DECISION-MAKING AND IMPLEMENTATION STRATEGIES FOR REGISTERED APPRENTICESHIP PROGRAMS IN COMMUNITY COLLEGES

by

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DEcision-making and implementation strategies for registered apprenticeship programs in community colleges

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ABSTRACT

Registered Apprenticeships (RA) have recently emerged in response to the labor shortage as a strategy for employers to recruit new talent or develop their existing workforce. Some community colleges providing the related instruction for RA programs have benefited from these partnerships through increased enrollments, retention of students through to completion, and stronger partnerships with business and industry. Colleges want to better understand the practicalities of apprenticeship before they invest time and resources. The purpose of this study was to explore the decision-making process and identify strategies that led to the successful implementation of RA programs in community colleges.

This qualitative inquiry was a case study of recently-implemented RA programs at community colleges across the United States. A national survey and interviews of six community college representatives were primary data collection methods. The inquiry was framed by three theories: (1) Rogers’ (2005) Theory of Diffusion of Innovation; (2) Chakrabarti and Hauschildt’s (1989) Promoter Theory; and Tuckman’s (1977) Theory of Group Development.

The findings revealed community college leaders’ decision-making processes and implementation strategies that led to successful RA programs. The components discovered from the findings on decision-making comprised three situations: (1) operating on a directive from a higher authority; (2) receipt of a grant that required development of an RA program; or (3) the desire to respond to local labor market needs. Elements discovered from the findings on successful implementation strategies included: (1) appointment of a champion to guide and focus the college apprenticeship initiative; (2) establishment of an internal community college team.
among several departments working to deliver a quality program; and (3) development of a strong external-facing business outreach strategy to attract employers interested in utilizing RA as a tool for workforce development. These three elements provide a robust approach that will create value and excellent service to both employers and apprentices. Colleges are familiar with the first two elements because they are operational but not so with developing a strong external-facing business outreach strategy.

Based on this research, the MacGregor Employer Partnership Model was created. It is a tool for community colleges to adopt to engage the business community effectively in their districts in partnerships for delivering talent solutions such as apprenticeship programs.

Key Words: apprenticeships, workforce development, community colleges
DEDICATION

This dissertation is dedicated to my husband, Chris. Your unwavering support and love throughout this doctoral journey cannot be measured. I am infinitely grateful to you for your encouragement, for taking over where I had to leave off, and for the space both physical and mental to accomplish this feat.

To my children, Chelsea and Colin, who accepted my absences and encouraged and chided me along this path every step of the way. To my son-in-law, Tim, who is going to make a fine apprentice. Keep following your own life-long learning journeys!

To my grandson, Alexander, who only had to be born to be the ultimate distraction to my final year but also the person in whom my hopes for the future have settled.
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CHAPTER ONE: INTRODUCTION

Introduction

Apprenticeships are fundamentally a method of passing on skills and knowledge from an expert to a novice over period of time during which the novice becomes proficient. This method of talent development has evolved over time but has never completely disappeared. The apprenticeship strategy of developing new talent has experienced a renaissance in the United States that began during President Barack Obama’s administration. Elected in 2008 on the cusp of the Great Recession, President Obama and his administration advanced a variety of solutions to ameliorate employment rates, one of which was the expansion of apprenticeships. Through multiple funding opportunities such as the American Apprenticeship Initiative (AAI), the federal government provided grant funding to create multiple entry points into Registered Apprenticeship (RA) programs. These are known generically as ‘Earn and Learn’ educational models where individuals earn a salary while learning an occupation. This initiative has the potential to alter the way students are educated and find employment in the United States.

Registered Apprenticeship is clearly defined by the U.S. Department of Labor (2017b) as a “combination of on-the-job training and related instruction in which workers learn the practical and theoretical aspects of a highly skilled occupation.” An apprenticeship is comprised of two components: (1) an employer hires the apprentices for a specific job, and (2) a defined education curriculum. The employer is the critical element without which there is no apprenticeship. An employer must first hire an apprentice they intend to train for a role with the company in a particular occupation. The employer provides the apprentice with an experienced mentor to
oversee their on-the-job learning (OJL). The educational component is referred to as Related Technical Instruction (RTI). The classroom hours included in RTI can be developed and delivered via any means such as: a) employer in-house training program; b) community or technical college for coursework; c) third-party training provider for coursework. However, according to a 2012 Mathematica Policy study, 75% of RA programs use community colleges to provide the RTI (Reed, et al., 2012). It is remarkable companies use community colleges for RTI so commonly and yet so little is known from the community college perspective regarding how these programs have impacted institutions nation-wide.

President Obama recognized the strategic role community colleges play in reskilling Americans for tomorrow’s occupations. Throughout the President’s two-term administration, community colleges received increasingly consistent positive attention. While community colleges exist in great numbers across the country and have for over sixty years, many people remain unacquainted with their mission. Essentially, providing affordable and accessible education, improving career opportunities, thus changing lives for community residents has been the mission of these institutions since their inception. Community colleges provide two year degrees and certificates in transfer credit, career programs, and continuing education programs.

The recent unprecedented national attention on community colleges and federal funding to expand apprenticeships converged to resuscitate RA programs as a career path and a workforce training solution. The momentum driving apprenticeship programs today has the capacity to change the nature of workforce training in the United States. Because of this national emphasis, community college presidents are asking the question, should the college become involved with apprenticeship programs and formalize a training and education partnership with employers?
Community colleges are now starting to emerge as leaders in the field of apprenticeship and have become purposeful in the delivery of these programs. This research strives to gather relevant information on this growing educational schema for community colleges and share insights regarding the decision-making processes regarding whether to offer an RA program and implementation strategies learned.

**Purpose of the Study**

The purpose of this study is to explore the decision-making process and identify strategies that led to the successful implementation of RA programs in community colleges.

**Research and/or Guiding Questions**

The guiding questions arising from the research process are:

1) What were the catalysts for community colleges to consider offering RA programs?
2) What was the decision-making process leading to development of an RA program?
3) What strategies contributed to the successful implementation of the RA program?

**Background and Context for Research**

The renewed focus on community colleges and apprenticeships developed due to multiple variables merging to drive change as a result of employers’ inability to fill their talent pipeline needs. Two major variables emerging in the United States were high unemployment and what employers identify as the “skills gap.” The housing and financial market collapse in 2008 and 2009 led to a loss of 8.4 million jobs causing unemployment to reach nearly 10% (Mishel, Bivens, Gould, & Shierholz, 2012). American employers in a variety of industries claimed they could find no skilled employees to hire. An employer’s skills gap is defined as a disconnect between the skills required for projected job openings and the number of people with the right
skills available to hire into those openings (Wright, 2013). With the convergence of these two drivers, the time was ripe for the reappearance of apprenticeship as a solution to filling the vacant jobs, training and educating students for those jobs, and thus increasing employment.

President Obama had a tremendous influence on the awareness among the general population of community colleges located throughout the country. He began the conversation regarding community colleges and apprenticeship in his first address to a joint session of Congress. Obama encouraged all Americans to attend at least one year of higher education or career training and specifically mentioned community colleges and apprenticeships (The White House, 2009). Interestingly, the fastest growing jobs in America were, and still are, middle skill jobs requiring specific post-secondary education such as a certificate or associate degree aligned with an industry (Holzer & Lerman, 2007).

President Obama also focused attention on completion rates and the number of graduations, or degrees earned. As a result of this focus, the public began to look at college and university completion rates, or degrees earned, in a growing demand for accountability and this began what was commonly referred to as the completion agenda (Complete College America, 2011; Katsinas et al., 2015). The bachelor’s degree had traditionally been a ticket to the middle class and guaranteed employment. Community colleges were seen as the answer for a less expensive path towards a middle skill job. President Obama pledged that by 2020 the United States would once again have the highest number of degree earners and that his administration would boost this goal by investing in community colleges (The White House, 2009).

The presidential priority for apprenticeship programs launched a well-funded national initiative to expand and revive RA as a practical approach to fill the employer needs and provide jobs for the unemployed. Funding for the RA initiative was dispersed in stages sustaining and
strengthening all entities, public and private, that could demonstrate a viable strategy to expand apprenticeships. Table 1 outlines significant federal investment between 2014 to 2016 for apprenticeship expansion.

Table 1: Federal grants and contacts in support of Registered Apprenticeships awarded 2014-2016

<table>
<thead>
<tr>
<th>Date</th>
<th>Funding</th>
<th>Initiative</th>
<th>Awardees</th>
<th>Purpose/Detail</th>
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<td>2014</td>
<td>$1.8 M</td>
<td>Women in Apprenticeships and Non-Traditional Occupations (WANTO)</td>
<td>6</td>
<td>Community-Based Organizations or RA program consortia awarded Technical Assistance Grants to assist with women entering into apprenticeship programs or non-traditional occupations.</td>
</tr>
<tr>
<td>2015</td>
<td>$175.0 M</td>
<td>American Apprenticeship Initiative (AAI)</td>
<td>46</td>
<td>Funds from employer fees paid to hire foreign workers under the H-1 B visa program, grants were awarded to public-private partnerships between employers, unions, non-profits, local governments, and educational institutions to develop an apprenticeship system in the United States to meet workforce needs particular to the United States.</td>
</tr>
<tr>
<td>2016</td>
<td>$20.4 M</td>
<td>National Industry Partners and National Equity Partners (Contracts)</td>
<td>14</td>
<td>10 contracts awarded to national industry organizations to start or scale RA programs in their specific industry. 4 contracts awarded to national equity organizations to support RA programs for women, people of color, the disabled and disconnected youth.</td>
</tr>
<tr>
<td>2016</td>
<td>$10.4 M</td>
<td>State Accelerator Grants</td>
<td>52</td>
<td>$200K for every state plus territories and DC to develop strategic plans to integrate RA programs into education and workforce systems.</td>
</tr>
<tr>
<td>2016</td>
<td>$50.5 M</td>
<td>State Expansion Grants</td>
<td>36</td>
<td>Awards to state workforce systems such as Departments of Labor, Commerce, Workforce, Industry, etc. to develop strategies to expand apprenticeship initiatives throughout the state. Created “ApprenticeshipUSA” structure and website of resources.</td>
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(Department of Labor, 2016)

Apprenticeship programs are an ‘Earn and Learn’ model of training and educating for entry-level and/or middle-level workers. Registered apprenticeship programs are intentionally
designed to positively impact employment rates and address the skills gap. Community colleges are beginning to react to the national focus on RA programs. College leaders recognize that RA partnerships with employers can significantly support their mission to improve career opportunities and change lives through education. The intent of this research was to discover community college leadership’s decision making processes to offer RA programs, as well as how and in what ways the community college integrated the program into the college. This research will result in a model for community colleges to use in building partnerships with employers in order to implement apprenticeship programs on their campuses.

Theoretical Framework

Little is known concerning how and in what ways RA programs are incorporated into community colleges. It is only in the past two years, or since 2015, that a broad initiative to intentionally partner with employers in the delivery of RA programs has been pursued by colleges. In this same time, colleges have begun to investigate a variety of strategies and designs by which implementation of an RA program could fit within their structure and culture.

Registered Apprenticeship programs are complex to develop and administer. These programs involve detailing the skills and competencies required for a particular occupation as well as the number of hours of classroom instruction deemed necessary to gain a thorough understanding of the subject. Their development also involves local companies interested in leading the movement and partnering with the college that provides the requisite classroom hours or RTI. There is no doubt, successful implementation of complex programs, such as RAs, require cooperation among many different contributors such as company leaders and those in various college departments including administrators, faculty, admissions, registrars and others.

Considering these factors and contributors affecting successful delivery of an RA program, this
research will be viewed through three lenses, or theoretical propositions: (1) decision-making, (2) organizational change, and (3) teamwork.

Theory of Diffusion of Innovation

Everett Rogers’ (1995) theory of Diffusion of Innovation is a lens through which the decision to implement an innovative strategy as well as the rate of adoption by an institution can be studied. The premise is that innovative ideas, strategies, or technologies diffuse from early adopters to late adopters and finally to laggards. Rogers believes new ideas have increasing pervasiveness as more and more adoption occurs. Popularity and success with an innovation are more likely to engender ubiquity. This is important for the timing of this research due to the nationwide zeitgeist of apprenticeship expansion. A key element for community college adoption of registered apprenticeship is the decision-making process leading the college to adopt the innovative strategy and how quickly they were able to develop and/or offer an RA program.

There are five stages in the decision process outlined in Rogers’ theory of Diffusion of Innovation (Rogers, 2003). These five stages are illustrative of how any innovation is evaluated for adoption into practice. The first stage is Knowledge when individuals first become aware that a new idea, practice, or technology exists. According to Rogers, awareness of an innovation may stem from a need, as when a leader is in search of a solution to a problem, or the decision maker could become aware of the innovation and realize that the innovation could benefit the institution. The next stage is Persuasion during which the decision maker forms a positive or negative impression of the innovation after actively seeking more information to reduce uncertainty. The decision maker considers the advantages, compatibility with existing processes, complexity of adoption, and solicits opinions from others who have experience with the innovation (Rogers, 2003). The attitudes of others and additional information about the
innovation persuade the individual to favor the idea or not. The third stage is the Decision where the innovation is either adopted or rejected. Often the decision maker will trial the innovation, or look to others who have adopted the innovation, to appraise how the innovation works.

The final two stages of the decision process are Implementation and Confirmation. These two stages occur as a follow through of the full decision making process. Prior to these two stages the decision has been cognitive and in these final two stages there is action. In the Implementation stage the innovation is adopted, however, uncertainty continues as the logistics of the implementation stage are worked through and the innovation becomes part of routine processes. Finally, the decision-making process concludes with a Confirmation stage when the decision maker seeks reinforcement for the decision made. At this stage, leaders can reverse decisions if there is dissatisfaction with performance of the innovation. However, if the innovation is successfully integrated the leader becomes an advocate for the innovation.

Promoter Theory

It has long been posited that organizational change is a swift process if led by a transformational leader or guided by a change agent. For this research, Chakrabarti and Hauschildt’s (1989) Promoter Theory was chosen as it specifically relates transformational change due to the implementation of innovation. Registered Apprenticeship is a new and culturally different method of community college partnerships with local employers. Witte (1977) observed employees who constitute organizations cause barriers to progress when innovation decisions that disrupt the status quo are being implemented. Organizational change is often met with resistance for an array of reasons such as uncertainty or fear of the unknown. Progress depends on “employees’ willingness and ability to cooperate” (Rost, Hölzle, & Gemünden, 2007).
Chakrabarti and Hauschildt’s (1989) Promoter Theory proposes that organizational change occurs when at least three champion actors exist throughout the organization who contribute to overcome resistance to change. The top role is the power promoter who champions the idea from a senior management position. This person has hierarchical power. The second instrumental person is called the expert or technical promoter and is generally seen as the person with knowledge of existing systems, an expert, who can influence change by identifying potential problems and solutions. The third influential person is the process promoter, an actor with organizational knowledge of existing processes and the steps to direct procedural modifications towards the new goal. This person recognizes how innovation in one department can affect other departments and helps pave the way for change across departmental lines. If these three archetypes exist within, or throughout, the institution or organization the “troika” of champions will successfully create organizational change (Hauschildt & Kirchmann, 2001).

Resistance throughout the organization is natural and anticipated. However, with the triangulation of champions of change throughout the organization, resistance can be quickly confronted and managed in order for the change to be adopted.

Group Development Theory

Recognizing that the implementation of a new program at a community college does not happen via the work of a single person, or even a single department, good and coordinated teamwork is required to successfully implement a large organizational initiative. The Theory of Group Development introduced by Bruce Tuckman (1965) is a preeminent and widely recognized theory of teamwork. Tuckman’s Theory of Group Development has four stages that teams move through which have been called Forming, Storming, Norming, and Performing.
The stage of Forming the team includes identifying the necessary roles for delivering the RA program. During this stage the initiative relies on leadership guiding the objectives and instructing the team on performance. There is uncertainty and a reluctance to voice strong opinions at this early stage of involvement (Tuckman & Jensen, 1977). The Storming phase sometimes has dual meanings of brainstorming for best practices or conflict as new practices cause disruptions. The Storming phase often involves power struggles as the purpose of the team becomes clear and all members begin to have input on program delivery. Norming is the phase at which the group has matured, and processes have become part of routine practice. At the Norming phase, consensus has been established among the teammates regarding roles and responsibilities. Finally, Performing is the stage at which efficiency is achieved and there is no further tweaking of processes. When teams are in the Performing phase they have little need for the leader and operate towards a shared vision (Tuckman & Jensen, 1977).

In summary, leadership is defined by decision-making. Effective leaders are rarely remembered for maintaining the status quo but rather for the decisions made during times of change or innovation. These three theories provide the lens and the construct with which to examine this research. Due to the surge of attention focused on apprenticeship programs, Everett Rogers’ (1995) Diffusion of Innovation Theory was chosen to investigate the decision-making drivers that move an institution quickly towards the adoption of a new program or process. Chakrabarti and Hauschildt (1989) Promoter Theory provides a lens through which to observe where actors or champions throughout the organization advocate for the development and delivery of an RA program design. Bruce Tuckman’s (1965) Group Development Theory frames the stages the organization moves through in order to implement the RA program.
Research Design

This qualitative study utilizes a case study research approach situated in the interpretive paradigm to explore the decision-making process and strategies that led to the successful implementation of RA programs in community colleges. The case study methodology was chosen due to the lack of knowledge of this complex phenomenon (Yin, 2014) and the need for an in-depth understanding of RA programs and their incorporation into community colleges.

Case studies, according to Stake (1995), are bounded systems with their own purposes, culture, processes or ways of being. A case is observed holistically; all elements are examined as part of the system. Case study is the rational choice for an in-depth exploration of a single case.

Selection Criteria

Purposeful sampling will be used in order to involve participants and explore the phenomenon from the perspective of those colleges and individuals involved with apprenticeship programs. Creswell (2007) indicates that maximum variation is a frequently chosen sampling strategy of case study research. This strategy involves identifying criteria for selecting certain participants in advance due to the variances among sites.

In the case of RA programs, a list of community colleges partnered with businesses for providing RA programs is available online maintained by the U.S. Department of Labor (DOL) Office of Apprenticeships called the RA College Consortium (RACC). An initial survey was sent to the individuals from 344 community colleges across the U.S. who self-identified as the contact for apprenticeship interaction with that college. The survey gathered introductory data regarding the maturity and scope of the RA programs at each college. Results of the survey sourced those colleges with young (2-5 years old) or developing programs as the primary candidates for
interviews to immerse the research into the decision-making and implementation strategies being utilized in community colleges.

Data Collection

The data collection tools for this research will be surveys, interviews, documents, and field notes. Surveys were designed using SurveyMonkey which aids in promptness and effortlessness for respondents as well as confidential and detailed tracking and security of responses. Responses to the survey informed which community colleges were chosen to participate in face-to-face interviews and were willing to participate in the study. An interview schedule was developed at that time in consideration of time and budget available for travel to those parts of the country with recently implemented RA programs. Field notes were collected by the researcher via an interview protocol to ensure consistency of process between sites (Yin, 2014; Creswell, 2007).

Interviews

Six community colleges were visited for in-depth, face-to-face interviews lasting between 60-90 minutes each. Colleges interviewed included one each from small, medium and large campuses, with programs zero to two years old and three to five years old. Recorded interviews were transcribed via a hired transcriptionist. During each campus visit, field notes were collected as well as any other documentation the college may have retained that might address the driving questions of the research or demonstrate decision making or implementation strategies.

Data Analysis

Survey results, interview transcripts, field notes, and documents obtained on-site were themed and coded using qualitative data analysis software, NVIVO. Use of the theoretical
framework and the research questions guided emerging themes (Miles & Huberman, 1994) among the community colleges. Triangulation of data collected and analysis generate findings that are confirmable and have increased confidence (Stake, 1995).

**Significance of the Research to Community Colleges**

Registered Apprenticeship programs are a win-win-win proposition. Student apprentices benefit by gaining skills that secure their future career without incurring college loan debt. Employers benefit via a means of retaining employees as well as the knowledge of seasoned workers before they retire. The community benefits because employed apprentices are able to take part in the economy via purchasing goods. Community and technical colleges benefit due to increased partnerships with local employers, increased student enrollment and retention rates plus higher college program completion numbers.

This research is significant to community colleges in three particular ways. First, very limited research exists regarding RA programs from the community college perspective. The burgeoning popularity of apprenticeships effects community colleges across the nation as new, non-traditional, RA programs are developed for new industries. The second significance to community colleges is that RA programs can actually help colleges meet their mission of training and educating the workforce. Partnerships with local employers serve the community in which community colleges operate. Registered apprenticeship programs can help build the community through increased employment that boosts the economy.

The final significance is that the research will guide community colleges through the decision-making process and implementation of an RA program. Community colleges are underfunded and often suffer from initiative fatigue (McClenney & Dare, 2013). This research will aid colleges in development, implementation, and scaling up quickly so that RA programs
do not appear like other initiatives underway at colleges. This truly is a long-term hiring strategy for employers to train and retain skilled workers across a variety of industries.

**List of Terms and Definitions**

**Apprenticeship**: A proven approach for preparing workers for jobs while meeting the needs of business for a highly-skilled workforce. It is an employer-driven, “learn-while-you-earn” model that combines on-the-job training, provided by the employer that hires the apprentice, with job-related instruction in curricula tied to the attainment of national skills standards. The model also involves progressive increases in an apprentice’s skills and wages (US DOL, 2016).

**Cohort/Cohort model**: groups of students in the same program who travel together in working toward their degrees (Teitel, 1997).

**Earn and Learn**: Any training and education model in which the student/employee is earning a wage at the same time they are learning in a curriculum aligned with that occupation.

