that expressed gratitude towards the cultural experience within the institution identified multiple support and participation from different areas of the college. Other participants expressed frustration and a desire to interact with the college regarding students, faculty, and community members. The research suggests charging the entire “Center Leadership Team” with proactively networking based on the EC’s mission through the following:

- Collaborate with university stakeholders (ex: Presidents office, External Relations)
• Awareness Activities within the Center (ex: Speaker Series, Panels, Competitions)
• Proactive networking and collaborating with faculty and alumni
• Proactive networking and collaborating with industry experts, mentors, donors, community leaders, and potential EC participants.

**Figure 5.4 Proactive Network**

**Limitations and Recommendations for Future Research**

Although the researcher believes that qualitative research was the right approach for this study, qualitative research tools, such as interviews, are not designed to capture hard facts such as revenue and employment rates. More credibility could be given to this study if it coincided with quantitative research. For instance, statistical analysis and surveys created for quantitative research may provide more evidence to reinforce the data discovered using qualitative research tools and conducting another quantitative study that would correspond with this study’s findings. 
using a larger diverse population. Also, comparing the perspectives of more EC leadership and potentially including the institution's leadership responsible for deciding the mission of the EC and recruiting the EC director. This may give more insight into the development process and impact of the EC within the institution and community.

Several areas for future research targeting the impact of the EC could add to the findings in this study. For future research, a mix-method study could be developed, incorporating both in-person interviews, focus groups and surveys. This method may allow the researcher to capture experiences that the participant may feel more comfortable sharing via survey than in person, or via group interaction. Researchers should also consider assessing and comparing ECs with industry-specific programs versus traditional ECs designed to support entrepreneurs from all industries. For example, a qualitative examination regarding the EC’s impact via interviews and focus groups, and quantitative statistical analysis and survey. Expanding to a broader demographic of the study and assessing the impact, may inspire other institutions to develop ECs. Similar to the experience of participant Nicole, Industry-specific data, may also inspire industry-specific colleges to also collaborate with the institutions EC.

**Conclusion**

Knowledge transfer is a significant impact on the growth of small businesses, and entrepreneurial activities within higher education institutions contribute to economic development (Redondo & Camarero, 2018). Entrepreneurial centers are uniquely positioned to support innovation from all industries; this study suggests that the qualifications of the selected leadership team, and the institutions level of support for its EC, can have a direct impact on team performance, entrepreneurial outcome and accomplishing the intended mission initially delegated by the institution.
The results of this study suggested that there are four themes relevant to the individual’s perspective regarding the needs and process of curating an environment critical to the development of an EC: (a) experiences of being supported between the team, institution and community; (b) feelings of preparedness and proficiency for curating an entrepreneurial environment through the leaderships mindset, skills and methods; (c) experiences of being limited concerning external challenges, limited resources and fund; and (d) experiences of creating impact regarding the centers outcome and metrics.

Each individual within this study described their entrepreneurial learning experiences, provided their perspective and best practices towards applying their entrepreneurial knowledge to the process of curating innovation within their EC. The success factor regarding the potential regional and national economic impact of an EC should be considered, not just during the developing stage (Dahms & Kingkaew, 2016), but also the growth stage. This study suggests a collaborative effort between the institution and a network industry-experts, cultivating an environment that empowers the EC leadership team to focus on developing and scaling its mission of impact.
References


Camara, F. (2012). Export and social networking as a resource control strategy: A case study from the Azores. https://doi.org/10.1080/08276331.2006.10593379


Appendix A

Recruitment Letter - Email

Date

Dear _________

My name is Anna Etienne. I am a student at Northeastern University, College of Professional Studies, where I am completing requirements for a Doctor of Education degree. I am seeking participants for my qualitative study of entrepreneurial centers within educational institutions. The purpose of this dissertation is to uncover how Directors of entrepreneurial centers in Higher Education describe their learning over time.

I am asking you to be in this study because you meet the following criteria:

1. You are a Director or Manager of an Entrepreneurship Center within an academic institution
2. You have at least two years of experience
3. You created or managed a process that seeks to support entrepreneurs
4. You are willing to share your experience

If you volunteer to take part in this study, I will ask you to participate in a semi-structured interview. My goal is for the interviews to be in person, telephone, or via skype.

- The interview will be between 30-45 minutes in duration. This will be our opportunity to get to know each other briefly and to establish your understanding of participation. I will answer any questions you might have and ask for some general information. For example, how long have you managed/directed the (name of center) within (name of college or university), or, how would you describe your first-year managing/directing (name of center)?
- You will have the opportunity to offer any additional reflective thoughts after the interview.
- This communication will be recorded and may be conducted face-to-face or telephone, skype, or other means at a distance, depending on your availability.