**Industry-Recognized Apprenticeship Program**: An Industry-Recognized Apprenticeship Program (IRAP) is a customizable model of apprenticeship that has been validated by a proven industry accreditor (Department of Labor, 2018).

**Journeyman/Journey Worker**: A person who has successfully served a formal apprenticeship in a building trade or craft and who is thereby qualified to work at that trade in another's employ. A journeyman's license (earned through a combination of education, supervised experience, and examination) is required in many locales for those employed at an intermediate level in certain trades, such as plumbing, mechanical work, and electrical work (Dictionary of Architecture and Construction, 2006).

**Nationally-Recognized Credential**: Every graduate of an Apprenticeship program receives a nationally-recognized credential. This is a portable credential that signifies to employers that apprentices are fully qualified for the job (US DOL, 2016).

**Non-Registered Apprenticeship**: An employer providing apprenticeship-like training. At the federal and state levels, no data is collected about non-registered apprenticeship programs (Workforce Date Quality Campaign, 2016).

**On-the-Job Learning (OJL)**: Apprenticeships always include an on-the-job training component. Apprentices receive hands-on training from an experienced mentor at the job site. On-the-job training focuses on the skills and knowledge an apprentice must learn during the program to be fully proficient on the job. This training is based on national industry standards, customized to the needs of the particular employer (US DOL, 2016).
Program Sponsor/Sponsor/Sponsorship: The sponsor is responsible for the overall operation of the program. Sponsors can be a single business or a consortium of businesses. They can also be a range of workforce intermediaries, including an industry association or a joint labor-management organization. Community colleges and community-based organizations can also serve as sponsors for Apprenticeship programs. Regardless of who serves as the sponsor, apprenticeships are always employer-driven and employers are involved throughout the process (US DOL, 2016).

Registered Apprenticeship: Apprenticeship is an industry-driven, high-quality career pathway where employers can develop and prepare their future workforce, and individuals can obtain paid work experience, classroom instruction, and a portable, nationally-recognized credential (Department of Labor, 2018).

Related Technical Instruction (RTI): One of the unique aspects of apprenticeships is that they combine on-the-job learning with related instruction on the technical and academic competencies that apply to the job. Education partners collaborate with business to develop the curriculum, which often incorporates established national-level skill standards. The related instruction may be provided by community colleges, technical schools, or apprenticeship training schools — or by the business itself. It can be delivered at a school, online, or at the job site (US DOL, 2016).

Standards/Program Standards: Registration means the program has met national and independent standards for quality and rigor. Registration tells prospective employees, customers and suppliers that the business invests in its workforce and believes employees are its most important asset (US DOL, 2016).

Union: A labor union or trade union is an organized group of workers who unite to make decisions about conditions affecting their work. Labor unions strive to bring economic justice to the workplace and social justice to our nation (Union Privilege, 2019).

Summary

This chapter provides an introduction to the topic of RA programs and their incorporation into community colleges. It includes a description of the recent emergence of RA programs in the United States as an approach to mitigate unemployment. An introduction to the theoretical framework for this research is presented along with a brief outline of the research plan. A list of definitions is included for the reader’s convenience. Finally, this chapter offers rationale regarding the significance of this research to community colleges.
Organization of the Dissertation

Chapter one describes the intersection of community colleges and RA programs. Provided in this chapter is a brief history of the phenomenon of interest including the significance to community colleges as well as a brief overview of the research plan. This chapter introduces the theoretical framework which becomes the common thread throughout the research design and data collection and analysis phases of the research.

Chapter two presents a thorough review of the literature on RAs in the United States and their impact on workforce training. It situates the research in community colleges and provides a historical look at community colleges as well as apprenticeships. The literature on the three theories of the framework for the research is also presented. These theories include Rogers (2003) theory of Diffusion of Innovation; Chakrabarti and Hauschildt (1989) Promoter Theory, and Tuckman (1965) theory of Group Development.

Chapter three outlines the methodology of the research study as a qualitative inquiry situated in the interpretive paradigm as a case study. Selection criteria for the sites to visit included community colleges with RA programs implemented in the last five years. Purposeful sampling and maximum variation determined the six participant sites. The chapter details the plan for in-depth interviews to collect the rich storied narratives qualitative research seeks. Also provided are details regarding the data collection and analysis phase of the study.

Chapter four displays the data collection process which transpired and exhibits the results of the initial survey sent to community colleges in an attempt to learn which colleges had developed programs recently. This chapter includes a variety of figures that show the types of RA programs being implemented within community colleges across the United States.

Chapter five reveals the data collected in the interview phase of the qualitative inquiry. The responses to each of the ten interview questions is analyzed and quotes from the research
participants are provided to show the decision-making that introduced the community college to RA programs and the implementation strategies they used to develop their programs.

Chapter six summarizes the findings of the research and the answers to the driving research questions. Included in this chapter are insights into the implementation strategies used by the participants. The MacGregor Employer Partnership Model is introduced and each level is explained in the context of assisting future community colleges to partner with employers on an RA strategy to boost local employment.
CHAPTER TWO: OVERVIEW OF THE LITERATURE

Introduction

Registered Apprenticeship (RA) programs have officially been in the United States for more than 100 years. However most have been administered through unions such as the United Automobile Workers (UAW). Few United States companies have registered apprenticeship programs with the U.S. Department of Labor (DOL) due to the complicated nature of administering the programs. However, over the last five to six years a renewed attention has focused on apprenticeship as a strategy for recruiting and retaining talent for employers. Fueled by complementary elements such as federal governmental funding, and companies experiencing long-term skills gaps many are exploring apprenticeship to address a variety of needs. Employers see apprenticeship as a way to find workers in a labor shortage; students see apprenticeship as a means to an immediate income without having to go into debt for college; and community colleges see apprenticeship as a strategy to expand industry partnerships and retain students. However, deciding to become involved with RA programs includes organizational change by which leaders must weigh the efforts against the perceived benefits. Change within an institution of higher education takes a great deal of time. For this reason, college leaders must be cautious when making decisions that affect the future of the college. The only precedent for implementing apprenticeship programs is observable in foreign countries such as Germany and Switzerland where apprenticeship is a robust part of the economy. College leaders are unacquainted with the operation of such programs or the impact to their colleges and students and are struggling to make the right decision for their institution.
The purpose of this study is to explore the decision-making process and identify strategies that led to the successful implementation of RA programs in community colleges. While apprenticeships were a practice brought to this nation by the first settlers, they have not been the focus of many studies. Scant literature exists regarding RA programs from the community college perspective. This study will assist in addressing that gap. A review of the literature at hand will offer context for the research. Higher education has also been in a state of change during this research process, facing competition from alternate providers, the attractiveness and speed of online learning, market forces demanding greater accountability, and declining funding.

This becomes the lens which firmly grounds the purpose of the research so a logical systematic endeavor is maintained throughout the research steps. It also allows an understanding for the shaping of the research data collection, analysis, and subsequent conclusions. A theoretical framework was chosen to frame the research. This lens provides context and grounding for understanding the decisions and implementation strategies for diverse means by which community colleges and registered apprenticeship programs intersect. Three theories constitute the theoretical framework: (1) Everett Rogers’ (2003) Theory of Diffusion of Innovation, (2) Chakrabarti and Hauschiltd (1989) Promoter Theory, and (3) Bruce Tuckman’s (1965) Group Development Theory. Recognizing that numerous theories of decision-making, organizational change, and teamwork exist, this literature overview focuses on the three selected. In addition, also included is a historical background of community colleges and American apprenticeships in order to situate the research.
Historical Background and Context

Community colleges are relatively young in the wider array of educational paradigms. The first “junior college” was established in 1901 in Joliet, Illinois (Ratcliff, 2017). Beginning as an elitist concept to purify universities of the lesser classes of students, a handful of university leaders supported these institutions as a barrier for students who would not be successful in the final two years of university study (Brint & Karabel, 1989). As community colleges were established across the country a variety of missions evolved. Some community colleges were established to further educate students beyond the compulsory grades in secondary schools, others developed as transfer colleges leading to advanced university work, and others pursued vocationalism (Brint & Karabel, 1989). Early advocates included William Rainey Harper, president of the University of Chicago, Leonard Koos, and Walter Eells. Harper disseminated the idea of junior colleges as part of a larger schema that the university would then become exclusively purposed for research and advanced academic work. In other words, the original idea was to separate the freshman and sophomore classrooms from higher levels of learning and scientific research (Cohen & Brawer, 2008). The latter part of this idea of separating four-year universities into levels was not popularized in the same way as the idea for junior colleges. Universities changed this idea during World War I, due to military enlistments and deaths affecting enrollments on a national scale. The institutions realized that they needed every student they could retain for the purpose of sustainability (Brint & Karabel, 1989). There were significant developments in restructuring education during this time that helped advance the idea of a separate institution for the first two years of college level work, including the formation of middle school or junior high school separate from high schools (Cohen & Brawer, 2008). When high schools were segmented thusly, it unencumbered facilities in the high schools for college-level courses. Furthermore, it created a great need for additional teachers at multiple levels who
were obligated to attend a liberal arts college to earn their teaching certificate (Ratcliff, 2017). Many of these first colleges were normal schools primarily created for teacher training.

Social and political forces converged to prompt the augmentation of community colleges from their controversial beginnings. A variety of needs existed across the country and community colleges stepped forward to solve the needs of society. There was a revolutionary spirit to community colleges as their mission came into focus. In these early years of community colleges there were a variety of drivers for expansion including the need for a workforce trained in expanding industries and upward mobility for the masses in the social movement towards equality (Drury, 2003). The schism between vocationalism and university preparation still exists to some extent today.

In the 1920s the American Association of Junior Colleges (AAJC) which is now the American Association of Community Colleges (AACC) was founded. In 1922 the American Council on Education (ACE) adopted accreditation standards for community colleges (Drury, 2003). And in 1932, the Carnegie Foundation published a report of California’s higher education options noting distinct differences between community colleges and universities (Brint & Karabel, 1989). These two organizations, AAJC and ACE, as well as the Carnegie report were heavily attempting to promote community colleges as a source of preparing students for vocations in the early publications. However, the reality was that students utilized community colleges as preparation for university work.

The Great Depression years of the 1930s and 1940s stimulated the proliferation of vocational programs for job training due to significant unemployment among veterans returning from war (Kasper, 2003). It was during this time that the idea for programmatic guidance counselors and advisory committees for separate careers constructed relationships between
educators and employers (Drury, 2003). “William Snyder of Los Angeles Junior College instituted surveys of employers to determine business needs for vocational education” (Drury, 2003, p. 4). The Servicemen’s Readjustment Act of 1944, more widely known as the GI Bill, funded education for veterans and opened up access to higher education to those who previously would not have been able to attend (Vaughn, 1985). Community colleges promised access to a new demographic of the population: women, ethnic minorities, and those from a lower socioeconomic status (Cohen & Brawer, 2005). The resulting expansion of enrollments exceeded two million students and marked the significant understanding that a college education could lead to higher wages and increased employability.

The 1947 President’s Commission on Higher Education, commonly known as the Truman Commission, suggested the name “community college” to collectively describe all of the growing number of institutions providing two years of education beyond high school that, at the time, included junior colleges, technical institutes, normal schools, and booster colleges (Ratcliff, 2017). This provided a common thread integral to the community college mission and shook off the lower prestige of the institution as junior to universities. Furthermore, the Commission’s “call for equality of opportunity was followed by a proposal for the massive expansion of higher education…with junior colleges central to these plans” (Brint & Karabel, 1989, p. 69). Throughout the 1960s the number of community colleges more than doubled from 412 to 909 representing growth of one new community college per week for a decade (Dassance, 2011).

In 1963, the Vocational Education Act caused another surge of growth for community colleges because this legislation allowed students to use federal aid for occupational education (Cohen & Brawer, 2008). In the 1960s the baby boomers began to graduate high school and enter colleges increasing enrollments dramatically. A higher education was seen as the key to a secure
future with the knowledge and skills to perform in a job and thus take part in society. The race
towards access to community college continued throughout the 1970s as well. The 1970
Carnegie Commission on Higher Education advocated for a community college to be established
within commuting distance of every adult (Ratcliff, 2017). As the number of institutions rose, so
did enrollment. According to Cohen and Brawer (2008) enrollment in community colleges grew
from 2.2 million to 4.3 million students.

Throughout the 1980s some community colleges became predominantly composed of
specialized training centers, customized training programs, and highly vocational programs
(Drury, 2003). Vocational education had been promoted and desired as the purpose of
community colleges for many throughout their growth period, and in the 1980s this purpose
overtook university preparation.

The 1988 landmark report of the Commission on the Future of Community Colleges
called for community colleges to focus on advancing literacy for everyone (American
Association of Community and Junior Colleges, 1988). This is when community colleges
adopted the third major mission of Adult Education. With the three focuses on university
preparation, vocational education, and adult education, community colleges entered the 21st
century.

In the early 2000s, the number of community colleges began to decrease for the first time
since their inception. According to Cohen and Brawer (2008), the number of two-year
institutions decreased from 1,244 in 1999 to 1,173 by 2005. Today, there are 1,103
comprehensive community colleges in the United States (American Association of Community
Colleges, 2018). In recent history, community college trends include eliminating the word
“community” from the name. Some of these were due to colleges beginning to offer bachelor’s degrees which classifies them as four-year institutions.

Community colleges have weathered other challenges in the last decade such as decreased state funding and increased public accountability (Dougherty, Lahr, & Morest, 2017). Employers struggle with confidence in higher education due to the skill level of newly hired graduates. Recently community colleges are becoming involved with apprenticeship programs as a means to respond to the labor market needs of the community. Apprenticeship programs improve community college outcomes such as enrollment, retention, and completion. And finally, apprenticeship programs assist in building a skilled workforce for local employers.

History of Apprenticeship in the United States

For humans, the notion of apprentice and mentor has always been present enabling the sharing of knowledge and expertise. The employee training strategy known as apprenticeship proceeds from European countries in the earliest days of Colonial America. Early apprenticeship systems in England and other parts of Europe were overseen by various craft guilds (Rorabaugh, 1986). The European guilds had the authority to allow a craftsman to advance to master status and take on apprentices. They also regulated the number of individuals in a particular industry based on local demand for that craft. Furthermore, the guilds handled situations in which apprentices ran away from their masters. However, this oversight did not follow apprenticeship into the new world and without such a supervisory body, apprenticeship in the United States failed to establish systems of protections for both labor and industry until well into the 20th century. Youth 14 years of age would be bound to a “master” for an established number of years, commonly seven years, during which they were meant to learn the master’s craft in exchange for clothing, room and board (Mokyr, 2018). Poor or orphaned boys were generally bound to
fanners as indentured servants (Rorabaugh, 1986). These contracts were difficult to get out of and there was little hope of indentured farmers learning any other trade or ever having their own farmland.

As the industrial age dawned, apprentices were paid low wages rather than room and board as compensation. Business owners often did not have room in their homes to support the number of apprentices necessary to operate equipment in a textile mill or an industrial factory; and boarding apprentices elsewhere was another expense. In this new approach, apprentices often lost the opportunity to become masters of a craft and instead only learned one particular facet of the craft. However, the new practice of wages exchanged for work was a factor in changing the nature and organization of the American economy. Over time, the traditional American economic system of barter for goods and services evolved into a system of costs, price, and cash for needed goods and services.

This economic system change affected apprentices in some relatively minor ways. The apprentices gained a modicum of power by having the ability to change jobs for higher wages in another shop. However, they then had little hope of becoming a journeyman in any single occupation. Journeymen were former apprentices who learned the craft of their master but worked as day-labor for a variety of shops gaining experience and practicing their skilled trade. They could not employ others or take on apprentices unless they became a master themselves (Rorabaugh, 1986).

By the close of the 19th century an innovation that had one of the greatest impacts on apprenticeship was the development of a public grade school system. Throughout the early 1800s, the school system created widespread literacy and was encouraged to expand. High schools emerged for continuing education past age fourteen. These two factors, the spread of
basic education and high schools, fostered opportunities for educated youth to become merchants, clerks, ministers, and develop other occupations outside of craftsmanship. While the emergence of high school in the public school system provided new options for youth, many were conscripted into an option that matched their social class or were given no choice by parents.

The economic downturn of the late 1800s caused many craftsmen to close their shops and relegated them to work as journeymen, a decline in status. New machines and production methods caused competition for several traditional crafts, such as textile mills, and rather than apprentice with a master craftsman, youth worked in the mills and factories. Factory employers needed laborers and would exploit labor by calling them apprentices while not teaching them the secrets of the trade (Rorabaugh, 1986).

The provisions of the 1911 Industrial Education law made way for the growth of vocational schools throughout the nation and established laws for a wide variety of training in trades, industries, and vocations (Department of Commerce and Labor, 1911). In 1911, the state of Wisconsin organized the first national statewide apprenticeship system requiring at least five hours per week of classroom instruction to supplement on-the-job learning (Putney, 1940). Vocational schools began to be established to accommodate industrial education such as the required classroom hours of apprenticeships. According to Hillison (1995), more than 30 bills were introduced to the United States Congress between 1900-1917 that had an impact on vocational education. One of the most influential of these was the Smith-Hughes Act which passed in 1917 and effectively created the division between vocational education and academic studies that still persists to some extent in the present day (Moore, 2017). The Smith-Hughes Act established definitions for vocational training and allowed for federal funds to support vocational
education including teacher training. These federal funds were matched by state or local funds in each state. Concerns at the time regarding creating a dual-education system were founded as subsequently educators directed ‘less able’ students towards a vocational path and others towards academic pursuits (Jacoby, 2013). Throughout the 1920s, unions gained oversight of apprenticeship training programs and became an intermediary between employers and labor (Jacoby, 1991). Before the unions were involved, apprentices had no mechanisms to guarantee employers would provide them with adequate training in any particular occupation. After the unions gained control of apprenticeships, measures were put into place to ensure apprentices were receiving job training including the use of “truant officers” to visit employers (Jacoby, 1991). These changes marked one of the exchanges of power from employers to labor.

The stock market crash of 1929 sank the nation into the Great Depression. President Franklin D. Roosevelt was elected in 1930 and established a series of New Deal measures to right the United States’ economy including the National Recovery Administration (NRA). The NRA created standards for apprenticeship training programs within the states to mirror the efforts of Wisconsin. However, in 1935, congress declared that the NRA had no authority and half the states abandoned their programs (Putney, 1940). In 1937, the Fitzgerald Act finally established a set of permanent standards for the federal administration of apprenticeships as a function of the DOL. The bifurcation of the states with apprenticeships administered either by a state agency, as originally enacted via the NRA, or by the federal DOL continues to the present day. Figure 1 shows a map of the United States indicating the states that have a state-administered RA program, and those that are administered federally.
Figure 1: Federal and State-Administered Apprenticeship Offices

According to Putney (1940),

The Federal Committee on Apprenticeship defines an apprentice as a person at least 16 years of age who is covered by a written agreement registered with a State Apprenticeship Council, providing for not less than 4,000 hours of reasonably continuous employment for such person, and for his participation in an approved schedule of work experience through employment, which should be supplemented by 144 hours per year of related classroom instruction. (para. 27)

This formal definition of apprenticeship has changed very little into modern times. Today, apprentices can learn some occupations in as few as 2,000 hours of on-the-job training. Organized labor continued to offer apprenticeship training, but it became more and more focused in the construction trades.

The apprenticeship system in the United States has been in this uninterrupted state of existence into the 21st century. However, during this time the United States’ economy has
evolved. Employers have relied more and more on colleges and universities to train workers in the skills they seek. And yet there is a widening skills gap in which increasing numbers of students are seeking skills for which there are no jobs and there is a paucity of those with skills for the available jobs. The fastest growing jobs in the United States are high-skill technical occupations for which an associate degree would be the appropriate level of education (Olinsky & Ayres, 2013). Apprenticeships were seen as a viable solution to this labor issue. Over time, technological progress caused even low-level occupations to require some post-secondary education. With a predicted shortfall of more than three million workers by 2020, the apprenticeship system began to be reexamined by government, employers, and educators alike. Renewed by President Obama’s historical investment in apprenticeship training in 2015, a patchwork of apprenticeship models and systems sponsored by a variety of employers, colleges, and other third party associations sprang to life. The weakest support of apprenticeships comes from the culture and history of apprenticeships. Public opinion regarding the path towards a good job and therefore ability to take part in society is that one must obtain a bachelor’s degree. Apprenticeships are still seen as inferior regardless of the reality of the wages apprentices typically earn.

In 2015, the idea that community colleges could sponsor an apprenticeship program in order to aggregate a cohort of apprentices from a variety of employers in the same occupation germinated. Community colleges began exploring options for developing apprenticeship programs as a way to enhance enrollments and student completions. This is the modern landscape of apprenticeships from which this research emerges. However, it is not a new idea, as Cantor (2015) suggested that community colleges take on the role of administering apprenticeship programs in the early 2000s. However, at that time, economic circumstances were
different. The current labor shortage and the fact that community colleges are actively looking for opportunities to increase student retention and completion make this an ideal condition for the growth of partnerships between employers and colleges. Labor market demands have continued to sculpt community college offerings and services throughout time.

Theoretical Framework

Offering apprenticeship programs improves community colleges’ ability to meet the needs of employers while increasing performance metrics for colleges. Because of this, several community colleges are developing and implementing apprenticeship programs in response to their local economic needs. To enable a more comprehensive lens in which to situate this research and provide an analytical schema, three theories from different disciplines were selected. This study is therefore framed by three theories to answer the research driving questions: 1) the catalysts for community colleges to consider offering apprenticeship programs, 2) decision-making processes that led to the development of the apprenticeship programs, and 3) strategies that contributed to the successful implementation of the apprenticeship program. The theories chosen are: a) diffusion of innovation theory, b) group development theory, and c) promoter theory.

In order for community colleges to adopt any new program as complex as an apprenticeship program, high levels of understanding of organizational change are required. A community college is a vast organization with widely disparate employee groups and functions. Registered Apprenticeship programs consist of two major parts: 1) employers who hire apprentices in order to develop talent, and 2) classroom hours aligned with the occupational training apprentices receive on the job. While community colleges are meant to educate the workforce of tomorrow, they rarely are comfortable appreciating the difficulties companies
encounter when developing a long-term hiring strategy. Yet, implementation of apprenticeship programs would necessitate strong partnerships with employers in order to drill down to the occupational proficiencies most desired in the local workforce. Thus, implementing RA programs would necessitate curriculum changes, administrative challenges, and changes to deep-rooted ideas regarding the purpose of education. This type of change is regarded as an innovation in community colleges.

What is Innovation?

It is appropriate to discuss innovation in relation to organizational change and new program adoption. This research views the development and implementation of RA programs at community colleges through the lens of innovation. Innovation can be defined in multiple ways. Table 2 shows a sample of the different ways “innovation” is defined by more traditional experts. Common themes among these definitions include newness or something that is newly adopted and initiated for the purpose of economic growth. Another interesting consideration is that the definitions allude to a process in which businesses or other entities can purposefully engage.

Table 2: Multiple definitions of innovation

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<tr>
<th>Expert</th>
<th>Credentials</th>
<th>Definition of Innovation</th>
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<tbody>
<tr>
<td>Joseph Schumpeter</td>
<td>Father of innovation and entrepreneurship theory</td>
<td>Novel combinations of knowledge, resources, etc. subject to attempts at commercialization (McCraw, 2007)</td>
</tr>
<tr>
<td>Peter Drucker</td>
<td>Father of the modern business corporation; author and philosopher on business management.</td>
<td>The purposeful and organized search for changes and the systematic analysis of the opportunities such changes might offer economically or socially (Drucker, 1985).</td>
</tr>
<tr>
<td>Everett Rogers</td>
<td>Leading theorist on diffusion of innovation. Professor at the University of New Mexico</td>
<td>An idea, practice, or object that is perceived as new by an individual or other unit of adoption (Rogers, 2003).</td>
</tr>
<tr>
<td>Clayton Christensen</td>
<td>Leading researcher on disruptive innovation. Professor at Harvard University</td>
<td>Taking a product and making it simpler and more affordable, so many more people have access to it (Christensen, 2011).</td>
</tr>
</tbody>
</table>
This research is situated in higher education and therefore investigates innovation in this milieu. It looks at college’s implementing RA programs which can be seen as a purposeful strategy to increase community partnerships and enrollment of students who might not otherwise have attended. In this way, implementing such a program that would affect the economic bottom line of the college can be seen as an innovation.

Enarson (1960) proposed that innovation arose from the thinking of academics in higher education institutions nearly 60 years ago. According to Enarson (1960), universities were the first source of new thinking and revolutionary ideas that innovated society, yet they remain “curiously resistant—even hostile” (p. 495) towards change within the institution. Clearly, resistance to change or new processes has deep roots within the academy. Colleges have multiple “conditions conducive to innovation—experimentation, ability to sunset outdated infrastructure, the existence of feedback loops, motivation to make improvements, and budget constraints” (Demircioglu & Audretsch, 2017, p. 1682). Furthermore, higher education institutions have traditionally never had to compete in the market for “customers”—students and other revenue-generating operations. Particularly for community colleges, the market served has been the community members and businesses within the college district. However, today’s new models for training and education threaten this traditional service-boundary foothold for all community colleges. While most educators do not like to think of education as a business or of students as consumers of their product (education), it is essentially the revenue generated from tuition, fees, and books which pays salaries and keeps the college doors open.
Like many industries, higher education now has competition from other education providers. Consumers of education have many options regarding whether to attend a local community college, a university, a proprietary post-secondary institution, and whether they take classes face-to-face, online, or in a blended format. Because of this overt competition for students, community colleges are now actively seeking ways to drive more students to their academic programs.

The variety of drivers that prompt innovation includes unmet market needs, performance failures, financial needs for efficiency, crises, and opportunities such as new technologies, new ideas or insights (Murray, Caulier-Grice, & Mulgan, 2010). Institutions of higher education routinely write strategic plans which act as a road map for where the college is headed and to respond to internal and external pressures and opportunities. This is something that all businesses and institutions must continuously do in order to remain relevant and stay in business. Due to external pressures such as globalization and increased technological capabilities, as well as public demand for more accountability in higher education, innovation is critical for colleges (Demircioglu & Audretsch, 2017). Community colleges do not generally have budgets for research and development of innovative products but focus on providing, enhancing, and growing needed career programs and transfer academic programs. According to Anzola-Román, Bayona-Sáez, and García-Marco (2018), innovative new processes and business or management reorganization is shown to be “more relevant as a source of competitive advantage” (p. 233), than the introduction of new products or technologies. Therefore, community college innovations in this sense should increase efficiencies and meet the needs of their community.

Colleges’ ability to both know and anticipate the needs of the marketplace consisting of residents and businesses of their community, can be expanded through partnerships. For this to
happen, administrators and scholars within the academy must understand the world of business and industry and recognize what is happening in the world outside the college. According to Bartlett (2017), public sector innovations evolve primarily due to collaborations or relationships with customers/suppliers and other stakeholders. In the case of community colleges, an obvious example would be increased partnerships with local business and industry to increase the supply of a talented workforce. Bartlett (2017) calls this “open innovation” which involves reconsidering boundaries and partnerships with other colleges or educational service providers. In the past, community colleges were only concerned with their own services, students, and faculty. Now they realize the need to think about what they have to offer to their business partners rather than idly awaiting students to line up at the door.

**Diffusion of Innovation**

Presidents of community colleges are tasked with making multiple decisions that affect the college in a variety of ways. Some decisions have a greater impact on students and others impact the culture of the institution. Decisions regarding adopting new initiatives is a common result of a president’s leadership. However, often even without realizing it, presidents eager to make change overwhelm college staff and faculty with the number of new initiatives to introduce. According to Kuh et al. (2015), often faculty and staff suffer from initiative fatigue when asked to take on a new innovative idea and fit it into their already busy schedules.

At the same time as the introduction of many new initiatives in a college, higher education is a system that is currently being disrupted by a variety of factors including the changing demographics of student populations, shifts in funding structures, new entrants to the industry causing competition for students among providers, and changes to the way in which society appreciates education. As a result of this nationwide disruption, colleges have attempted
many new initiatives in order to remain relevant to their communities, attractive to students, or able to meet the budgets approved by their boards. Decision-making in this era of disruption and innovative new practices, coupled with the increased speed at which new ideas spread is riddled with uncertainty. Many theories of decision-making exist with examples regarding choices and what motivates people to decide. However, for this research, the lens chosen through which to examine the phenomenon of decision-making is Everett Rogers’ (2003) Theory of Diffusion of Innovation.

Diffusion of Innovation Theory is highly relevant for decisions involving community college adoption of new initiatives such as apprenticeship programs during times of rapid change. Many new ideas, initiatives, and approaches are circulating among community college leaders. Yet in order to make a change or adopt an innovation, decision makers inevitably survey options in an attempt to find a fitting solution for their own campuses or departments.

The Two Major Components of Rogers’ Diffusion of Innovation Theory

Rogers’ (2003) Theory of Diffusion of Innovation has two major components. The first component is the innovation-decision process. These are stages that each individual in the available adopter population must go through as they decide for themselves whether or not to adopt the innovation. Individuals move through this process from the first time they hear about an innovation through making a decision to adopt the innovation, and finally tweaking the innovation in order to implement it within their organization. The second component describes the adopter population and the rate at which an innovation diffuses among the population. Those who are more innovative and comfortable with uncertainty will be the first to see the advantages of adopting the innovation. At the same time, there will be those who are risk-averse and cannot see the need for change. These laggard adopters will only go through the innovation-decision
stages once more than 75% of the population, or institution, has adopted the innovation and they can finally view the innovation with surety.

Innovation-Decision Process

The innovation-decision process involves an individual moving through five stages. These stages include: 1) knowledge of an innovation; 2) persuasion towards the innovation; 3) a decision to adopt or reject the innovation; 4) implementation of the innovation; and finally, 5) confirmation of this decision (Rogers, 2003). Depicted below in Figure 2 is the series of stages for making a decision to implement an innovative idea.

Figure 2: The innovation-decision process modified from Rogers (2003)

Knowledge. Individuals become aware of innovations via two unique avenues. The first avenue is when a need arises, and the individual seeks a solution to resolve the need. The second is when others expose the individual to the innovation. Often exposure alone is not effective if the individual cannot see relevance to their current needs. Rogers (2003) discusses two types of knowledge of innovations: the “how-to” knowledge, and the “principles” knowledge. Whereas how-to knowledge provides potential adopters information on the general operations of an
innovation, principle knowledge has greater influence towards the adoption decision as it pertains to the reasons a decision maker should adopt an innovation.

*Persuasion.* Individuals investigate the innovation in order to form either a favorable or unfavorable attitude towards adopting the innovation. Considerations involved in the persuasion stage according to Rogers (2003) include the following steps: 1) relative advantage of adopting the innovation; 2) compatibility of the innovation with existing processes and organizational culture; 3) complexity of adopting the innovation; 4) trialability or whether or not the decision maker can experiment with the innovation or design a pilot of the innovation prior to changing the organization as a whole; and 5) observability of results from others who have implemented the innovation before them. Each of these are detailed in Table 3.

Table 3: Influences to persuade an adopter to form an attitude in favor of the innovation.

<table>
<thead>
<tr>
<th>Influence</th>
<th>Manner in which adopters are persuaded to form a favorable attitude toward the innovation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Relative advantage</td>
<td>Adopters must be able to understand how the innovation will benefit them or the organization as a whole. The relative advantage is only compared to the status quo and not to alternative innovations. The greater the perceived advantage of adopting the innovation for the institution or organization, the faster the pace of adoption.</td>
</tr>
<tr>
<td>Compatibility</td>
<td>Adopters determine how compatible the innovation is with current processes and procedures. Also, the innovation should be compatible with cultural values and beliefs. Adopters gauge how much change or work would be necessary in order to implement the innovation.</td>
</tr>
<tr>
<td>Complexity</td>
<td>Adopters assess their understanding of the innovation and the ease or difficulty of adopting the innovation. Innovations that require new learning, new technical systems, or equipment can easily fail adoption.</td>
</tr>
<tr>
<td>Trialability</td>
<td>Adopters preliminarily test the innovation on a small scale such as in a pilot, trial period, product demonstrations, or any other method, allowing the adopter to attempt and better understand how the innovation works without having to fully implement the innovation within their institution.</td>
</tr>
<tr>
<td>Observability</td>
<td>Adopters observe the innovation working at another institution similar to their own to see results. Adopters might review data and information related to the development, implementation, management and cost-benefit analysis as well as the outcomes of the innovation.</td>
</tr>
</tbody>
</table>
The decision maker is actively attempting to reduce uncertainties about the innovation. After the above influences persuade an individual, they will either be in favor of adopting the innovation or form an unfavorable attitude towards it. If the decision maker forms an unfavorable attitude towards the innovation as a whole, they will no longer pursue the innovation unless something else happens to change this attitude. It is unlikely that mass media, or advertising, will change this initial attitude. Any changes to the decision maker's feelings about the innovation must come from sources perceived to be highly credible or trusted peers. However, if the decision maker forms a favorable attitude towards the innovation, they will begin to actively seek information that supports this attitude during the next stage.

*Decision.* Individuals decide to either adopt the innovation or reject the innovation based on the influences pursued during the persuasion stage. If the adopter is successfully persuaded to form a favorable attitude towards the innovation, the adopter can accept the innovation. This will be the motivation that moves the decision maker into the implementation stage. If the research yields unfavorable data, shows no advantages, or is too complex, the innovation will be rejected. Those innovations that are relatively advantageous, consistent with existing processes and culture, easy to adopt, can be piloted with observable results and outcomes will be adopted. The decision stage is the point at which considerations regarding the innovation end.

*Implementation.* Implementing a new idea, process, or product in an organization is vastly different than implementing something for an individual. Often in organizations and institutions, those implementing the innovation were not the decision makers and they are likely to resist change (Rogers, 2003). Not surprisingly, some degree of uncertainty may still exist throughout the implementation phase as the issues, problems, or difficulties are worked out and unexpected consequences addressed.
Some level of re-invention or “tweaking” the innovation naturally occurs during the implementation phase. This modification is expected. The innovation cannot possibly fit exactly in one institution as it did in another. Each organization is comprised of unique individuals implementing the innovation as well as different processes and procedures guiding incorporation of the changes. Organizations and institutions will re-invent and adjust the innovation to make it work for them during implementation. According to a study of the implementation phase alone conducted by the DARE drug abuse prevention program in schools throughout the United States, “a higher degree of re-invention leads to a faster rate of adoption and a higher degree of sustainability of an innovation” (Rogers, 2003, p. 183). The implementation phase ends when the innovation is fully routinized within the organization and it loses its status as an innovation.

**Confirmation.** This final stage of the decision-making process is when decision makers seek to confirm their decision after it has been implemented. Research regarding the innovation does not stop at this point as the decision maker will either find evidence to support their decision, thus becoming an advocate of the innovation, or the decision maker will discontinue usage of the innovation. If use of the innovation causes employee dissatisfaction to a degree that negatively impacts the culture of the organization, the innovation decision will be reversed. According to Rogers (2003) there are two types of discontinuance: 1) replacement-in which the innovation is supplanted by a newer innovation that comes along or 2) disenchantment-in which the desired results of the innovation are not realized, and the decision is reversed.

These five stages outline the decision-making process through which all adopters move as they adopt new ways of doing business or new technologies. In the first three stages, the adopter is learning about the innovation’s existence and considering whether or not they want to make the effort to change. During the Persuasion stage, if the innovation will work for the
individual to fulfill a need they may be persuaded to adopt the innovation. Once the decision to adopt is made, the final two stages involve action and change. During the Implementation and Confirmation stages, decision makers are shaping the innovation towards a model that will work for their particular institution. Decision makers can be early adopters of an innovation as they may have a greater need or desire for changing the status quo, or they can resist change and not consider how the innovation could work for them. The adopter categories within the population are discussed next.

Rate of adoption among the adopter population

The second major component of Roger’s Theory of Diffusion of Innovation addresses the rate at which the innovation is embraced throughout the adopter population. The rate of adoption is defined as how quickly an innovation reaches the available population. In networks that have stronger or more frequent communication channels the rate of adoption is faster than in networks that do not operate within shared spaces or communication channels. The rate of adoption is also highly affected by change agents who promote the innovation and assist in the implementation phase. Individuals will decide to adopt an innovation at their own pace. Those more inclined towards change and progress will be early adopters and those less willing to try new things and see innovation as yet another passing fad they can wait out, will be the last to adopt innovations. The innovation curve, shown in Figure 3, represents 100% of a particular adopter population.
This figure assumes that there is a point in time at which all potential adopters in a population will actually adopt the innovation. It is clear that innovations are not adopted by entire populations as the same time. There are categories for the pace at which innovations are adopted. The category name is based on certain percentages of the population having adopted.

**Adopter categories**

1. **Innovators.** These individuals are inventing new products, processes, and ideas. They are leading efforts towards change. Individuals in this adopter category display venturesome qualities. They tend to be more technologically savvy, willing to take risks and able to cope with higher degrees of uncertainty. Only 2.5% of the population has the tendency to be this innovative.

2. **Early Adopters.** These individuals tend to be opinion leaders and serve as role models within the social system (Rogers, 2003). Because others look to opinion leaders, this category of adopter is more willing to adopt an innovation just to see how and if it will work so that they can keep abreast of the nature of the innovation and subsequently share it with others. This group affects whether or not an innovation will be more widely implemented. If the early adopters report positively on the innovation, the adoption spreads to the early majority. Early adopters
represent only 13.5% of the adopter population. This group is critical to the diffusion of any innovation. Innovation can achieve market penetration when 15%-18% of any given population has adopted the innovation (TED, 2010). This is the tipping point often called the “chasms” over which all innovations must progress to reach the majority of the adopter population (TED, 2010).

3. Early Majority. This is one of the larger categories of adopters and represent those who adopt an innovation deliberately as a sign of cohesion with the opinion leaders of the social system. This 34% of the adopter population plays a critical part in diffusing the innovation to the wider population. They will not begin to accept an innovation until and unless the Early Adopter population has tried it first (TED, 2010). Once the Early Majority have adopted an innovation it has been accepted throughout half the adopter population.

4. Late Majority. This group of adopters remain skeptical of new ideas and generally do not adopt an innovation without significant pressure from peers. They must feel that it is safe to adopt because the majority of others have already done so which alleviates their uncertainty. This group is generally on the trailing end of technology and feel that current processes and technology are “good enough” until half the population has accepted an idea. Late Majority adopters represent another 34% of the entire adopter population. They are considered part of the “mass market” (TED, 2010) along with the Early Majority adopters.

5. Laggards. Of the adopter population, 16% prefer to maintain the traditions of the past. This category of adopter puts up the most resistance to new ideas. They do not like change. This adopter category is reserved for the final members of a population who are forced to adopt an innovation due to their old products no longer being available.

In the case of RA programs, most community colleges have not intentionally engaged with employers for the purpose of providing the related technical instruction required for
apprentices. This innovative strategy would impact multiple areas of a community college including faculty, schedulers, and programmatic oversight. Modification of existing processes would be necessary but could be worth the disruption. Thus, Rogers’ Theory of Diffusion of Innovation is an ideal lens through which to regard the adoption of RA programs within community colleges.

**Promoter Theory**

Innovation allows an institution to be competitive and responsive to the needs of its market. For community colleges, this means instituting new ideas to better meet the needs of those they serve such as employers and students. There is no doubt, innovations naturally cause changes to the status quo. It is widely accepted that innovative ideas, and therefore change, have a greater chance of success when advocated through champions. “The champions’ major contribution is identifying and becoming aware of the value of the idea” (Markham, Ward, Aiman-Smith, & Kingon, 2010, p. 406).

Throughout the literature related to this type of change agent, the terms “champion” and “promoter” are very often used interchangeably. For this research, these terms will also be used interchangeably. The idea of a champion was introduced by Schon (1963) as a critical element required for radical change, particularly as brought about by technological innovation. According to Schon (1963), individuals within an institution will resist change and innovations will die without the presence of someone willing to own the innovation and actively promote the idea through unofficial networks at their own personal risk.

All organizations, public and private, must keep abreast of market needs, changes in technology, and innovative new best practices in order to grow and remain relevant and sustainable. Employees may agree that some innovations are good ideas; however, they may also
be tied to their routine processes for any number of excuses. Change is inevitable and cannot be blocked indefinitely. The literature regarding champions of innovation seem to agree on two primary theses: 1) innovative ideas will face internal resistance to change and barriers to implementation, and 2) a handful of promoters who emerge informally throughout the organization is the model defense against this resistance. Therefore, as community colleges seek to add apprenticeships to their community services, a champion is indispensable to assist with adoption of this initiative.

Champion Roles

Promoters, or champions who advocate for an innovation, are commonly identified by the position they hold within the institution or by role they play in promoting the innovation. The role of the champion is a result of concrete actions taken to advance the innovation or idea (Fujii, 2017). According to Witte (1977) innovations are more successful with the presence of at least two champions who work in collaboration. These two promoters are able to mitigate resistance to change throughout the organization by supporting the innovative idea with enthusiasm and confidence in the success of the innovation. In Witte’s (1977) theory, one promoter should have hierarchal authority and the other should be in the ranks below leadership. Promoters freely advocate for the innovation within their sphere of influence and take action to involve the right people. This enthusiasm becomes contagious as when individuals exhibit transformational leadership characteristics which stimulate others to want to believe the innovation can be successful.

Expanding on Witte’s (1977) two-tiered promoter theory, Chakrabarti and Hauschildt (1989) introduced a third champion role that aids in the success of implementing an innovation. Chakrabarti and Hauschildt (1989) maintained that the presence of a leader who promotes the
innovative idea was key. However, they determined that two additional champions/promoters, should emerge from the ranks of individuals below leadership. These two promoters exhibit expertise in the technology involved in the innovation and knowledge of the processes within the organization. These two roles aid in facilitating change. Hauschildt and Kirchmann (2001) later agreed with the triad of promoters and found that with particularly complex innovations, the “division of labor becomes an essential factor” (p. 41) in the success of the innovation. Hauschildt and Kirchmann (2001) said that a triad of champions is essential in order to curb resistance and bring an innovation to fruition.

Resistance to change is documented in most organizational change literature. Likewise, Witte (1977) identifies two different types of barriers to the implementation phase of any innovation: 1) barriers of will in which individuals within the organization create inertia in order to maintain the status quo, and 2) barriers of capability including requirements for new technology or employee skills. A third barrier was identified by Chakrabarti and Hauschildt (1989): administrative barriers. Each of these barriers can be overcome through the energy provided by promoters of the innovation.

This research focuses specifically on the expanded Promoter Theory as outlined by Chakrabarti and Hauschildt (1989). Table 4 illustrates the three promoters necessary for an innovation to succeed within an institution along with common promoter characteristics and the specific type of resistance the presence of such a champion can overcome.