The following actions will maintain the confidentiality of your responses:

Pseudonyms will be used
- A locked filing cabinet will house all data from the interview
• A separate, locked file cabinet (in a different location) will hold the list of participants’ names, their pseudonyms, and their signed consent forms
• At the conclusion of the study, all-digital recordings of the interviews will be destroyed

Participation is voluntary, confidential, and there will be no personally identifying information about you in the study. Even if you agree to participate, you may withdraw at any time. If you decide to participate (and I hope you do!), please send an email to me at etienne.a@husky.neu.edu. If you have any questions about my study or would like further information, please do not hesitate to contact me. I look forward to hearing from you.

Sincerely Yours,

Anna L. Etienne, Doctoral Candidate
Northeastern University
Email: etienne.a@husky.neu.edu

Follow-up Letter 1 – Email

Date

Dear _____

Thank you for agreeing to participate in this interview regarding my qualitative study of entrepreneurial centers within post-secondary institutions. Our interview is scheduled for (interview date and time). I look forward to speaking with you and learning more about your organization.

Sincerely yours,

Anna L. Etienne, Doctoral Candidate
Northeastern University
Email: etienne.a@husky.neu.edu
Thank you for participating in this interview regarding my qualitative study of entrepreneurial centers within post-secondary institutions. I’ve attached the transcript from our interview (interview date). Please let me know if you have any additional comments or see anything in the transcript that may need to be edited. Once again, thank you for this opportunity.

Sincerely yours,

Anna L. Etienne, Doctoral Candidate
Northeastern University
Email: etienne.a@husky.neu.edu
Appendix B

Informed Consent to Participate in a Research Study

Institution: Northeastern University, College of Professional Studies,

Investigators: Anna L. Etienne - Doctoral Candidate, Dr. Margaret Gorman - Principal Investigator

Title of Project: Curating Innovation within Entrepreneurship Centers: An IPA study exploring the entrepreneurial learning experiences of Center Directors across different types of post-secondary institutions

This letter will explain what participation in the study means, but if you have further questions, please ask. Your participation is voluntary. After you have read this document and made a decision, please advise me. If you choose to participate, I will ask you to sign this statement. I will provide you a signed copy for your records.

I am asking you to be in this study because you meet the following criteria:
1. You are a Director or Manager within an Entrepreneurship Center within a post-secondary institutions
2. You have at least two years of experience
3. You created or managed a process that seeks to support entrepreneurs
4. You are willing to share your experience

If you decide to take part in this study, I will ask you to participate in a semi-structured interview.

- The interview will be between 30-45 minutes in duration. This will be our opportunity to get to know each other briefly and to establish your understanding of participation. I will answer any questions you might have and ask for some general information.
- You will have the opportunity to offer any additional reflective thoughts after the interview.
- This communication will be recorded and may be conducted, face-to-face, telephone, skype, or other means at a distance depending on your availability.

The following actions will maintain the confidentiality of your responses:

Pseudonyms will be used
- A locked filing cabinet will house all data from the interview
- A separate, locked file cabinet (in a different location) will hold the list of participants’ names, their pseudonyms, and their signed consent forms
- At the conclusion of the study all digital recordings of the interviews will be destroyed

Your participation in this research is voluntary. Even if you begin the study, you may quit at any time. You may refuse to answer any question. There will be no direct benefit to you for taking part in the study.
If you have any questions about your rights in this research, you may contact Nan C. Regina, Director, Human Subject Research Protection, 960 Renaissance Park, Northeastern University, Boston, MA 02115. Tel: 617.373.4588, Email: irb@neu.edu. You may call anonymously if you wish.

Sincerely Yours,

Anna L. Etienne

If you agree to participate in this study, please read, initial directly below and sign at the bottom of the page.

**Documentation of Informed Consent**

Read the statements that follow and place your initials in the box to the right of the statement, then proceed to the signature area further below

I understand the information presented on this form.

I have discussed this study, its risks and potential benefits, and other options with the student researcher, Anna L. Etienne.

I have received answers to the questions I have asked up to this point.

My signature below indicates my willingness to participate in this study. My signature below affirms my understanding that I can withdraw from the study at any time.

____________________________________________  ________________
Signature of participant     Date

____________________________________________
Printed name of person above

____________________________________________  ________________
Signature of person obtaining consent     Date

____________________________________________
Printed name of person above
Appendix C

Interview Questions

Hello [Interviewee Name]. Thank you for taking the time to meet with me. As we discussed previously, I am a doctoral student at Northeastern in Higher Education Administration, and I am interested in learning about your experience leading an entrepreneurship center, and how you would describe overtime earning overtime from year to year. This interview should take no more than 30 to 45 minutes. I want to emphasize that you will remain anonymous in this process and that your participation is voluntary, and you are free to withdraw at any time. Also, I want to make sure that I have your permission to record the interview and use a professional transcription service. Again, you will be kept entirely anonymous during this entire process. Does that sound okay to you?