Table 4: Promoter roles, characteristics, and barriers they act against

<table>
<thead>
<tr>
<th>Promoter Role</th>
<th>Characteristics</th>
<th>Barrier to Overcome</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power Promoter</td>
<td>Leader, promotes downwards</td>
<td>Barriers of will</td>
</tr>
<tr>
<td>Expert/Technology Promoter</td>
<td>Know-how, solves problems</td>
<td>Barriers of capability</td>
</tr>
<tr>
<td>Process Promoter</td>
<td>Middle manager, clears path</td>
<td>Administrative barriers</td>
</tr>
</tbody>
</table>
Each of the promoter roles outlined exhibit champion behaviors regardless of their role as a leader, expert or administrator. These behaviors include advocating for the innovation within their informal networks. Furthermore, promoters are intrinsically motivated to emerge in favor of the innovation based on the merit of the innovative idea itself. Promoters do not seek to institute change based on a directive or another requirement. They have passion for the idea and believe that it will create success for the institution.

The Power Promoter is a champion who holds a position of power within the organizational hierarchy. This person may not have had the original innovative idea but they support it and have the authority to ensure it is implemented. This promoter assists the innovation through funding and resources that can help it grow and flourish as they would naturally have the authority to secure these resources. The Power Promoter can also prescribe punitive measures for those who oppose the innovation or work against it. These top-level champions have decision-making authority to strategically affect the acceptance of innovations and to provide the organizational change with legitimacy as well as essential resources the innovation needs to launch. It is rather obvious that when new ideas such as an apprenticeship initiative are encouraged at the top levels of an organization or have presidential support, they are more likely to succeed.

The Expert/Technology Promoter is a champion who has the knowledge most closely associated with the innovation. The Expert/Technology Promoter does not need to have any power within the organization but does possess knowledge regarding how to develop the innovation. More than the knowledge, though, the Expert/Technology Promoter must have characteristics associated with innovation champions such as passion for the innovative idea, persistence, taking risk, ability to teach others how the innovation works and to diminish
challenges along the way (Howell, Shea, & Higgins, 2005). Some innovations are due to technological advancement or introducing new technology to the institution. Therefore, the person with the most knowledge of the innovation itself is a technologically adept person. The names for the role of this promoter in subsequent literature use Expert Promoter and Technology Promoter in an equivalent manner. Knowledge of technology and expertise regarding the innovation were essentially the same role being played by the promoter. The results of this study suggest the champion must possess a wide range and depth of knowledge and understanding about apprenticeships.

The Process Promoter is a champion who provides administrative insights to overcome the barriers of indifference and non-responsibility faced by the innovation when it meets with organizational structure, culture, and tradition. The Process Promoter is the link between the hierarchical Power Promoter and the technologically savvy Expert/Technology Promoter. The Process Promoter has the ability to translate the innovation into the cultural nomenclature of the organization. This champion exhibits high levels of knowledge regarding the organization’s processes. During the implementation of any new innovation, communication and innovation management is critical. The presence of a Process Promoter facilitates the expansion of the innovation due to their comprehensive knowledge of the organization and understanding how the innovation will affect other areas of the college. The Process Promoter has the ability to bring this knowledge to those who can alleviate issues such as the Power Promoter or the Expert/Technology Promoter.

Figure 4 displays the inter-relatedness among the three promoters of the triad. In this figure, the Power Promoter is at the top of the hierarchy, the Technology/Expert Promoter is in
the ranks of workers, and the Process Promoter is the middle manager who can execute the strategies of the Power Promoter and sell the innovative idea to other areas of the organization.

![Diagram](image.png)

*Figure 4: Diagram for the triad of promoters required for successful innovation (Hauschildt & Kirchmann, 2001, p. 42).*

Interestingly, Hauschildt and Kirchmann (2001) conducted a study of innovative products in 133 organizations and found significant differences in the success of the innovation when it had no promoter, one, two or three promoters. It was found that the triad of promoters who emerge from the ranks of individuals in support of an innovative idea result in the greatest success. Using this “troika” (Hauschildt & Kirchmann, 2001) of champion roles, this research will look into the implementation phase of RA programs at community colleges. Understanding who is involved, whether it was one, two, or three promoters/champions, will provide those colleges seeking to launch a successful innovation some solid guidance to effectively mitigate resistance and gain support.
Group Development

While most departments on any community college campus operate relatively independently with their own managers, staff, mini-culture, and other unique characteristics, community colleges operate as an integrated system. Implementing a new program within the structure of a community college has unanticipated effects as one department’s processes ripple into the processes of other departments. An RA program has many processes that involve a number of college departments as well as individuals. These departments and individuals who might be involved in the implementation phase of adopting an apprenticeship program are the following: (1) faculty members to write new curriculum or update existing programs, (2) admissions and registration departments to recruit and enroll apprentice students, (3) business outreach staff to work with companies in the establishment of the program, (4) staff to track the progress of the apprentices, and (5) marketing personnel to promote the program internally and externally.

During the implementation phase of an innovation such as RA programs, interdepartmental collaboration must happen as leaders and departmental managers work through the issues that surface in order to create new processes or procedures that fit within the existing structures at the college. “Innovation implementation within an organization is the process of gaining targeted employee’s appropriate and committed use of an innovation” (Klein & Sorra, 1996, p. 1055). As this process unfolds a group of key players, or a team, will emerge. This research will focus on such an emergent team of individuals in the beginning stages of the implementation process through the lens of Bruce Tuckman’s (1965) Theory of Group Development.

Tuckman (1965) studied small groups as they formed organically and noted patterns that naturally emerged in the social behaviors of the groups as well as in their orientation to tasks.
After conducting empirical studies, Tuckman designed a model of small group development which had four original stages of development in each of two realms; a “social realm” and a “task realm,” shown in Table 5. These two realms as described by Tuckman acknowledge that teams form in order to successfully accomplish the task at hand but recognize that, as humans, group formation will also involve “social-emotional-integrative functions” (Tuckman, 1965). Thus, Tuckman’s initial stages of group development distinguished between stages related to task orientation and stages involving the social aspects of group development.

<table>
<thead>
<tr>
<th>Stages Identified in the Social Realm</th>
<th>Stages Identified in the Task Realm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Testing and dependence</td>
<td>Orientation to task</td>
</tr>
<tr>
<td>Intragroup conflict</td>
<td>Emotional response to task demands</td>
</tr>
<tr>
<td>Development of group cohesion</td>
<td>Open exchange of relevant interpretations</td>
</tr>
<tr>
<td>Functional role relatedness</td>
<td>Emergence of solutions</td>
</tr>
</tbody>
</table>

In the social realm group members first tested boundaries and identified roles. In the case of an existing hierarchy, group members naturally deferred to a leader whereas without a formal structure a leader would emerge. The next stage within the social realm involved members competing for their desired place within the hierarchy. Conflict arose when members attempted to orient themselves towards the group objectives. In the third stage, members began to form solutions to the problems which had risen in the intragroup conflict stage. Alliances assisted with group collaborative efforts. In the final stage of the social realm, the group is able to function with purpose and each member understands their role within the group.

In the task realm, group members first become oriented to the responsibilities of the group and make decisions regarding how to approach the required tasks. The second stage in the task realm is an emotional response to the demands of group membership. Some tasks are more
desired by one member due to various skill sets and preferences. In the third stage of the task realm, problems are evaluated and discussed. This is where the group begins to collaborate on issues. Finally, solutions will emerge and allow the group to work together, with each member of the group fully aware of their part in the goals of the group.

Tuckman’s (1965) model was an attempt to integrate and summarize the concepts inherent in the dual four-stage categorizations. In his research, Tuckman found congruence between the four stages of each of the two realms to form the conceptual frame for his model. In combining and re-labeling the four stages in each realm, Tuckman created one of the most widely recognized theories of group dynamics in the literature. Stage one, during which the group is both testing boundaries and orienting themselves to the tasks at hand, is labeled “Forming.” Stage two, during intragroup conflict and emotional response to the tasks, is known as “Storming.” Stage three, in which the group develops cohesion and exchanges ideas, is “Norming.” And finally, stage four is “Performing,” in which the members have solved the issues and operations are running smoothly. Figure 5 shows Tuckman’s (1965) Group Development model.

![Figure 5: Tuckman’s (1965) original stages of group development, linear representation.](image)

Ten years after Tuckman introduced his theory, he returned to the literature on group development and looked into studies conducted in the interim. Tuckman and Jensen (1977) identified a fifth stage of group development based on literature of the “life cycle” of groups and the end of the group’s life. In this final stage the group breaks apart. The social aspects and tasks
involved in this final stage concern the separation of the group. Tuckman and Jensen (1977) called this final stage “Adjourning.” However, for this research regarding the development of the interdepartmental team that forms to implement RA programs at community colleges, this final stage will not be addressed. It is anticipated that participating colleges will not have adjourned their implementation team and will continue to utilize RA programs for the foreseeable future.

Because a variety of departments and individuals are needed to incorporate RA programs in a college, it is important to gain empathy for the processes of tangential departments within the institution. Cassidy (2007) found that interdepartmental groups that form within organizations shift concerns over time and that this shift often aligns with the stages of development. When the group “forms,” the concerns are individualistic. At the time the group is “storming” the concerns are of the group. During the “norming” stage, identifying the purpose of the group is the concern. Finally, as the group develops into a “performing” group, concerns center around the work of the group. This research speaks to the nature of individual agency. Each member of a group will be concerned with the purpose and work of the group in relation to the work for which they are responsible within the organization. These concerns could appear at various stages for individual members of the group suggesting that Tuckman’s “storming” stage may not be confined neatly between group formation and collaboration. Storming is a metaphor for conflict which can arise at any time under a variety of circumstances.

Some limitations of Tuckman’s model and the research over time have included a heavy emphasis on therapy groups and lack of a control group. Furthermore, the model has been criticized for being linear in a manner that life and complex human interaction are not (Bonebright, 2010). Several studies of the group development model have taken place as literature reviews only rather than empirical tests. Thus, using other research findings,
conclusions were drawn by attempting to fit group behaviors into the model rather than creating a new model. However, ultimately, researchers agree that “groups do appear to emerge, develop and grow in an orderly and predictable manner” (Bonebright, 2010).

As a new innovative initiative begins, such as an RA program, an implementation team within a community college will be comprised of individual representatives from a variety of other departments. These interdepartmental team members come together to find creative ways to accommodate the requirements of the new program in the existing structure of the institution. The lens of group development is key to determining the effectiveness of the team. In this context, team effectiveness can be measured by the success of the program. Tuckman’s model assumes that all stages of development must occur for the team to reach effectiveness (Rickards & Moger, 2000).

When groups have a task outlined for them, as opposed to therapy groups or sports teams, they work within the confines of an established institution and will encounter barriers. This was addressed in previous literature on both promoter theory and diffusion of innovation. Rickards and Moger (2000) found that groups who overcame both a weak barrier and a strong barrier were able to move forward towards the “performing” stage of Tuckman’s group development model. The weak barrier to overcome is the “forming” stage of group development. During this stage, group members must orient themselves towards both the group members and the task at hand. This involves interpersonal accommodations. Most teams are able to overcome this barrier. The stronger barrier to overcome is the “storm.” During the storming stage of group development, conflict rises, and problems present themselves. In the study by Rickards and Moger (2000), up to 15% of teams were dysfunctional primarily due to inability to pass through the stronger barrier.
of the storming phase of development. Groups that overcome the stronger barrier had characteristics such as teamwork training and a creative facilitative leader.

Rickards and Moger (2000) found that creative leadership is a critical element for effective group development. Creative leadership is a leadership theory stating that “consideration, task orientation, and change/development orientation” (p. 276) result in higher team performance and progress. Creative solutions to problems lead to innovation or new ideas and processes, new ways of thinking, and overcoming barriers to success. It could be extrapolated that creative leadership in an implementation team is akin to champion behavior or reflective of the Power Promoter of the previous theory discussed.

This research will identify the organizational members responsible for implementing RA programs at six community colleges to determine if Tuckman’s (1965) stages of group development held true for the implementation phase. There is an a priori expectation that teams of individuals formed, overcame conflict, collaborated to determine procedures to incorporate RA programs into existing structure and reached a performance stasis.

Summary

This chapter situates the research on RA programs within community colleges by including a history of community colleges as well as a historical perspective of apprenticeship in the United States. It then establishes RA programs as an innovation that community colleges can implement in order to meet their mission of supporting the needs of the business community and increasing the number of students completing a certificate or degree. Recognizing that innovative ideas or changes do not enjoy wide acceptance immediately, Rogers’ (2003) Theory of Diffusion of Innovation provides a lens for viewing the adoption of innovation as a process by which individuals within the institution become aware of the innovation, are influenced towards or
against the innovation, decide to adopt the innovation, shape the innovation to fit their needs
during implementation, and finally confirm their decision by becoming advocates of the
innovation or by discontinuing usage of the innovation. Throughout the implementation phase of
incorporating RA programs into the existing structure of community colleges, it is anticipated
that there will be resistance to change. Chakrabarti and Hauschildt’s (1989) Promoter Theory
states that the presence of three innovation promoters, or champions, positioned in an
authoritative role, an expert on the innovation, and a process manager, help to mitigate resistance
and create a smoother implementation phase. And finally, the research will look at the
interdepartmental implementation team and track their stages of development as a team via the
frame of Tuckman’s (1965) Theory of Group Development. Tuckman’s theory states that teams
progress naturally through four stages as they form, work through personality clashes and get on
the same page in terms of team goals, discover ways that their expertise and skills can be utilized
to the greatest advantage of the team, fall into a pattern of normalcy in delivery of the innovation
until it is no longer innovative but incorporated. This framework of deciding to adopt RA
programs, forming a team, and recognizing the champions for RA programs is fused into the
design of the study, survey and research questions, and themes for the findings of the research.
CHAPTER THREE: METHODOLOGY

Introduction

The purpose of this study is to identify decision-making and implementation strategies that led to successful Registered Apprenticeship (RA) programs in community colleges. This is a qualitative study using a case study methodology situated in the interpretive paradigm. In order to maintain methodological rigor what follows is a description of the design of the study, selection criteria for research participants, the data collection methods, and corresponding data analysis methods. This chapter is intended to provide a detailed accounting of the research processes in order to demonstrate the trustworthiness and validity of the study.

Research Design

Planning and methodology were carefully deliberated in designing this study. The decision regarding whether to use qualitative or quantitative research methods includes consideration of: a) the role of the researcher and her philosophy about the world, b) attention to the purpose of the research, and c) the approach to the question. The role of the researcher differs based on the design of the research study.

Quantitative research design methods are used when only the facts of a large sample of the population is needed for a study. The characteristics of quantitative research include working with quantity, large sample sizes, experiments or statistics, and findings are usually numerical. Quantitative research is statistical in nature using data and extrapolating generalizations to whole populations without considering the differences or the uniqueness of an individual participant. This research is not designed to test or prove a hypothesis about RA program implementation
which might utilize a quantitative approach. Nor would the approach seek to generalize a particular implementation strategy to all community colleges. “To level all individuals to a statistical mean overlooks the uniqueness of individuals in our studies” (Creswell, 2007, p. 40). Therefore, use of a quantitative method is not the appropriate approach for this study.

In contrast, to obtain findings that are descriptive, or rich with context, and that fully explore a social phenomenon, the qualitative mode of inquiry is utilized. Creswell (2007) feels that what study subjects say cannot be separated from the context in which they said it. Qualitative research design methods are utilized when contemporary phenomena are studied in a real-life context (Yin, 2014). According to Creswell (2007), qualitative research is conducted to understand the contexts in which the participants exist. A qualitative design is more aligned with exploring and understanding the relationships involved in understanding decision-making and implementation strategies that led to a successful apprenticeship program.

In exploring a particular phenomenon of interest using a qualitative research paradigm, the researcher will be heavily involved in a process of discovery informed by the data collected. Interpretivism postulates that all individuals involved interpret meaning and value from their own experiences and within their own individual context. “Interpretivist researchers seek methods that enable them to understand in depth the relationship of human beings to their environment and the part those people play in creating the social fabric of which they are a part” (Thanh & Thanh, 2015, p26). Each person will interpret the world based on their own subjective constructs of reality. Qualitative researchers immerse themselves in the subject of study in order to understand all facets of the phenomena. As such, the interpretivist philosophy of the world leads naturally to qualitative research methods.
Qualitative research lends its processes to discovery of meaning and understanding of a phenomenon of interest. As this research intends to elucidate the catalysts and genesis surrounding the decision to implement RA programs within the community college structure, this research must dig deeply looking for meaning and understanding nuances. This approach to the question of how the decision was made: exploring RA programs from a variety of data sources, asking and observing them in their own context and uncontrolled environment led logically to the qualitative methodology. These design elements will assist in focusing on the purpose of the study throughout the research.

Case Study Design

In qualitative research, use of a case study approach is appropriate because the research probes a particular phenomenon of interest, holistically and in the contexts in which it exists such as its history, evolution, and uses. A qualitative case study examines the phenomenon using multiple data collection methods to elicit the most complete and richest understanding surrounding the complexities of the case that only active, embedded participants would know and be able to share. A case study will sift through the details of the phenomenon provided by participants in an effort to understand the many facets available in the wholeness of a phenomenon.

Case study research explores in detail what is defined as a bounded case that clearly establishes the focus of the study. For this study, the primary boundary in which the case is situated: those community colleges within the United States confirming they have RA programs. This bounded system will exclude apprenticeship programs that are not registered and those that utilize alternative training providers for the related technical instruction. Stake (1995) also describes case study as “an integrated system” (p. 2). RA programs, and in fact any community
college program, fit the description of an integrated system well. Programs are situated within an individual college with certain processes and people managing and administering the program. Yin (2003) asserts that case study should be used when studying “how” and “why” questions. This study will explore “why” community colleges decided to become involved with RA programs and “how” a variety of colleges implemented the programs.

Case study reports are narrative and draw the reader into the specifics of the phenomenon. Yin (2014) states that use of theoretical propositions, or a theoretical framework, “helps to organize the entire analysis, pointing to relevant contextual conditions to be described as well as explanations to be examined” (p 136). This framework will be established prior to beginning the research and “guides the type of data collected” (Suter, 2018).

**Selection Criteria**

In qualitative research, purposeful sampling is used so that the most knowledgeable participants provide information about the study. The individuals most likely to answer the purpose of the study by making available pertinent and relevant information and data will be selected. Patton (1990) believes that sampling, more than any other criteria, is the defining difference between quantitative and qualitative research. A purposeful sampling strategy is aimed at intentionally studying the individuals best suited to answer the research question. “Purposeful sampling is based on the assumption that the investigator wants to discover, understand, and gain insight and therefore must select a sample from which the most can be learned” (Merriam & Tisdell, 2016, p. 96). Once chosen, the sample should be studied and questioned in depth.

The purpose of this research is to explore decision-making and strategies that led to the successful implementation of RA programs in community colleges. The most qualified
individuals to question would be individuals working with RA programs in community colleges. Purposeful selection of the right individuals to participate in the in-depth data collection process is what delivers the rich, thick, data a qualitative study seeks to explore. Each participating college was selected for its individual characteristics.

Selection of Community Colleges to Survey

For purposes of this study, colleges that offer an associate degree as the highest degree conferred were included even if they do not contain the words “community college” in their name. This could include some technical colleges and some state colleges. All potential study participants will be referred to as “community colleges.” Two participant groups were used to gain an understanding of the phenomenon under study. These two groups included the following two-tiered selection of community colleges:

a) Self-selected college members of the Registered Apprenticeship College Consortium (RACC)

b) Colleges recommended by Department of Labor Office (DOL) of Apprenticeship staff.

Community colleges with an interest in RA can join the DOL’s Registered Apprenticeship College Consortium (RACC). This consortium is comprised of businesses, two and four-year colleges and universities, alternative education providers, states, and other entities that can facilitate RA partnerships (Department of Labor, 2017). A list of RACC members is publicly available online. The RACC member list is a resource for RA program sponsors to connect with others in their area who are looking for providers of either Related Technical Instruction (RTI) or On-the-Job Learning (OJL). The RACC currently has 328 unique community colleges that have indicated a connection to registered apprenticeships (Department of Labor, 2018). Membership on the RACC is free and the list of colleges is publicly available at
the DOL. Each college involved with RA programs identifies the point of contact regarding apprenticeship programs at the college.

The second group of community colleges was comprised of recommendations from an expert in the field of RA. Advice was solicited from Laura Ginsburg, Chief of Division, Division of Promotion and Strategic Partnerships, DOL National Office of Apprenticeship, for a listing of community colleges well-known at the federal level for their work in apprenticeships. In the instance of a community college coming from the DOL list, the community college does not necessarily need to be a member of the RACC. These two resources will allow a broad depth of insights from a wide variety of RA program iterations.

Selection of Community College Participants to Interview

In addition, to provide more in-depth and contextual information, a few select cases were studied in greater detail. Six to eight community colleges were chosen from the college survey respondents who met further criteria and who indicated in the survey they were available for a face-to-face interview.

Using both a two-tiered college survey technique and undertaking face-to-face interviews allows for utilizing a maximum variation sampling strategy. Face-to-face interviews were conducted at those colleges offering the greatest range of diversity and variation in terms of size and location based on the college classification system available via the National Center of Education Statistics' Integrated Postsecondary Education Data System (IPEDS). The IPEDS provides a framework for identifying both size and setting of institutions of higher education. This database is a respected measure of higher education institutional demographics identifying and classifying institutions as either “large,” “medium,” or “small” in city or suburban settings, or “fringe,” “distant,” or “remote” in a town or rural setting. These institutional classifications
are important in the data collection phase of the research in order to determine the breadth by which the college was able to implement an RA program. As so little is currently known about community colleges and RA programs, the survey cast a wide net to glean where RA programs are most prevalent and if there is a ‘right-size’ of an institution for successful implementation.

Patton (1990) states that maximum variation within a small sample will yield findings that are both of high-quality and heterogeneous providing the rich details that illuminate the case. According to Creswell (2007) “when a researcher maximizes the differences at the beginning of the study, it increases the likelihood that the findings will reflect differences or different perspectives” (p. 126).

Community colleges selected for a face-to-face interview met only one critical common criterion: their RA programs were less than five years old. In order to fully explore the research question, the RA programs at selected colleges should be in the early stages of development. For the purposes of this study, those individuals who were instrumental in either (a) the decision to develop an apprenticeship program, or (b) the implementation of the program at the community college, had to still be available for interview. Potential study participants who have established a program in the last five years are more likely to recall how the program was developed and implemented including the rationale. Relevant data to elucidate decision-making strategies are more likely to have been retained at colleges with recently-implemented programs. Additionally, this study differentiates between programs that have existed from zero to two years and those that have existed for three to five years in order to determine potential patterns in the stages of implementation and success measures at these two different time-periods. Colleges with very mature programs were not selected for face-to-face interviews. The
passage of time and the institutionalization of a program can easily erode the details of how a program or innovation first started. These details must be fresh in the memories of participants.

**Data Collection Methods**

Case study inquiry relies on demonstrating that the case has been explored from every angle with data gathered from a variety of sources within a systematic plan. According to Yin (2014), case study research is interested in thick, rich data which is best found through triangulation of data from multiple sources. The data collection instruments in this research included surveys, interviews, documents, and field notes. This research was exploratory of community colleges’ engagement with Registered Apprenticeship (RA), a phenomenon that is currently increasing in scope and usage. Due to this renaissance of apprenticeships expanding across the nation, meaning and context must be directly interpreted as unique variables are encountered in the field.

According to Creswell (2007), collecting data is an evolving cycle in which the researcher is involved in a series of steps including locating a site or individual, collecting data, recording information, resolving field issues, and storing data. In the process of qualitative inquiry, the first interview will help to inform the next interview as meaning is understood within various contexts and themes begin to emerge (Sutton & Austin, 2015). These themes become part of the evolving cycle such that each interview educates the researcher who becomes more knowledgeable for the next interview and can more easily recognize thematic responses.

One key ingredient in case study research is collecting multiple sources of data. “Using a combination of data types increases validity as the strengths of one approach can compensate for the weaknesses of another approach” (Patton, 2015, p. 390). This triangulation of data sources provides a deeper understanding of how various approaches to implementing an RA program are
each valid in their own context and how these strategies could be useful to others interested in implementing an RA program. Table 6 shows a variety of data sources that were collected throughout this inquiry.

*Table 6: Triangulation of data sources lead to the findings.*

<table>
<thead>
<tr>
<th>Data Triangulation</th>
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<tbody>
<tr>
<td><strong>Survey Data</strong></td>
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<tr>
<td>A survey (38 questions) were sent to 344 community colleges with (self-reported) involvement in RA programs. Data collected informs the research of the scope of programs across colleges and a variety of implementation strategies. Survey questions stem from conceptual framework regarding time to implement, organizational change, and the team involved in the program implementation at each community college.</td>
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Surveys

A 38-question survey (Appendix A) was created using the online survey tool SurveyMonkey to gather general data of RA programs at community colleges who are members of the RA College Consortium (RACC). The online survey included the required consent form to participate (Appendix B) and provides ease of responding for the participant at the college. Using SurveyMonkey provides respondents confidentiality and security of their responses, and provides the researcher detailed tracking as well as some analytical tools. Responses to the initial survey informed which community colleges were chosen for a face-to-face interview as detailed in the section on Selection Criteria. A survey can be used in either qualitative or quantitative research methods, however in qualitative research, surveys are used to determine a variety of
unique characteristics across a population rather than the quantity of a particular attribute (Merriam & Tisdell, 2016). The survey for this research was used to understand the range and scope of RA programs across the country. Furthermore, results from participants who responded to the survey helped to determine the participants interviewed.

Interviews

Face-to-face interviews (Appendix C) provide “access to the thoughts and feelings of research participants, which enables development of an understanding of the meaning that people ascribe to their experiences” (Sutton & Austin, 2015, p. 226). Face-to-face interviews included a site visit which can elicit innumerable details that could not be gleaned from surveys or other documents. However, an alternative for an interview is the use of Skype or another video conferencing software, that allows for a virtual face-to-face interview via technology. In this way a conversation between the interviewer and participant can still take place face-to-face to acquire non-verbal cues that can help in further questioning. The goal was to gather a spectrum of practices community colleges have utilized to incorporate RA programs into their current structure. Six interviews were conducted from among the community colleges taking part in the initial survey with RA programs in the age range of zero to five years. These community colleges ranged from small, medium and large colleges located in city, suburban, and rural settings, according to the National Center of Education Statistics. In order to explore the nature of RA programs and their integration into community colleges, the interviews used a semi-structured format providing an understanding of relevant information through each individual’s personal lens.

Each interview included a protocol with no more than ten open-ended questions regarding the decision to begin an RA program, and the individuals involved in the
implementation of the RA program. Interviews were recorded using an iOS device with the Voice Memos application. “Recordings have the advantage of capturing data more faithfully than hurriedly written notes might and can make it easier for the researcher to focus on the interview” (Mack, et al., 2005, p. 53). The iOS device picks up voice recordings over background noise and provides a clear recording with no time limits or distractions such as flipping over a tape. Two of these devices were utilized during each interview for assurance in capturing the full interview. The resulting Voice Memo file was saved to the personal hard-drive of the interviewer and backed up to an external hard drive which is password protected.

Recorded interviews were transcribed and shared with the participant to ensure accuracy of meaning before analysis. According to Stake (1995), reviewing the transcribed interview with the participant to ensure accuracy in the context and meaning of the conversation authenticates findings and increases confirmability.

Piloting the Data Collection Tools

There are significant advantages to piloting a research instrument prior to use in the field (Sampson, 2004). Inexperienced researchers who enter the field ‘blind’ are unprepared for misunderstandings or other setbacks with the research tool that was developed. Piloting the survey questions can help a researcher learn whether or not the structure of the question is yielding the information that will address the research question (Merriam & Tisdell, 2016). In order to diminish ambiguity, the initial survey was piloted with three individuals varying in their understanding of either RA programs or community colleges. The edits to two of the survey questions were to add clarification but maintain the original intent to explore the research question.
Similarly, the interview questions were also piloted to gain practice interviewing and to test the clarity of the questions. Based on their answers, pilot participants could reveal questions that should be included in the interview (Merriam & Tisdell, 2016). Interview questions should be designed to gain insights into the research question. Furthermore, the nature of case study research includes the ability of the interviewer to ask good questions. As such, the questions must be tested. The interview questions were piloted with two individuals, one with vast knowledge of community colleges and the other with no community college experience. No changes were made.

Documents

Documents were requested during the interviews. Documents such as meeting notes or agendas from when the college was making the decision to implement RA programs could include rationale or data sources that were consulted prior to, or in conjunction with, decision making for incorporating an RA program into the college. According to Yin (2014) “the most important use of documents in case study research is to corroborate and augment evidence from other sources” (p. 107).

The college organizational chart at each participating site was requested. Organizational charts demonstrate where the RA program is situated within the community college as well as the numbers and titles of individuals with a specific role tasked with administering the program. One further document requested, if participants offered to provide the information, was budgetary artifacts that could inform the research of the sustainability plans and other financial decisions regarding the program as it was implemented at the college.

Miles and Huberman (1994) suggest using a document summary form for each document collected at a participant site. “This form puts the document in context, explains its significance,
and gives a brief summary” (Miles & Huberman, 1994, p. 54). When coding data, the same
theming and coding structure used for the transcript of the interview should be used for any
documents collected in the field.

Field Notes

Field notes are the final source of data to be collected. Field notes are naturally filtered
through the impressions and biases of the researcher. Due to this proclivity, careful
documentation of the day, employing uniform guidelines for each site (college visits), took place
immediately after each interview. The field notes include details and impressions about the
organization and the relationships among the participants at each site, a diagram of the interview
location, reflections after the interview, time: start and duration, any distractions or interruptions,
and noted power or hierarchy inherent in the relationships with those interviewed. According to
Yin (2014) field notes should be themed and coded in the same manner as all other documents
and recorded data collected in the field.

Data Analysis

The analysis methods useful for the type of text-rich data that surfaces from these data
collection methods is coding and theming of the text. This is to say that all the interviews
conducted were filtered into an elaborate classification system. Creswell (2007) describes a data
analysis spiral continuously gathering data, coding it, looking for themes and relationships,
reading contextually significant literature, and going back out for more data to support emerging
findings. As seen in Figure 6, the spiral begins at the lowest level with collection of raw data and
moves upwards towards the researcher’s ability to provide an account of the case through visual
representations and story.
This process must be rigorous and explicitly organized in order to maintain data quality and reliability. The spiral is an excellent metaphor to demonstrate that simply categorizing the topics discussed in an interview is not really an ‘analysis.’ Data analysis includes thinking about the data in terms of the themes that emerge and discovering the way the pieces of the puzzle fit together among the various narratives collected at each participating site.

Coding research data begins with having a strategy for identifying patterns that can be recognized as common threads running throughout all of the data collected and notes compiled about the data collection phase. These patterns emerge as themes from which findings are extrapolated. The strategy employed throughout this research has been following the theoretical framework which situates the inquiry at the convergence of three theories described earlier on diffusion of innovation, promoter theory, and group development.

An analytic technique often utilized in case study research is a variation on pattern matching referred to as a logic model. Pattern matching involves making predictions of behavior
in advance of the research. Similarly, "the use of logic models consists of matching empirically observed events to theoretically predicted events" (Yin, 2014, p. 155). The logic model is used as a metaphor for presenting research findings. Matching patterns identified in the interview phase to the logic model will assist in identifying themes. Each stage or phase of the theory identifies a new thematic category. Logic models are illustrative of a "linear sequence or progression of events over time" (Yin, 2014, p. 157). These representations should not be confused with a flowchart but, rather, are used as a starting point to discover what, or how, each event in the sequence was triggered at each individual community college. See Figure 7 for the logic model used to predict and match patterns found in the sequence of events involved in deciding to offer RA programs and implementing the program at community colleges.

![Figure 7: Logic model of predicted decision-making and implementation of Registered Apprenticeship programs informed by theoretical framework.](Image)
According to Miles and Huberman (1994) early analysis is strongly recommended. The process of analyzing all the data cannot be deferred until all data has been collected as it would be virtually overwhelming. Furthermore, beginning to analyze data as soon as it is procured assists in memory retention and “helps the field-worker cycle back and forth between thinking about the existing data and generating strategies for collecting new, often better, data” (Miles & Huberman, 1994, p. 50). The schedule of those individual participants at the community colleges with RA programs agreeing to be interviewed were spaced out in a manner that adequately allowed for transcriptions to be created and initial coding taking place between each visit to one of the participating colleges.

According to Green et al. (2007), “Coding consists of researchers effectively conducting a detailed, taxonomic process of sorting and tagging data” (p. 548). Once the coding is outlined, identifying themes and/or patterns can begin. The analysis techniques used include constant comparison to look for patterns and themes resulting in findings to the research questions. Patterns can be identified in all of the data collected which is the triangulation of the information obtained from the data sources. All of the data sources add context and meaning to elaborate the details of a particular phenomenon of interest.

**Trustworthiness and Validity**

Every attempt has been made to ensure rigor in the study. Trustworthiness is demonstrated via transparency built into the research design, data collection methods and tools, data analysis, and description of the findings which shows evidence of the systematic processes that led to those findings. Transparency is maintained with the use of an audit trail. An audit trail is the transparent detailed description of all of the research steps from the design to the reporting of the findings.
Triangulation of data collected and analysis generates findings that are multifaceted and complex. Yin (2014) describes methods that can be employed at every stage of the research project to ensure validity and reliability. When multiple sources of data lead to the same findings the data is said to converge. “By developing convergent evidence, data triangulation helps to strengthen the construct validity of the case study” (Yin, 2014, p. 121). In the data collection phase of this research, use of multiple sources to gather data and information such as surveys, interviews, documents, and field notes, creates construct validity as well as credibility. At the same time use of case study protocols and a database increases reliability. Table 7 outlines strategies used to ensure trustworthiness in the findings and interpretations of the research process.

Table 7: Strategies Used to Promote Qualitative Research Trustworthiness

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Strategy</th>
<th>Description</th>
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<tbody>
<tr>
<td>Credibility</td>
<td>Critical Reflection</td>
<td>Involves self-awareness by the researcher on potential biases and predisposition; limitations of the study also acknowledged.</td>
</tr>
<tr>
<td></td>
<td>External Review</td>
<td>Approval of research via Internal Review Board (IRB)</td>
</tr>
<tr>
<td></td>
<td>Triangulation</td>
<td>Multiple data sources employed providing cross-checking of information and corroboration of the data.</td>
</tr>
<tr>
<td>Transferability</td>
<td>Data triangulation</td>
<td>Use of multiple data sources to help understand a phenomenon for the reader.</td>
</tr>
<tr>
<td></td>
<td>Qualitative Report</td>
<td>Written findings in a narrative that can assist in following the logic in reaching the research findings.</td>
</tr>
<tr>
<td>Dependability</td>
<td>Audit Trail</td>
<td>“The process of the inquiry and the inquirer’s responsibility for ensuring that the process is logical, traceable, and documented” (Patton, 2015, p. 685)</td>
</tr>
<tr>
<td></td>
<td>Theory triangulation</td>
<td>Use of a theoretical framework to guide data collection and interpretation of the data.</td>
</tr>
<tr>
<td>Confirmability</td>
<td>Member Checks</td>
<td>“Linking assertions, findings, and interpretations to the data themselves in readily discernible ways” (Patton, 2015, p. 685)</td>
</tr>
</tbody>
</table>
Credibility “provides assurances of the fit between respondents’ views of their life and the inquirer’s reconstruction and representation of the same” (Patton, 2015, p. 685). The goal of the research is to consistently endeavor for accuracy and detail as if the reputation of the researcher and, in fact, community colleges themselves, were concerned (Yin, 2014). Credibility was also demonstrated in obtaining approval for research through an institutional review board. Every participant consented to and participated in the research. According to Lincoln and Guba (1985), credibility is qualitative research’s equivalent to quantitative research’s internal validity. “A major trustworthiness criterion is credibility in the eyes of the information sources, for without such credibility the findings and conclusions as a whole cannot be found credible by the consumer of the inquiry report.” (Lincoln & Guba, 1985, p. 213).

While this study is specifically about the decisions to implement an RA program at a community college and the strategies that led to success, this concept should be transferable to any community college program. Lincoln and Guba (1985) advise that this generalization must be fitting and that programs must be of similar context. However, more recently, Merriam and Tisdell (2016) wrote that “the general lies in the particular; that is, what we learn in a particular situation we can transfer or generalize to similar situations subsequently encountered” (p. 255). Moreover, transferability, like credibility, lies with the reader of the study and her own ability to discern use of the findings in her particular situation (Merriam & Tisdell, 2016).

Dependability is shown throughout the study via consistent focus on the purpose of the study, the driving questions, and adherence to the theories outlined in the conceptual framework. Detailed descriptions of process, methods, analysis and findings will validate for readers that the research evolved from a process systematically planned and consistently executed.
Confirmability is demonstrated through coding checks in that interview transcripts were reviewed with the participants to ascertain that interpretation is accurate. Stake (1995) encourages participants to “provide alternative language or interpretation” (p. 115) to authenticate findings and increase confirmability.

**Ethical Considerations**

Ethical research processes require informed and voluntary consent from participants to whom privacy has been guaranteed and will be honored, that the research will do no harm, and that the researcher listen carefully for meaning and context that is confirmed with participants (Leedy & Ormrod, 2013). Findings must be documented in detail so that any reasonable person following the research design could reach similar findings. The research will use data gathered from participants who have corroborated the meaning of their interviews. This research utilizes at least four validation strategies through triangulation, member checking, rich and detailed narrative description, and clarifying researcher bias. Every effort to ensure transparency and rigor in the research design has been made. It is the intention to contribute knowledge to the field of community colleges and provide a model for use as an implementation guide to RA programs.

Ethical research proceedings require approval through an Institutional Review Board (IRB). The design, scope, details, and plan for this inquiry were submitted for review to the IRBs at both Ferris State University and Harper College. This inquiry is designed as a case study regarding the incorporation of RA programs at community colleges in the United States. Case study ethical considerations include a researcher participant relationship when conducting face-to-face interviews on-site at the participating college location. Each participant has been guaranteed anonymity in the final report.
The data for this research will be stored on the personal hard drive of the researcher and password protected. The voice recorded audio files and any data connecting the participants to individualized data will be destroyed three years after the research report has been published. Absolute confidentiality of data gathered is the highest consideration as participants have agreed to be interviewed for this research. Each participant was made fully aware of the purpose of the study and confirmed they agreed to participate. The survey began with consent to participate and ended with consent to be contacted for an interview. Again, when the participant was contacted for an interview, they agreed to participate and were informed of their rights. Participants from colleges read and checked they were willing to participate. Participants willingly shared an account of how the RA program was implemented at their college and check the text of the interview afterwards to ensure that the meaning and the context of their accounts were clearly understood and accurately represented. Creswell (2007) casts ethics in research under the light of “raising new possibilities, opening up new questions, and stimulating new dialogue” (p. 205) for the purposes of action. In this case, the action would be to successfully implement an RA program within their community college.

Research Limitations

Every research study will have limitations within the design which must be identified and acknowledged. According to Creswell (2008) “limitations are potential weaknesses or problems with the study identified by the researcher” (p. 199). This is not to say that the research is weak but that there are recognizable areas for further research surrounding this same research question. Below are listed potential limitations related to this study: (a) the potential for the person being interviewed to not remember the details of the decision-making; (b) pervasive change of
apprenticeship expansion in the United States throughout the duration of this research, particularly within community colleges; and (c) researcher bias.

Memory recall. The person most likely to respond to the survey is the community college employee most heavily involved in the apprenticeship programmatic implementation phase. The program itself naturally occurs after the decision has been made and often the decision is carried out by deans, managers, or other representatives of the college. While these individuals are likely to be highly knowledgeable about the decision and the implementation, it is possible they will not be aware of certain incentives or agendas of leadership for deciding to become involved. This is somewhat related to the nature of decision-making and the multitude of influences that might have had a part in tipping the decision one way or the other. In order to mitigate the effects of this as much as possible, it is a heavy focus of this research to interview the person with the most knowledge about the decision. Furthermore, selection criteria directed the inclusion of participants with programs between two and five years old. This serves to minimize memory challenges.

Pervasive change. The inception of the idea for this research project occurred in 2016 after President Obama’s remarkable and unprecedented investment in the expansion of RA programs as a strategy to improve unemployment and to narrow the skills gap. During the course of this research project there have been sweeping changes, expansion to new industries, new literature, studies, and reports on apprenticeship, as well as a new federal administration. Under President Donald Trump, apprenticeship has remained a national priority. There has been an executive order signed, a National Task Force on “industry recognized” (White House, 2018) apprenticeships, and the release of $150M in funds to consortia (U.S. Department of Labor, 2018) to expand apprenticeships. The landscape has continuously been in a state of flux.
throughout this research. One thing that helps the study stay on topic is the focus on community colleges and their emerging involvement. The topic of apprenticeships and their effect on the economy, higher education, employers and apprentices should remain a focus for research students for years to come. It would behoove the extant literature to conduct a similar study in several years to look back at this same time period through the lens of known outcomes.

*Researcher bias.* Critical self-reflection is required of all researchers demonstrating their ability to authentically present the world through their own lens. It is important to note that the researcher is heavily immersed in the delivery of an RA program at a community college and, naturally, will view participants’ descriptions of their programs through that lens. Stake (1995) states that “standard qualitative designs call for the persons most responsible for interpretations to be in the field, exercising subjective judgment, analyzing and synthesizing, all the while realizing their own consciousness” (p. 41). Creswell (2007) states that “qualitative researchers today are much more self-disclosing” (p. 178) regarding the lens through which individual researchers view the world. In order to mitigate this bias, Yin (2014) suggests “checking frequently with the original purpose of the inquiry, continually examining possible alternative explanations, using a case study protocol” (p. 150).

**Researcher as the Tool or Instrument**

Reflexivity is a critical measure of transparency. The researcher must engage in a critical self-reflection of her personal influences as the primary instrument of the design, data gathering and analysis. Bias will be present in each of these activities including the a priori choices of the theories that frame the inquiry. It is important to note that the researcher is employed by Harper College, a 2015 American Apprenticeship Initiative (AAI) grant recipient and a leader in the emerging RA space. Harper College is an RA program sponsor with ten registered programs.
Work in this area led to the inquiry into RAs as they intersect with community colleges for the benefit of students, employers, colleges and the economy. This background should lend credibility to the researcher as someone knowledgeable about the specific programs built at Harper College. Part of a qualitative inquiry is for a researcher to become immersed in the data to acquire as thorough an understanding of the complexities of the phenomenon of interest as possible. As such it is important to briefly outline the experience and identity of the researcher herself.

Prior to her role in community college, the researcher worked in the higher education industry from 1991-2012 in a variety of positions at both the University of Houston and the University of Texas Medical Branch. A history of administrative responsibilities is included in the experience of the researcher in positions that were not student-facing. Almost all experience in higher education has included reconciling or managing budgets, processing documents for procurement and receipt of revenue, signature authority for documents and timesheets, and quarterly reporting for federal grants including cost sharing reports for large departments. Only at a very recent point in this history was outreach to businesses and industry or knowledge about employers’ need for a skilled workforce part of the researcher’s professional experience. However, it does speak to meticulousness of character in executing the research process. The findings must fit within the context of the time during which they were found, recognizing that both RA programs and community colleges are in a state of flux and will evolve beyond what can be included in the report.