I would like to begin at the start of your professional journey assessing your education and various work experiences

1. (Clients Name) Tell me about your educational journey. What degree(s) do you currently have?
   a. Why focus on ____ (Major/industry identified by interview)?
   b. After graduation, what was your next step?
2. Can you tell me about your various work experiences before working for a college/university?
   a. What did you learn from that experience? (Prop between jobs described)
   b. How has that previous experience (name what was stated), prepared you for a career within higher education?
3. Why the interest in Higher Education?
   a. [Probe as needed]
4. Tell me about your first experience developing or managing an entrepreneurial programs within a University?
   a. [Probe as needed]
5. What did that experience teach you (name the position)?
   a. Can you tell me more about_____ experience?
   b. How would you describe your learning style within the context of a work environment?


**Interviewee Name**, I would like to learn more about your interest in entrepreneurship, and how you see entrepreneurship role within higher education

6. How would you define entrepreneurship?
   a. How has your previous work experience helped you develop entrepreneurial skills?
   b. How did you discover the connection between entrepreneurship and academic institutions?
7. Can you tell me about your current role?
   a. Probe as needed
8. How would you describe the “entrepreneurial ecosystem” of (name the specific innovation center)?
   a. Refer to the website if needed
9. As the (Director/Manager) of (Center Name), what inspired you to work for (University/college Name)?
   a. Is there a problem you are trying to solve?
   b. What issues regarding (a problem they stated) concerns you the most?
   c. Why are you so passionate about this topic?
10. When you look back and evaluate your past years of work experience, what lessons prepared you for this current role (before becoming {Director/Manager} {Center Name})
   a. Probe as needed
11. How would you describe your leadership style?
   a. How many team members do you currently have?
   b. If you were to guess, how would your team describe your leadership style
   c. How do you evaluate the progress of your team?
   d. How do you evaluate the progress of the (Center Name) mission?

I want to learn more about (Center Name), and its launch within the University/College.

12. Tell me about the college or department (Center Name) reports to (stakeholders)
   a. What is the overall mission of (University Name) creating an entrepreneurship center?
   b. What are their expectations?
13. Describe your experience in the first year as Director of (name of Center)?
   a. Can you describe some of your challenges during the launch?
   b. What was successful about the launch experience
   c. What challenges have you faced
   d. What did you learn from those challenges?
   e. How did that make you feel?
   f. How did that experience impact your decisions as a leader?
14. What are the stages involved in (Directing/Managing) your responsibilities for (Center Name) the first year?
   a. How much of your work experience influenced the design of each stage, (work experience versus knowledge) (name individuals’ degrees/education)
   b. How has your team contributed to this process?
15. What changes did you implement the second year (repeat for year 3 or 4 depending on the years the individual has maintained the position)
   a. What did you change from that lesson?
   b. How did that lesson make you feel?
16. How would you describe your learning style throughout your time as (Directing/Managing) of (Center Name)?
   a. How has this impacted your leadership style (probe)
   b. How has this impacted the current status of your Center (probe)
17. How would you describe the current state of (Center Name)?
   a. What current challenges does (Center Name) face today?
   b. Any recent successes you’d like to share?
   c. How do you evaluate the Center’s impact on participating entrepreneurs?
   d. How do you evaluate the Center’s impact on the university as a whole?
18. Take me through a day in the life of an entrepreneur participating in (Center Name)
   a. Do you believe these activities are working? (Be specific regarding what was mentioned)
   b. What outcomes are you currently tracking regarding the entrepreneurs participating?
   c. Were there some outcomes you did not expect?
   d. How does this project, align with the university mission?
19. What have you learned from your Center’s participants?
   a. How does that make you feel (probe)?
20. How do you view the future of entrepreneurship and its place within higher education?
   a. If you could predict the future of (Center Name), what would it be?
   b. If you could predict the future of (University Name) regarding its role within entrepreneurship, what would it be?
21. Any Final Thoughts

[Thank participants for their time. I will email you a copy of your transcripts for your review.]
Appendix D

NIH Certificate of Completion Verification

Certificate of Completion

The National Institutes of Health (NIH) Office of Extramural Research certifies that Anna Etienne successfully completed the NIH Web-based training course "Protecting Human Research Participants."

Date of Completion: 09/24/2018

Certification Number: 2951943