Summary

Methods for this research are based in the qualitative mode of inquiry and inform the selection criteria, data collection, and data analysis procedures followed. The purpose of this
research was to discover and identify the decisions and strategies that led to the successful implementation of RA programs in community colleges. The research is guided by driving questions as well as a theoretical framework that includes diffusion of innovation, group development theory, and promoter theory. Participants were purposefully sampled from a nationwide group of colleges with successfully operating, recently implemented RA programs to be gleaned via use of a national database of such colleges, the RACC. Data collection included surveys, face-to-face interviews, documents, and field notes. Face-to-face interviews were planned and scheduled from a national sample. Data gathered was analyzed immediately using theming and coding. The outcome from the research will support community colleges in quickly adopting RA programs as a strategy for increasing enrollment, retention, completion, and industry engagement.
CHAPTER FOUR: DATA COLLECTION

Introduction

This chapter will document and display the data collection procedures undertaken in this study. As a qualitative inquiry, data collection methods consisted of surveys, interviews, and documents. The chapter structure follows the data collection sequence. A survey was sent to colleges that were members of the U.S. Department of Labor (DOL) Registered Apprenticeship College Consortium (RACC) and self-identifying as having Registered Apprenticeship (RA) programs. Based on selection criteria, six colleges were selected for an in-depth interview from among the respondents.

The purpose of this study was to explore the decision-making processes and strategies that led to the successful implementation of RA programs at community colleges. All data collection methods were designed to answer the driving questions of this research, which focused on the catalysts that drove the college to consider offering RA programs, the decision-making process that led to the development of the program, and the strategies that contributed to the successful implementation of the RA program.

Participant Contact Protocol

This research was informed by data gathered from community colleges that had recently implemented an RA program. A national public list of community colleges with RA programs is maintained at the DOL within the Office of Apprenticeships. This list is commonly known as the RACC. Community colleges can self-select to appear on this list through an online form to add their program. Functionality of the RACC includes acting as a resource for local DOL offices
and business to identify nearby sources for Related Technical Instruction (RTI). The RTI for an RA program is essentially the required classroom hours. After eliminating four-year universities and vocational programs, the survey was distributed via email to 344 community colleges and technical colleges on August 6, 2018. This number reached a total of 307 community colleges due to email addresses for individuals listed who had subsequently left their roles. Of this final group who received the survey, 44 responded. This represents a 14.3% response rate. These responses yielded valuable information regarding community college RA programs throughout the nation. The following section reveals insights into these 44 community college RA programs.

Survey Respondents

A wide variety of characteristics were evident throughout the nation among community colleges with RA programs. Table 8 lists the institutional classification of the survey participants according to the classifications outlined by the National Center for Education Statistics (NECS). The highest number of respondents were in rural settings with 15 colleges followed closely by 14 colleges in city settings. Ten colleges were in suburban settings and two were classified as towns. Three respondents left this question blank.

Table 8: Survey participants based on institutional classification

<table>
<thead>
<tr>
<th>Institutional Classification</th>
<th>Survey Participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rural</td>
<td>15</td>
</tr>
<tr>
<td>City</td>
<td>14</td>
</tr>
<tr>
<td>Suburban</td>
<td>10</td>
</tr>
<tr>
<td>Town</td>
<td>2</td>
</tr>
<tr>
<td>Left Blank</td>
<td>3</td>
</tr>
</tbody>
</table>

Figure 8 shows the broad diversity in size of institution among the survey respondents. Using the NECS size classifications, 30% of the colleges were classified as very large with at
least 10,000 students; 21% of the colleges were classified as large with 5,000-9,000 students; 28% of the colleges are classified as medium with 2,000-4,999 students; and 21% of the colleges are classified as small with between 501-1,999 students.

Among these colleges, most are partnered with between two and five employers. This group is significantly higher for smaller colleges. Furthermore, the higher the number of employers the college is working with, the larger the college. The exception to this is one college categorized as small, between 500-1,999 students working with more than 50 employers. Illustrating this fact is Figure 9.

Figure 8: Chart displaying the size of the institutions participating in the survey.

Figure 9: Graph displaying the number of employers that colleges are working with by the size of the institution.
Regarding the scope of the programs at the colleges participating in the survey, 24 colleges have at least one full-time employee dedicated to RA programs. Figure 10 indicates where the programs are organizationally housed in a variety of areas within the college including Workforce and Economic Development (33%); Career and Technical Education (15%); Academic areas (28%); under the president’s office or other top college leadership teams (5%); in Continuing Education (5%); Advancement Divisions (8%); and in other areas (8%). Thirty-four colleges provide credit-bearing RTI for apprentices and 20 colleges provide non-credit-bearing RTI for apprentices.

Figure 10: Graph depicting location of the Registered Apprenticeship program within participant colleges.

Among the colleges that responded to the survey, 10% serve as the program sponsor for their RA programs while 48% are only providing the RTI for sponsored programs held by employers or third-party providers. Thirty-three colleges are involved in providing the RTI for employer-sponsored programs as well as holding the sponsorship for college-sponsored occupations. Of the respondents, 10% are in the initial stages of program development and sponsorship of the program has not yet been decided. The respondent’s program sponsorship responsibility is found in Figure 11.
The occupations colleges are offering in their apprenticeship programs, whether
sponsored by the college or the employers, are overwhelmingly manufacturing occupations. The
next highest industry for which colleges are training apprentices is in the trades or traditional
apprenticeship programs such as construction, shipbuilders, and electricians. There is a handful
of healthcare related occupations, IT occupations, and culinary occupations. A word cloud in
Figure 12 shows the occupations for which colleges are training apprentices. Larger words
appear in the data more often than smaller words.

Figure 11: Graph of survey respondent’s program sponsorship responsibility.

Figure 12: Word cloud displaying the occupations for which colleges are providing RTI.
At least seven participants have been providing RTI for employers with apprentices for more than thirty years. Those with a longer history of providing RTI have higher numbers of trade-related occupations than more recent entrants to the activity of RA program delivery.

**Identifying Participants to Participate in the Interview**

This study is focused on the decision-making process and implementation strategies for colleges to become involved in RA programs. Therefore, the colleges with the most recently-launched programs were identified in the selection criteria as candidates for the interview phase. All colleges that were still in the initial decision stages or who had not yet actually launched their programs were not considered. Likewise, all colleges with involvement for five years or more were not considered.

The remaining candidates for the interview yielded eight community colleges with RA programs that had been launched for at least two years or between two and five years. Only three of the colleges participating in the survey had programs aged two to five years and thus all were contacted to participate in the interview. The remaining five colleges had programs that had already launched and were younger than two years old. Maximum variation supported the capture of a diverse group from the most varied colleges to collect unique views on programs. Attention was given to the size of the institution based on enrollment and the environment in which the community college was located. Table 9 displays the institutional profiles of the sample interviewed.

**Table 9: Interview participants and college characteristics.**

<table>
<thead>
<tr>
<th>Participant</th>
<th>Size of College</th>
<th>Community Environment</th>
<th>RA Program State Administration</th>
<th>Length of time College involved</th>
</tr>
</thead>
<tbody>
<tr>
<td>Participant A</td>
<td>At least 10,000</td>
<td>Suburban</td>
<td>OA</td>
<td>&lt; 2 years</td>
</tr>
<tr>
<td>Participant B</td>
<td>501-1,999</td>
<td>Rural</td>
<td>OA</td>
<td>&lt; 2 years</td>
</tr>
<tr>
<td>Participant C</td>
<td>At least 10,000</td>
<td>City</td>
<td>OA</td>
<td>2-5 years</td>
</tr>
</tbody>
</table>
Participant Demographic Data

An interviewee survey provided the demographic data of the six participants. The data gathered such basic information such as gender, age range, the number of years they had served in their position, and their highest level of education. Three of the participants were female and three were male. Three of the participants were over 60 years old, two were between the ages of 51-55 years old and one was between 46-50 years old. Two held doctorate degrees, three held master’s degrees, and one held a bachelor’s degree. Table 10 displays the participant demographic data.

Table 10: Participant demographic data

<table>
<thead>
<tr>
<th>Participant</th>
<th>Gender</th>
<th>Age Group</th>
<th>Years in this position</th>
<th>Highest Education</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Female</td>
<td>46-50 years</td>
<td>1</td>
<td>Doctorate</td>
</tr>
<tr>
<td>B</td>
<td>Male</td>
<td>60+ years</td>
<td>7</td>
<td>Bachelor’s</td>
</tr>
<tr>
<td>C</td>
<td>Male</td>
<td>51-55 years</td>
<td>1</td>
<td>Master’s</td>
</tr>
<tr>
<td>D</td>
<td>Female</td>
<td>60+ years</td>
<td>8</td>
<td>Master’s</td>
</tr>
<tr>
<td>E</td>
<td>Female</td>
<td>51-55 years</td>
<td>7</td>
<td>Master’s</td>
</tr>
<tr>
<td>F</td>
<td>Male</td>
<td>60+ years</td>
<td>5</td>
<td>Doctorate</td>
</tr>
</tbody>
</table>

Interview participants were somewhat dispersed throughout the United States. The location of the community college was not factored into the selection criteria in the data-gathering plan and therefore this distribution of study participants is random. However, the selection criteria for the interview was based on the age of the RA program specifically in search
of those younger than five years. Figure 13 shows a map of the United States with color indicators for the states with interviewees.

![Map of the United States with color indicators](image)

Figure 13: Map of the United States depicting the location of the study participants.

Participant Contact Protocol

Participants who met the criteria for the study were contacted by email on September 19, 2018 with a request to participate in the interview phase of the research. Introducing the research to the potential participants, explaining their involvement, and scheduling interviews took place in a variety of manners and over the course of two months. The interview questions were emailed to the interview participants the day before the scheduled interview along with a reminder or confirmation of the interview. All interviews were recorded using an iOS device and the VoiceMemos application. Recordings were uploaded over a secure service for transcription through TranscribeMe. Transcriptions were inspected for accuracy and to determine dialog the transcriptionist documented as “inaudible” or “crosstalk.” The corrected transcriptions were
emailed to the interview participants on February 16, 2019 for confirmability. The interview participants were given ten days to reply with any changes to their answers. Two participants replied with minor tweaks to the transcription of the interview.

Summary

This chapter provided demographic data and an overview of the data collection process. Also displayed are the results of the survey and a description of the sites selected for further examination. Proceeding from the wide survey to discover and identify those community college sites with the ideal characteristics for further exploration is all provided in a transparent manner. Information and data presented confirms transparency and credibility of the beginning of the data analysis.
CHAPTER FIVE: DATA ANALYSIS

Introduction

A qualitative inquiry is designed to gather stories and insights from participants in order to discover unique characteristics of the phenomenon of interest. This chapter will reveal some of those insights in a narrative to address the research topic and the driving questions. Six in-depth interviews were conducted with individuals who met the research selection criteria and thus are actively participating in RA programs in their community colleges. These interviews reveal their decision-making processes and implementation strategies from the moment the college first looked into developing an RA program. This chapter presents the participant’s responses to the questions posed in the same order in which the interview questions were asked. Questions addressing similar topics from different perspectives are combined.

Interview Question One

Q1. Describe the primary reasons why your college first considered Registered Apprenticeship.

There was no commonality as to the reasons each college considered pursuing RA programs. Among the six participants interviewed, each considered RA programs for a different reason at their college. Yet at the core of the responses was the intention to be responsive to their local community’s labor market needs.

Two participants indicated that the pursuit of RA program delivery was a directive from either their president or their state governor as a requirement for all technical colleges. Two participants received grant funding that required expansion of apprenticeship programming. However, even when the decision to consider RA programs was based on directives, the
participants described the desire to respond to their labor market. Three participants described situations in which employers had approached the college with the request to establish a program. Four of the participants described their entrance into the field of RA programs as an evolution of existing relationships with employers who already utilized the college’s resources.

Each participant discussed apprenticeships as a strategy to help students become educated or trained for the purpose of employment. It was evident they felt employers look to colleges to find talent to fill their open jobs and, for the most part, students look to colleges to provide certificates and degrees in order that they can become employable. In this way, the community colleges connected students in specific academic disciplines to employers needing to establish their talent pipeline.

The quotes in Table 11 show the community college participant’s desire to meet the needs of its local labor market.

Table 11: Responses to question one regarding drivers for Registered Apprenticeship program development.

<table>
<thead>
<tr>
<th>Speaker</th>
<th>Quote</th>
</tr>
</thead>
<tbody>
<tr>
<td>Participant E</td>
<td>“I really focused on developing programs that were going to serve our local community and one of the things that there was a clamor for is a culinary training program.”</td>
</tr>
<tr>
<td>Participant F</td>
<td>“We've had one employer … that had their own registered sponsorship and we had been providing related instruction for them for quite some time. They were the ones that really asked us to begin consideration of starting an apprenticeship program. And from that, we invited a number of employers, larger companies to a meeting that we held back in the fall of 2014 to talk about potential apprenticeship programs.”</td>
</tr>
</tbody>
</table>

Interview Question Two

Q2. What specific motivators tipped the consideration towards an implementation phase?

Most participants shared that they looked into various sources of external and internal data in order to determine the feasibility of developing an apprenticeship program. Furthermore,
four of the six participants indicated that the program fit naturally into their existing program delivery model with no real disruption to their existing course scheduling practices.

The clear motivation for moving towards an implementation phase was the opportunity the RA program presented for the college to partner with employers. Although some employers already had participated in some type of partnership opportunities with the colleges, registered apprenticeship programs served to expand the number of employers that became partners. The RA program served to provide services for that partner in a more structured and specific manner.

Another motivation for the RA program implementation was that it provided another avenue for students to have a job and start their careers. Part of the community college mission is to be responsive to the educational needs for each student which will foster their current or eventual employment and/or career growth. All participants shared their thoughts that RA is a valuable option for students who will be employed while matriculating through their chosen educational pathway.

The quotes in Table 12 display the specific motivators that tipped consideration by colleges towards an implementation phase.

*Table 12: Responses to question two regarding implementing the program.*

<table>
<thead>
<tr>
<th>Speaker</th>
<th>Quote</th>
</tr>
</thead>
<tbody>
<tr>
<td>Participant C</td>
<td>“Our first strategy was the standardized core curriculum, and then the alignment of industry credentials. It was all one big circular strategy, because then, we knew we could align the industry credentials as credit for prior learning and have a bridge between a non-credit and credit side of the college.”</td>
</tr>
<tr>
<td>Participant D</td>
<td>“There were a lot of people who were working two jobs, going to school, trying to support their families at the same time. They were traveling all over the city trying to hold all this together, and this is a program that solves a lot of problems for those students. You’ll be able to take care of your current situation and then when you’re done with this, you have a great job at a great company. And so the value proposition was so great that it was immediately oversubscribed and people wanted to do the program.”</td>
</tr>
</tbody>
</table>
Interview Question Three

Q3. Tell me about the scope of the program at your community college.

Scope for this question was defined as the breadth of the program, such as the number of occupations for which the community college provided Related Technical Instruction (RTI) or sponsored, the number of employers involved with the college, and the number of apprentices enrolled. This question also covered where the RA program was housed and managed within the community college.

All participants indicated that some of the apprenticeship programs were credit-bearing and therefore, apprentices earned credit for their coursework. However, three participants also provided some non-credit RTI for other apprentices, which was a decision made by the participating employers. Three participants submitted paperwork to the U.S. Department of Labor (DOL) Office of Apprenticeship to make the college an RA program sponsor. The sponsor for an RA program is the responsible party who holds the apprenticeship standards and registers the apprentices. The other three participants provided the RTI for apprenticeship programs that were sponsored by employers.

The size (number of current employees) of the employer partner seems to dictate the size or capacity of the program at the community college. Those participants working with large corporations are educating larger numbers of apprentices than participants partnered with smaller employers. If the employers are very small, small, or medium in size, they seem to hire only one or two apprentices and enroll them in a college for the RTI component of the apprenticeship program. Participants shared how they all have this issue and how the college deals with this common situation. If the college is sponsoring the apprenticeship programs, it can aggregate the one and two apprentices sent by employers into a single cohort and place them into the same schedule, thus improving the scheduling of classes, whereas those participants who are only
providing the RTI for company-sponsored RA programs are limited to the number of apprentices
hired by the sponsoring employer.

The quotes in Table 13 display the scope of the programs at each of the participating
colleges.

Table 13: Responses to question three regarding the scope of the programs.

<table>
<thead>
<tr>
<th>Speaker</th>
<th>Quote</th>
</tr>
</thead>
<tbody>
<tr>
<td>Participant A</td>
<td>“We're just getting ready to launch one hopefully in the Fall that's called the Arborist Tree Care apprenticeship certificate. And that's a for-credit. We have an Associate of Family Medicine apprenticeship that's for-credit. We have the [Optics Program]. We have a machining apprenticeship and the business logistics and interior design.”</td>
</tr>
<tr>
<td>Participant E</td>
<td>“Our first cohort had six students in it. Our program is a three-year program and so we just graduated our first three this past year. So you get your journey worker status and your associate of applied science in the three years of part-time.”</td>
</tr>
<tr>
<td>Participant F</td>
<td>“We still have an advanced manufacturing focus with six occupations, tool and die, tool machine setup operator, industrial maintenance technician, machine setup operator, chemical operator, and mechatronics technician. However, we'll be adding shortly a paramedic medicine apprenticeship to the registered sponsorship. We've also been asked by a couple of companies to add a machine operator 1, apprenticeship program to the sponsorship. And then we're going to be having discussions—actually, I think it's next week—with a large healthcare facility. They're in desperate need of certified nursing assistants.”</td>
</tr>
</tbody>
</table>

Interview Question Four

Q4. Who are the individuals or departments that are part of the Registered Apprenticeship program network?

Common to five of the participants was the fact their college had at least one full-time employee dedicated to the management, delivery and oversight of the RA program. However, there was a curious lack of information regarding the efforts of other employees or departments specific for the successful functions of the RA programs.

Another similarity of these five participants is that they mentioned contributions from both faculty members in those apprenticeship programs and the college marketing department. They discussed how faculty are key to the program success not only for their expertise in a
specific discipline and aligning learning objectives to apprenticeship competencies, but also due to their connections with employers. Also, many participants indicated that each time a new apprentice is enrolled, the marketing department staff reaches out to the individual to do a human interest story. This helps to spread the word to the community about apprenticeships and highlight the new apprentice.

Other departments briefly mentioned by participants as working with either potential apprentices or those currently enrolled included admissions staff, the registrar or business office, and those in advising and counseling. When admissions professionals recruit students to the community college, the RA program is one of the options they discuss with apprentice candidates. Likewise, college advisors can guide students to apply for the RA program if they are aware of the program and it fits their needs. Community colleges with robust RA programs have created widespread awareness of the program and support structures from all existing departments at the college.

The quotes in Table 14 below define the individuals or departments that are part of the RA program network and responsible for some component of the RA program delivery.

Table 14: Responses to question four regarding the individuals and departments that are part of the Registered Apprenticeship program network.

<table>
<thead>
<tr>
<th>Speaker</th>
<th>Quote</th>
</tr>
</thead>
<tbody>
<tr>
<td>Participant B</td>
<td>“The driving force for the apprenticeships are the instructors because they know the people at these industries.”</td>
</tr>
<tr>
<td>Participant C</td>
<td>“So, the dean of the CTE programs, the faculty in the CTE programs, the vice president of Student and Academic Affairs, the registrar, the vice president of Economic Development, the executive director of our customized training department which is called Center for Business and Industry, the CT reps (Customized training representatives). They’re our sellers. Of course, the president, our transfer specialist, and then because of it, we’ve hired an Internship and Apprenticeship Coordinator. Oh, and advising, but we had a remote adviser also who was very instrumental in the success of it. And marketing, by all means, was very, very, very important for us, for recruitment. And they still are.”</td>
</tr>
</tbody>
</table>
Participant F: “So I mentioned [faculty involvement from] engineering and industrial technology, which provides the instruction for the advanced manufacturing apprenticeship programs. In my division, economic and workforce development, we have an apprenticeship coordinator and a success coach who provide the various services to our member companies. The success coach works with each individual apprentice and the apprentice’s mentor to ensure that they get through to Journey worker status. Then we also have admissions that works heavily with them and the business office.”

**Interview Question Five**

Q5. *Was there a specific event or person that was particularly significant in the implementation of the program?*

All participants shared they acted as a promoter for the implementation of the RA program and self-identified as still heavily involved today as a champion. These participants went to great lengths to assist in the launch of the RA programs, including such activities as weekly conference calls with all stakeholders of the program, visiting many other colleges to find a model that would work for them, and hiring individuals to represent the college and the apprenticeship programs to “sell” the program to employers. However, during the interview they all indicated it was a concerted group effort by college personnel to make the RA programs successful.

Three participants indicated the apprenticeship efforts were a presidential initiative. While the presidents of these colleges were the catalyst for the decision, they were not instrumental in the implementation phase. In identifying who was instrumental in implementing these apprenticeship programs, participants primarily mentioned those individuals involved in the daily activities of working with employers. Two participants indicated the faculty were a critical element to the success of any RA program because of their existing relationships with businesses as well as their obvious work with apprentices.
Evident to those attempting to plan for the successful implementation of any program or project is the need for a variety of individuals to deal with the management and operations elements. Curiously, these participants did not discuss any of the different operational personnel needed but focused mainly on faculty and the college marketing department.

The quotes in Table 15 indicate the specific event or person that was particularly significant in the implementation of the program.

Table 15: Responses to question five regarding a significant particular person or event was particularly significant in the implementation of the program.

<table>
<thead>
<tr>
<th>Speaker</th>
<th>Quote</th>
</tr>
</thead>
<tbody>
<tr>
<td>Participant B</td>
<td>“It’s a team effort. Everybody has to be involved because it’s basically a student. And the whole college is built and designed to take care of the student. I mean, every department in the college is here for a reason. And it’s to keep that student on track. And so, it’s hard to put a finger on any one person or thing.”</td>
</tr>
<tr>
<td>Participant C</td>
<td>“I don’t know if it was any one person. I really think, like I said earlier, kind of the stars aligned for us with funding opportunities, involvement of our president at a national and state level, and then the ability for a number of people to be able to go out and make it work. I don’t think it’s ever one person. You just can’t do it that way because there’s so many moving parts and cogs. I mean, without faculty support, there’s no way we could’ve moved it.”</td>
</tr>
<tr>
<td>Participant E</td>
<td>“I’d say second to me would be the executive chef at [the] College. He was very significant in it. I mean we wouldn’t have had our Monday kitchen without his reaching out and saying, ‘Hey our catering kitchen could do this.’ Obviously, my provost was very supportive. It was a different thing than our College had done and without the provost’s support it probably wouldn’t have gone forward.”</td>
</tr>
</tbody>
</table>

Interview Question Six

Q6. From the time your college decided to develop a program until the actual delivery, give me a sense of the pace of adoption of the Registered Apprenticeship program both at your college and within the business community.

All but one participant agreed that from the time they began their initial conversations with local employers until the time they enrolled registered apprentices, it took about two years. Though some participants provide non-credit apprenticeship programs, all participants did
provide RTI in credit courses. What they also conveyed were the time constraints, particularly regarding curriculum development, which might impact the pace of adoption. If curriculum changes are needed for an RA program, it will take time and effort by the faculty to shepherd these changes through the college curriculum committee for approval.

What also must be taken into account, participants indicated, is the additional time and effort to register an apprenticeship program with the DOL. When the college is the program sponsor it requires time to develop standards for that occupation, submit them and receive DOL or State Apprenticeship Agency (SAA) approval depending on the state in which the college resides. The participant who indicated only one year was needed for development, registration approval, and implementation explained this condensed time was due to minor curriculum modifications.

As for the pace of adoption of a community college RA program by employers, participants felt they primarily went about it two entirely different ways: (1) the employer approached the community college asking them to provide the RTI for their apprenticeship program; or (2) the community college outreach team members approached the employers with the idea to adopt RA programs as a recruiting and retention strategy. In situations where employers were “educated” as to the benefits of apprenticeships, it was often mentioned how difficult and time-consuming this was for outreach team members. Most participants also felt that unless employers are having great difficulty finding qualified talent, they are unlikely to understand the benefits of RA.

The quotes in Table 16 display a sense of the pace of adoption of an RA program at the community college and within the business community.
Table 16: Responses to question six regarding the pace of adoption of the Registered Apprenticeship program both at the college and within the business community.

<table>
<thead>
<tr>
<th>Speaker</th>
<th>Quote</th>
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</thead>
<tbody>
<tr>
<td>Participant B</td>
<td>“The first thing a company’s going to ask you is, ‘What’s in it for us?’ Companies are in it for profit. They’re not all altruistic. And if it’s not going to be a benefit to them, they’re not even going to talk to you about it. So those are going to be some tough questions.”</td>
</tr>
<tr>
<td>Participant D</td>
<td>“I think what we quickly realized is that when we got to a point where it was like, “Okay, we’re doing this,” we didn’t have the time to develop new curriculum and go through that process, which I’m sure you understand is 18 months to 2 years if everything is aligned and it all goes perfect. … But it was a bit of a build the airplane while you’re flying it kind of situation. Well, we knew that they weren’t going to be taking these track classes until the second half of their degree. So we had a little runway in order to get them put together.”</td>
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<tr>
<td>Participant E</td>
<td>“I would think it would be closer to two to two and a half years. We had our research period of time, then we had our actual ‘develop the program,’ get it through processes, get our DOL stuff together and kind of move that forward.”</td>
</tr>
</tbody>
</table>

Interview Questions Seven

Q7. Describe the facilitators that worked in favor of establishing the Registered Apprenticeship program at your community college.

Surprisingly, participants had little to say regarding facilitators that worked in favor of establishing the RA programs. Some participants described situations in which the circumstances simply fell into place for the college. Participants all shared their belief that the RA programs were a way colleges could develop guided pathways for students which fostered their successful completion of any educational program. One community college participant said that providing only the RTI component of the RA program and not being responsible for the sponsorship portion facilitated a quicker apprenticeship program implementation. Three participants felt external support by employers facilitated the implementation of RA programs. This support was demonstrated in a variety of ways such as assisting faculty by providing input into the apprenticeship curriculum, hiring apprentices for the program, and selecting a company mentor. Support from the board or other college leaders, as well as the college team, was also mentioned.
The quotes in Table 17 display the facilitators that worked in favor of establishing an RA program at a specific community college.

**Table 17: Responses to question seven regarding facilitators supporting the implementation.**

<table>
<thead>
<tr>
<th>Speaker</th>
<th>Quote</th>
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<tbody>
<tr>
<td>Participant B</td>
<td>It's no cost to the company other than the wages. See, in [our state], we have what we call the HOPE Grant. And basically, our students go for free.</td>
</tr>
<tr>
<td>Participant D</td>
<td>“Companies are looking, desperate, for alternative talent pipelines. And so, we’re in the right place at the right time with the right solution from that regard.”</td>
</tr>
<tr>
<td>Participant F</td>
<td>“It goes back to the tone that’s set by the college president: to be very responsive to the employment needs of the community, hire people who have a tendency to want to work together to advance the college’s mission. Through various communications that she has with the college, to set the tone.”</td>
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</tbody>
</table>

**Interview Question Eight**

*Q8. Describe any challenges or hurdles that had to be overcome during the implementation of this program.*

Implementing any program such as an RA program necessarily comes with a host of challenges and hurdles. The determination shown by these colleges to create solutions is a testament to the commitment of the community college. It shows the breadth of the challenges the colleges encountered and signals to other colleges interested in adopting this strategy that they will move through a period in which the program implementation will face any number of obstacles.

Challenges described by all participants centered on the lack of awareness and understanding regarding RA programs and the necessity to educate and inform internal and external stakeholders as well as potential apprentices.

1. **Educating internal stakeholders.** The challenges involved minutia of manipulating components of the RA program to function within the policies and procedures of the community colleges. For example, colleges faced challenges in scheduling general education courses for the
apprenticeship program. Faculty who were involved in the development of the program seemed to understand the program delivery. However, explaining to faculty outside of the occupation the need for block scheduling of a course on only one day a week did not make sense to faculty members who were used to traditional course scheduling in a 16-week semester.

Another challenge presented itself when building program schedules that extended beyond the traditional program length. For example, one participant described how the college’s financial aid would not approve or fund a program because apprentices required three semesters to complete it whereas traditional students could complete the program in one semester. Another participant described how they had to calculate the RA program on students’ records as a practicum because they could not technically have a full-time program that extended beyond two years of curriculum.

2. Educating external stakeholders. All participants felt the most challenging issue regarding employers was they did not understand the idea of apprenticeship and had never participated in RA in the past. Employers were unclear regarding the benefit to them in registering the apprentices, rather than simply partnering with the community college on a related education component. Employers are accustomed to hiring fully qualified talent, and the RA approach seemed like a high-risk endeavor. Some participant community colleges had to convince employers to become an RA program sponsor and most employers were not interested in taking on that responsibility. Another challenge shared by one participant was the length of time between obtaining an employer’s agreement to participate and actually designing a program.

Participants also mentioned the need for employer outreach team members to be well-versed in the RA programs prior to attempting to explain the ins and outs of each to
companies. Participants had to train and educate many internal individuals in order to go out into the business community to promote the RA programs. If there are still questions about the program for which the college has no answers, it is unlikely the employers will have enough confidence in the program to participate.

3. Educating potential apprentices. Participants recounted that recruiting qualified apprentice candidates was often just as difficult for the community college as it is for the employers. Furthermore, one participant reported they held a potential apprentice information session. Unfortunately, those who arrived for more information on how to become an apprentice already had an education, and simply needed employment.

The quotes in Table 18 show some of the challenges or hurdles that had to be overcome during the implementation of this program.

Table 18: Responses to question eight regarding the challenges or hurdles that had to be overcome during the implementation of this program

<table>
<thead>
<tr>
<th>Speaker</th>
<th>Quote</th>
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<tbody>
<tr>
<td>Participant A</td>
<td>“Businesses are not real excited about being sponsors. It isn't where their specialties are. It isn't where they have time. It isn't where they want to put their money. They would rather have somebody else take on that. And actually, they'd rather pay somebody else to take that on. So to them, it's a lot of busywork. And they just don't want to do it. Well, if they don't do it and we don't do it, who's going to be the sponsor?”</td>
</tr>
<tr>
<td>Participant B</td>
<td>“Three things: one, selling it to the company; two, sending a qualified student; and then three is recruiting students. And the last two sort of go together. Once you recruit them, you have to recruit a good one.”</td>
</tr>
<tr>
<td>Participant C</td>
<td>“On the academic side, the largest hurdle was faculty buy-in. On the non-academic side, would be working with employers and having them understand and educating them.”</td>
</tr>
<tr>
<td>Participant D</td>
<td>“One is the time it takes for someone to say, 'I'm committed to doing this and actually implementing.' And to the extent that that takes a year to go through that. There's way too many opportunities for companies to get distracted by other events, for leadership changes, for a whole host of things that can change the likelihood that that program actually gets implemented.”</td>
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Interview Questions Nine-Ten

Q9. What were the lessons learned from your experience?

Q10. If you had to guide another community college along this path what would be your advice?

Through the insights, beliefs and shared information, participants in this research learned many lessons from their experiences. In developing specialized custom programs for individual employers who can only hire a few apprentices, three participants shared that they learned they are not building a sustainable model of an RA program. Each of these participants expressed a desire to build more of an RA program framework in which the apprentice students can be aggregated from a number of different employers in the same industry while attending the same set of courses at the same pace. This is described as a cohort model but not all apprentices would be from the same employer. It is interesting that these three disparate community colleges all expressed the same idea as a result of a lesson learned.

There were many pieces of advice provided by the participants in this study. Apparent from the participants’ remarks were two recommendations to offer guidance to another college investigating whether or not to offer RA programs. The first recommendation was not to go into the community to discuss the program until and unless the college representative is comfortable discussing the program in detail including answering questions. The individuals charged with convincing an employer to try a new recruiting strategy must be knowledgeable about program data (e.g. cost savings, increased retention with similar employers, etc.). In addition, being able to share some success stories focusing on a company’s successful use of apprentices can help to sell the program as another hiring strategy. The second recommendation was to have an internal team at the college devoted to the program. They all indicated that to launch a successful RA program and grow it is simply not a part-time job. The college must dedicate resources to the
program, whether that is human resources or in equipment for training the apprentices. The program has a better chance of success if these two components are established.

The quotes in Table 19 display the lessons learned and advice for other community colleges.

Table 19: Responses regarding lessons learned and advice for other community colleges.

<table>
<thead>
<tr>
<th>Speaker</th>
<th>Quote</th>
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<tbody>
<tr>
<td>Participant A</td>
<td>“So far what we have found is that if we continue to be educational trainers and we continue to do a one apprenticeship here and a one apprenticeship there, it's not very sustainable. And it only brings in one or two students per apprenticeship. So that's why we started looking at what are our options as far as becoming sponsors as a community college? And would that allow us to bring more businesses from an industry into an apprenticeship, and they could share the apprenticeship, and that would allow us to create more of a sustainable apprenticeship program?”</td>
</tr>
<tr>
<td>Participant C</td>
<td>“Have your data and know what you’re talking about. Have the data so that you can actually really convince people why it's important, the changes it makes in people's lives. Have those stories because you've got to convince people. You've got to educate people. And I'm a true believer in data and impact.”</td>
</tr>
<tr>
<td>Participant D</td>
<td>“And then I think the third area is this idea that there are only so many [major corporations]. There's only a handful of those companies out there. And there are many more companies that are mid-sized and smaller that potentially could participate in an apprenticeship program but would not have enough apprentices to create a cohort or would not have enough bandwidth within the organization to really organize and facilitate that internally. And so that would require us aggregating a cohort across many different companies. And in that instance, we would hold the sponsorship and deliver that as part of the solution.”</td>
</tr>
<tr>
<td>Participant F</td>
<td>“So we've been working for the last three years with larger employers, and we’re now in the process this year of reaching out to smaller firms simply because of the fact that we own the registered sponsorship. It would make it economical for smaller firms to be able to participate.”</td>
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Summary

This chapter presents perspectives gleaned by interviews with participants who have implemented RA programs within their respective community colleges. The participants unquestionably believe the RA programs serve the employers as well as benefit student/apprentices and enable the community college to meet its mission. It is important to note that employers are unlikely to have used RA as a recruiting and retention strategy in the past.
Community colleges should not develop RA programs unless employers have agreed to hire apprentices they intend to enroll in courses at the community college for the related instruction.

It is also important to understand that an internal college team is a key component to the success of the RA program. The larger the effort from the community college, from leadership to the implementation team, the more successful the RA program will be. Leaders should promote the program internally to everyone and every college department in a positive manner and provide resources to deliver a quality product for both the apprentices and employers.

Finally, there will be a myriad of choices and decisions that must be made regarding program delivery. Wide collaboration among the RA team delivering the program will assist in understanding the college’s capabilities and the employer’s needs. Participants in this study all agreed that one person, one promoter/champion needs to be able to make programmatic operational and management decisions. Only this way, as challenges emerge from adopting a new initiative such as an apprenticeship program, can those challenges be quickly identified and addressed in a manner that adds value for all involved: employers, apprentices, and the college.
CHAPTER SIX: FINDINGS, CONCLUSIONS, AND IMPLICATIONS

Introduction

This qualitative study explored RA programs from the perspective of the community colleges providing the educational component. Apprenticeship discussions were on the rise nationally at the beginning of the research study and have since emerged as an applicable strategy for community colleges to increase enrollment, retention, completion and partnerships with business and industry. Registered Apprenticeship is also beneficial to student apprentices who gain skills while earning a paycheck, as well as earning credentials from both the community college and the U.S Department of Labor (DOL). Benefits for employers have been reduced recruiting costs and turnover, closing the skills gap in difficult-to-fill positions, and the ability to retain the knowledge and experience of seasoned workers prior to their retirement. For these reasons RA has frequently been referred to as a win-win-win. Yet while the benefits to all are commonly cited, there are as many variants of program implementation as there are programs. This study sought to synthesize the knowledge and experience of pioneer colleges involved in RA programs to serve as a guide for future implementations.

This research started with a national survey drawn from the members of the RA College Consortium (RACC). From this group of 344 colleges, six participants located throughout the United States were invited to interview. The decision-making processes and implementation strategies were discussed and analyzed. Participants were in varying stages of implementation of their RA programs at the time of these interviews. Participants each had insights into the development of an RA program and the challenges of designing an educational framework to
serve employer needs. These interviews helped to address the driving questions of this research. This chapter includes (a) a brief summary of chapters one through five, to establish a context for these findings; (b) a summary of the findings and implications for community colleges organized by the driving questions; (c) a recommended employer engagement process, the MacGregor Employer Partnership Model; and (d) recommendations for future research.

Summary of Chapters 1-5

Chapter one covered an introduction to the issue of RA as a national strategy for increasing employment. It provided an overview of the significance and purpose of the study plus the research driving questions, plus a brief background of federal investments in apprenticeship and its incorporation into community college career programs. The theoretical framework for the research was presented which continued to inform the design of the study.

Chapter two included a history of community colleges particularly in relation to training and educating students for entry into the workforce as well as a history of RAs in the United States. A thorough review of the literature regarding the theories that framed the research was presented. The theories that provided a framework for the study were Rogers’ (2003) Diffusion of Innovation; Chakrabarti and Hauschildt (1989) Promoter Theory; and the Theory of Group Development presented by Tuckman (1977).

Chapter three outlined the design of the research study which was a qualitative method situated in the interpretive paradigm. An explanation of case study methodology and relevant selection criteria were detailed. Also presented were descriptions of the process for data collection and analysis including the logic model used to connect the methods to the theoretical framework. Methods for ensuring trustworthiness and validity of the study as well as the researcher as the research tool were illustrated.
Chapter four reported the actions taken throughout the data collection process and summarized the data gathered in the survey portion of the research. This chapter also includes descriptions of the participating research sites and some analysis regarding the RA programs implemented across the country in community colleges that participated in the survey.

Chapter five articulated the six interview participants’ perspectives and insights regarding apprenticeship programs in their colleges and partnerships with businesses in their areas. The analysis of the participant narratives became the foundation of the research findings, conclusions, and implications for community college involvement with RA programs.

Findings and Implications
The Purpose of the Study

The purpose of this study was to explore the decision-making process and identify strategies that led to the successful implementation of RA programs in community colleges. The driving questions outlined below serve to elucidate the purpose of the study.

Driving Question One

What were the catalysts for community colleges to consider offering Registered Apprenticeship programs?

Community colleges have embraced multiple disparate missions including transfer education; workforce, or career and technical (vocational) education; and a focus on literacy and English as a Second Language (ESL) for adults. Throughout the history of these institutions, community colleges were established in order to meet the needs of the community in which they reside.

Not only does the college need to respond to all types of students, but also to surrounding employers. More than ever before, employers are requesting qualified talented students and
graduates to fill their skills gaps. Because of this, community colleges are acknowledging that building these partnerships is the crucial component which must occur prior to offering apprenticeships as a talent pipeline solution for employers.

College are also finding that adding apprentices to their student body assists them not only to meet their mission of preparing students for the workplace but are quite beneficial in other ways. Community colleges are witnessing apprentices completing certificates and degrees at rates higher than their non-apprentice classmates. They are also discovering apprentices assist to improve retention rates because employers are modifying work schedules so apprentices can attend college courses and, in some cases, funding 100% of their education. With apprentices graduating at high rates and employers paying for their education, the results are strengthening community college budgets and financial outlook. All of these benefits are reasons community colleges are motivated to adopt RA programs.

This research found three catalysts that drove the decision for establishing RA programs in their college. The first catalyst for the college was an effort to be responsive to the needs of their local employers. The second catalyst was following a directive from a high-ranking authority figure such as the president of the community college or the governor of the state. The third catalyst was receipt of grant funding which facilitated college efforts to develop new partnerships or extend current partnerships with employers and implement an apprenticeship program.

Implications for Community Colleges

Community colleges interested in developing any program with employers must become more responsive to their labor market needs. Such partnerships provide an avenue for colleges to make strategic decisions that ensure programs respond to these specific industry needs.
Community colleges are driven by a desire to educate students, to maintain enrollments, and to retain and graduate students with some type of certificate or degree. Companies are generally motivated by profits and the need to work as efficiently as possible to maximize outputs. Working such strategic partnerships between colleges and employers, requires continuous communication and stewardship of the relationship. Those community college employees who interact with employers as part of their job must be knowledgeable about the RA program and comfortable discussing it. This will lessen misinformation and confusion to external stakeholders and potential apprentices. In addition, colleges must develop a broad apprenticeship marketing plan which includes outreach strategies and marketing materials. This provides clarity regarding who are the target employers plus offers focus and direction to all the marketing endeavors. It would be advantageous to discuss this with the college’s marketing department for their assistance and guidance.

If the college president for example decides the college will adopt the initiative of offering RA programs, this initiative should be widely integrated into a variety of relevant college departments. Although integration of the apprenticeship initiative into each department’s work processes can manifest itself differently across the college, it is comprised of basically two components. The first component is a general awareness of those working to provide RA programs and at least a high-level overview understanding of apprenticeships such as where it is located on campus. All student-facing areas should have materials on hand in their department describing apprenticeship at the college. The second component is an incorporation of apprenticeships in their interactions and discussions with students. The importance of these two components to help “spread the word” regarding apprentice programs cannot be understated.
Lastly, community colleges should be aware of grant funding opportunities that exist and can be used for apprenticeship programs. These grants could come from many different prospects including state or federal sources as well as private funding opportunities. These grants could be used to establish, implement, and sustain activities to offer and grow apprenticeship programs. If grants are the catalyst, obviously colleges must hire good grant writers and grant managers. As grants are awarded, involvement in the grant management process should also be widespread in order to collaborate with others across the institution who can assist in meeting the deliverables in the timeframe allotted by the grant.

**Driving Question Two**

*What was the decision-making process leading to development of a Registered Apprenticeship program?*

Once the catalyst has initiated the decision for the college to offer RA programs, this research found no common approach to the decision-making that followed but offered distinctive insights. Community colleges who were successful in developing and implementing an RA program each had to overcome a unique set of challenges and hurdles. The most beneficial factor in guiding and directing the decision-making processes was a leader: one person with the onus of responsibility. The leader/champion of the RA efforts in every instance had to make the following decisions.

1. **Selecting the RA program:** Which apprenticeship program the college would develop and offer was the first decision to be made. For the most part this decision was compelled by the employer partner or partners who approached the community college regarding a particular occupation. It is inadvisable to offer RA programs based on assuming the business community needs and then attempting to generate employer interest. The RA program selected to offer first began with courses and programs of study the community college had already developed.
2. Identifying delivery of the Related Technical Instruction (RTI): The second decision required related to how and in what format the RA program courses would be provided. Community colleges already have multiple options available in terms of mode of delivery but the essential operative decision is whether the RTI will be credit or non-credit. Often, if the community college already has a program developed in one area or another, that will dictate the decision.

3. Building the college apprenticeship team: Finally, RA program champions had to decide who else at the community college needed to be involved in the new initiative. The leading decision maker was always responsible for bringing in internal and external partners for collaboration sessions on issues related to the RA program. The college’s team will include faculty in the RA programs, marketing, and admissions, and business offices such as financial aid and registration. While the leader should be the one decision maker, results from collaborative decisions with the affected departments are valuable to improve success.

In addition, it was found the champion (decision maker) was also the point of contact for the employers involved in the RA program. This community college representative will be in continuous discussions with employers regarding their needs and how well the RA program is serving those needs.

Implications for Community Colleges

Community colleges should designate one person to lead the RA efforts for the college. The RA decision-making champion/leader should hold a position high enough in the institution that incorporation of other team members and players does not meet with internal resistance. This person will need to collaborate with a variety of departments in order to integrate the
program into the college culture and operations as either a credit program or non-credit program. Colleges can certainly establish programs in each area for different employers.

The champion’s decision-making does not stop with these three core areas: selecting program, identifying delivery mode, and building internal team members. A multitude of additional decisions will be made regarding how to fully develop and deliver the program. Items such as how to bill the companies, who will pay for the college courses, who is responsible for recruiting apprentice candidates, and many other questions regarding the unique implementation at each college will need to be decided.

There is no established process for designing, developing, and implementing an RA program. Development and implementation of an RA program will be an iterative process for every college. It should never be expected that a program developed at one college can be picked up and implemented at scale anywhere else. Economic and employment environments differ across the nation. Community colleges deciding to implement an RA program will have to communicate with their business partners regarding responsibilities of the college and of the employer. Increased communication will assist with the development of the programs. As the community college and business partners proceed with the program, issues will surface and need to be managed. Challenges will be solved and changes will be made. Each iteration of the RA program will become easier, smoother, and more routinized.

A robust Continuous Quality Improvement (CQI) plan should be developed directly after launching a program. It will always be important for the college to learn quickly what is working well and what needs to be removed or changed. In this way, the community college can improve its delivery of the RA program. All stakeholders, internal and external, should be involved in CQI at established intervals (e.g. every semester, annually, etc.).
Driving Question Three

What strategies contributed to the successful implementation of the RA program?

The leading decision maker understood the need to identify a team within the college. One of the most common findings among the participants was the idea that a group effort from the community college is required. Many participants indicated there were quite a few departments and individuals who had some fraction of the responsibility for delivering the program. Because of this, these individuals who become part of the team will no doubt report through different hierarchies at the college. An example of these disparate groups working on apprenticeships is certainly faculty and the marketing department, mentioned by every participant. To obtain support and coordinated efforts by these two groups, it will require either a presidential directive or gaining their personal passion and belief in the program. These individuals often become champions of apprenticeship programs in their own department.

Faculty involvement is key for two reasons. First, faculty are instrumental with the RA program curriculum, any curricular modifications required to align the program with occupational competencies, and course scheduling. Secondly, faculty often have contacts within the business community and know who is seeking to hire. It is these employers that apprenticeship outreach specialists can talk with and educate them regarding how apprentices might be useful as part of their talent pipeline strategy. Some faculty also acted as champions of the program or they were the instrumental person suggesting an RA program. However, participants shared that faculty were never the point person for the community college or the person who managed the RA program for the college.

Participants felt the marketing department was involved for two main reasons: (1) to take point on creating a general awareness of the RA program inside the college, and (2) to design marketing materials for business outreach and a strong outward-facing marketing strategy. The
idea of everyone within the college being aware of the RA program was pervasive. There was also significant discussion regarding the “selling” of the apprenticeship programs to employers. This strategy will also require human resources as salespeople to visit the employers.

It was also often mentioned by participants that the college’s admissions departments and advisors played a role in the success of apprenticeships program. The admissions efforts were many and could include high school recruiting, sharing information with high school counselors/advisors, and knowledge of the program as an option when adult students are admitted. Likewise, college advisors must be aware of the apprenticeship programs because their job is to assist most if not all college students with their career choice and selection of courses.

One final strategy assisting in program implementation that all research participants identified involved the choice of their first apprenticeship program. All relied on their existing relationships with employers to build their first program and learned from that one. These partnerships were the starting point for conversations regarding whether or not an apprenticeship initiative by the college would serve the needs of these employers.

Implications for Community Colleges

Community colleges initiating RA programs should be prepared to involve their marketing departments to assist in spreading the word the college is participating in an RA program. This can be accomplished via digital means such as the college website and social media. The marketing department will become a key player in determining an apprenticeship marketing strategy to create internal and external awareness.

Internal college awareness must include a brief explanation of the college’s apprenticeship programs and what information to share with interested potential apprentices. In addition, college employees need to have access to the RA program listed in brochures, proper
signage throughout the campus is essential to direct students to the RA program offices, branding within the college brand for the RA programs, videos and social media posts, just to name a few. It would be detrimental to the RA program and would impede progress for successful growth if everyone at the college were not aware of these programs.

External awareness involves outreach specialists approaching employers to discuss with them the concept of recruiting talent from among a pool of unqualified candidates who can be trained and educated at the college to become model workers. Building awareness with partner companies also requires marketing and promotion of apprenticeship programs in the same manner as all college products. Business outreach personnel should be reliant on the marketing department to provide them with the materials necessary to do their jobs well. In addition, outreach specialists should use the college’s social media channels to connect with those of the employer partners. Anything that can highlight the partnerships between the community college and the employer partners will boost the presence and reputation of the RA program.

Equally important are the faculty who will provide the education apprentices need. They will need to be involved in the discussions with employers regarding the competencies employers need in any particular occupation. They may also have to hold courses at a different time than normal in order to accommodate apprentice’s working schedules. They should meet with the RA program office routinely if there are student issues to keep the team informed. Good communication with faculty who teach the apprentices is paramount. It would be better to be knowledgeable about something that occurs before an employer partner calls with the issue. A faculty orientation, particularly with the general education faculty who were not part of the initial discussions, would be an excellent idea. This orientation could include what is an apprenticeship program, the unique nature of cohorts, the RA program curriculum map or outline, show where
their course fits in the program, how long the program has been up and running and remind them that all apprentices are already hired and working at their employer.

Summary of the Findings and Implications

This research study set out to understand the catalysts that led community colleges to consider offering RA programs, the decision-making processes that led to the development of the RA programs, and the implementation strategies that led to success. What the above analysis derives is that the catalysts leading community colleges to consider RA program development are (1) a directive from the president, board, or state system; (2) grant funding that requires the college to develop an RA program; or (3) supporting the talent needs of local employers. Once one of these situations leads to RA, the college will begin to strategize on models, work with their employer partners, and figure out processes to develop an RA program. Strategies that led to successful implementations included (1) designating a decision maker who will guide the innumerable decisions that will emerge during the implementation phase of program adoption; (2) establishing the community college RA team who will manage the program, be responsible for the outcomes of the program, and bring in new employers; and (3) collaborating with community college marketing departments on the development of an awareness campaign for internal and external stakeholders.

Conclusion

As RA continues to expand across the United States, the likelihood of businesses approaching community colleges with requests to partner on the educational components of an RA program will increase. Furthermore, as community colleges across the United States witness other community colleges having success with RA programs, it is likely they will approach their
local employers with the idea. To this end, community colleges should begin some self-assessments regarding their readiness to deliver an RA program.

The notable characteristic about RA is that, while the strategy has existed for more than 60 years, if a company or community college has never utilized this strategy, it will be new and different. When organizations embark on the adoption of an innovation, the rate of adoption differs for each individual. To make the innovation successful, it will require promotion, marketing, education, and training. It will also require resources and space to make changes and improvements. Community college professionals implementing RA programs should be given the freedom to reinvent new ways of conducting old business. These actions challenging the status quo should be encouraged and supported at the highest levels of the institution. Without innovation and new ways of conducting business, the community college cannot grow or support the labor market needs of their communities.

What is needed is an employer partnership model that will assist community colleges to engage businesses in an RA program. Consequently, the MacGregor Employer Partnership Model is presented. This model addresses the practical steps required on which community colleges should take action in order to meet the needs of their local employers.

MacGregor Employer Partnership Model

This model can be useful to community college professionals at any level of the organization in order to build sustaining partnerships with local employers. The MacGregor Employer Partnership Model establishes three levels that build upon each other culminating in value for the community college. The hierarchical shape of the model denotes that this is an ever-evolving and growing process built on a solid foundation in which earlier levels must be developed prior to proceeding to higher levels. All levels must be developed in order for the
Levels of the MacGregor Employer Partnership Model

There are four levels in the MacGregor Employer Partnership Model:

- Level 1. Awareness – Internal and External
- Level 2. Business Development
- Level 3. Partnership
- Level 4. Value

Figure 14: The MacGregor Employer Partnership Model

**Level 1. Awareness.** The foundation of the RA program at the community college is awareness which must support the entire structure. Building awareness involves both internal and external marketing and promotion to the point that it is integrated into the community.
college’s offerings. While the model specifically regards building partnerships with businesses in the community, it is essential that community college personnel are also aware of the program. Faculty and deans maintain their own relationships with employers, particularly in an advisory committee capacity. Thus, faculty awareness of the RA program will lead to external awareness among their employer contacts. When businesses communicate with the community college, the person they encounter should be aware of the program. To that end, it is recommended that information about the RA program be communicated to the internal community college via every available channel including all-campus meetings, weekly update emails, the college’s internal and external websites, and social media postings.

   External awareness campaigns should include the community college’s marketing team developing, at minimum, a brochure that discusses the program. Ideally information on the community college’s website should provide details for employers looking for information. Promotion of the RA program via business associations and other community organizations connected to the RA industry is essential. It is quite simple to run an ad on the publications of the chambers and industry associations. Most of these organizations are already connected to the employers in the area, and beyond. Attendance at a variety of local career fairs is also a viable source of employer leads. The Awareness level will help to generate the leads necessary to move to the next level of the pyramid – Business Development.

   Level 2. Business Development. Business development is not an activity in which professionals in higher education normally engage. Business development in the MacGregor Model involves the generation of leads “for a sale.” The establishment and growth of a registered apprenticeship program will require education of employers about the usefulness of apprenticeship programs to their company, which is “selling the concept” to businesses. It is
imperative that the college adopt a sales attitude towards the RA product. The Business Development level of the MacGregor Model incorporates the set of strategic processes used to create value for local employers in order to grow the apprenticeship program. This allows apprenticeship programs to become a source of revenue for the college. This includes any activities that assist to bring in new customers, maintain existing customers, and sell services, so that the college can expand the program.

The Business Development level includes salespeople, individuals who either work for the community college in an RA sales role or who are advocates of the program and promote the RA programs in the business community on a volunteer basis. They will attend career fairs, visit with employers to explain the RA strategy from an employer’s perspective, and should, ideally, report their activity in a customer relationship management (CRM) system. If the community college does not have a CRM a sample Weekly Activity Report is available in Appendix D. The goal of the Business Development Level is to build relationships with local employers in order to secure new business partners who will hire apprentices they enroll at the college.

**Level 3. Partnerships.** Partnerships with businesses include a variety of activities to build trust in the relationship. All aspects of the program should have been communicated to the employer partners prior to them hiring their first apprentice. Taking on employer partners is a business agreement between the community college and the employers. There should be an agreed-upon set of actions and expectations required for each party.

Customer service is the most significant part of the Partnerships level of the MacGregor Employer Partnerships Model. Customer service includes a designated point person the employers can call if something goes wrong, if they need additional services, or if they have questions. Excellence in customer service ensures employers will utilize the resources of the
community college in the future. These employer partners become ambassadors for the college and the RA program. It is hoped and even encouraged that they tell business associates and will be willing to speak on behalf of the RA programs at events or in marketing videos. All activities of the community college that strengthen the partnership with employers can become relevant for marketing campaigns to create awareness.

**Level 4: Value.** The value level represents all the outcomes of the program. These outcomes will include data on the RA program (e.g. apprentices and employers served; retention rates; completers/graduates). These outcomes are used to gain new employer partners to grow the RA program. In addition, video testimonials from apprentices and employers, human interest stories, and any other successes can help to create marketing pieces that continue building and improving every level of the MacGregor Model.

Value will also be realized in the revenue coming from the employer partners who are sending apprentices to the college for their education. Strong partners who received excellent service will be likely to utilize the community college as a resource for other workforce needs such as future apprentice hires, customized training for their existing workforce, or potentially as donors to the college. Each new level of service between the community college and the employer has the potential to be an additional revenue stream from the employer to strengthen the college’s financial outlook.

Summary of the Four Levels of the MacGregor Employer Partnership Model

Engaging in the activities required to build a successful partnership with employers can only benefit the community college. Not only is this a significant part of the mission but it can lead to employers utilizing many other resources available at the community college. Registered apprenticeship programs should be thought of as businesses. They should be profitable for the
community college. They will require salespeople, business development procedures, and customer service to retain the employer customers the community college has acquired.

The MacGregor Employer Partnership Model represents action steps community colleges can take to build lasting relationships with their local employers. As community colleges move further up the value chain of the pyramid each level truly depends on building a solid structure during the previous level. Engaging in these activities will take time and effort on the part of the community college. To that end, a recommended timeline is included below.

**Timeline for Implementing the MacGregor Employer Partnership Model**

It must be said that prior to the work of implementing the MacGregor Employer Partnership Model, an RA program must have already been decided upon and either in the development stage or already designed with a leading employer partner. Community college marketing personnel will not be able to build an awareness campaign for a product that is not yet developed. The first six months are reserved for program development. As has been previously discussed, RA programs will be unique to each community college and their local labor market. Employers in a particular industry should be invited to conversations regarding the development of an RA program from the initial stages. Those employers who show interest at this stage should be developed into partners for the first cohort of apprentices. For a sustainable program, community colleges must also think about the employers who will hire the next cohort of apprentices in the future.

As the first level of the model is a comprehensive awareness campaign, two audiences are key: internal stakeholders and external stakeholders. The marketing message for each of these audiences will differ significantly. They will both need to hear why the program will benefit them personally and what they will get out of their commitment. The individual benefits
for these two audiences do not have universal appeal. Employers will want to hear that the program will help them find the talent they need for hard-to-fill jobs and build loyalty from the apprentices to remain with the employer who invested in them. Apprentices will want to hear that they can launch their new career without losing income and graduate debt-free. Community colleges should plan to spend a minimum of six months building awareness through a variety of channels. However, building awareness is not an activity that ever ends. New student audiences will need to hear the message to fill next year’s cohort of apprentices. New employers will continue to come forward. The content of the awareness campaign will evolve over time as the college gains partners, apprentices graduate, and there are new aspects of the program to feature in the media. Community colleges should consider an initial “kick-off” marketing strategy to announce the program in order to attract employers and apprentice candidates. However, simultaneously, a sustaining marketing strategy should be considered.

The community college should spend at least six months to a year in business development for each cohort of apprentices. This activity is the core sales mission and will involve calling companies, attending industry events, and getting to know the key players in the business community such as the economic development director, or president of the Chamber of Commerce. Business Development continues building awareness externally throughout the community. However, it also strengthens the relationship between employers in the community who have a workforce need and see the community college as a resource for talent. As these relationships are strengthened the salesperson or business outreach person should bring the employer to the college to meet additional community college leaders. Employers should be able to tour the facilities of the program matching the occupations with which they have a difficult
time recruiting qualified talent. Employers should have the opportunity to meet faculty, deans, and others.

The next phase of the timeline is reserved for building partnerships. Again, this is an ongoing process. For community colleges launching their first RA program, building partnerships with RA employers will include assisting them with recruiting their apprentices as well as multiple touchpoints as the apprentices are enrolled in their first courses. As time moves forward with employer partners a cycle will develop in which the apprentices are working, then coming to school, then going back to work. Trust will deepen the partnership as the program meets the expectations of the employers. Partnership also includes a customer service component throughout the time the employer has an apprentice enrolled at the community college. Employers should know who to call for any issues that arise. Ideally, the partnership is strong enough that the employer will want to hire apprentices for the new cohort that begins each year.

These activities do not end. Once the college decides to engage with the business community it will mean ongoing efforts to continue creating awareness, bringing in new business, and retaining the partnerships that exist. This will require human resources from the college as programs and partnerships grow. However, it will also produce a very strong college program and employer network on which the community college can rely. It will become a source of both revenue and pride. It will become easy to feature the program, employers, or apprentices for various media outlets which feeds back into the awareness and creates value for the community college.

**Recommendations for Future Research**

Over the last four to five years, the number of registered apprentices and programs has grown in the United States. While this workforce development strategy has existed in European
countries for generations, it only lately began a renaissance in the United States. There have been few research studies focusing on the development and success of RA programs in community colleges. The few studies completed have primarily been from an economic perspective. Thus, the field of research surrounding this topic of apprenticeships and apprenticeships in community colleges is widely vacant.

This inquiry concentrated on the decision-making and implementation of apprenticeship programs in community colleges. However, there is a great need for research on how delivery of the related training instruction in apprenticeship programs has impacted community colleges in terms of enrollments, retention, completions, or industry partnerships. Information and data obtained from these relevant research topics could apprise community colleges in their strategic planning process.

Dozens of occupations have been added to the list of apprenticeable occupations in non-traditional industries such as cyber-security, banking and finance, and insurance. It seems these newer occupations take less time to gain proficiency than the traditional ones such as electricians and bricklayers. Therefore, further research could focus on the number of OJT hours and type of curriculum (credit vs non-credit) of RA programs to explore any correlation regarding the appropriate time for the apprentice to reach competency. Future research could also assess the long-term economic outcomes (wage growth) of those having completed an apprenticeship.

It would be valuable for community colleges to understand the differences in RA program development between states with State Apprenticeship Agencies (SAA) or those operated from the federal DOL (OA). This research could provide insights for community colleges entering the RA program space once they know which type of state in which they
reside. Furthermore, future research could identify the benefits or challenges to community college-sponsored RA programs as compared to employer-sponsored programs.

Finally, since the concept of Industry Recognized Apprenticeships was only just emerging during the course of this research, there is no literature or research on this type of apprenticeship. Future research regarding community colleges and their delivery of related instruction for industry-recognized apprenticeships related to apprentice completion would be valuable. There is no doubt further research involving community colleges and their involvement with apprenticeships of all types will provide the insights, perspectives and best practices so needed by employers, students and colleges.
REFERENCES


Center for Community College Student Engagement (2013). *A matter of degrees: Engaging practices, engaging students (High-impact practices for community college student engagement)*. Austin, TX: University of Texas at Austin, Community College Leadership Program.


APPENDIX A: IRB APPROVAL
Date: October 19, 2017

To: Dr. Sandra Balkema and Melissa MacGregor
From: Dr. Gregory Wellman, IRB Chair
Re: IRB Application #170918 (Decision-making and strategies that led to the successful implementation of Registered Apprenticeships at community colleges)

The Ferris State University Institutional Review Board (IRB) has reviewed your application for using human subjects in the study, “Decision-making and strategies that led to the successful implementation of Registered Apprenticeships at community colleges” (#170918) and determined that it meets Federal Regulations Expedited-category 7. This approval has an expiration of one year from the date of this letter. As such, you may collect data according to the procedures outlined in your application until October 19, 2018. Should additional time be needed to conduct your approved study, a request for extension must be submitted to the IRB a month prior to its expiration.

Your protocol has been assigned project number (#170918), which you should refer to in future correspondence involving this same research procedure. Approval mandates that you follow all University policy and procedures, in addition to applicable governmental regulations. Approval applies only to the activities described in the protocol submission; should revisions need to be made, all materials must be approved by the IRB prior to initiation. In addition, the IRB must be made aware of any serious and unexpected and/or unanticipated adverse events as well as complaints and non-compliance issues.

Understand that informed consent is a process beginning with a description of the study and participant rights with assurance of participant understanding, followed by a signed consent form. Informed consent must continue throughout the study via a dialogue between the researcher and research participant. Federal regulations require each participant receive a copy of the signed consent document and investigators maintain consent records for a minimum of three years.

As mandated by Title 45 Code of Federal Regulations, Part 46 (45 CFR 46) the IRB requires submission of annual reviews during the life of the research project and a Final Report Form upon study completion. Thank you for your compliance with these guidelines and best wishes for a successful research endeavor. Please let us know if the IRB can be of any future assistance.

Regards,

[Signature]

Ferris State University Institutional Review Board
Office of Research and Sponsored Programs
APPENDIX B: SURVEY INVITATION
You were selected to complete this survey based on your participation in the Registered Apprenticeship College Consortium (RACC). This survey is part of a research project conducted by Melissa MacGregor, doctoral student at Ferris State University, located in Big Rapids, MI. The research will take place from September 2017 to December 2018.

The study is entitled Decision-making and Strategies for Successful Implementation of Registered Apprenticeship (RA) Programs at Community Colleges. The purpose of this study is to learn how the decision was made to develop an RA program and to identify successful implementation strategies for RA programs in partnership with employers within your college district.

CONSENT to Participate in the Survey
I understand that my participation is voluntary and can be discontinued at any time until the completion of the dissertation.

I understand that my anonymity will be maintained by the researcher and the information I provide confidential.

I understand there are no anticipated risks or benefits to me, no greater than that encountered in daily life. Further, the information gained from this study could be used to assist in the identification of emerging best practices for partnering with local employers and retaining students as apprentices.

I understand that in the event I have questions or require additional information I may contact the researcher: Melissa MacGregor, by Phone: 281-455-1724 or E-mail: Melissa@MacGregor.net.

Click below to acknowledge agreement to participate in the survey process.

* Required
1. I will participate *
   Yes
   No

2. Date *
   Example: December 15, 2012

3. Participant Name *

Demographics
4. Gender * Mark only one oval.
   Female
   Male
   Prefer not to say
   Other:
5. What is your age group? Mark only one oval.
   Younger than 25 years old
   25 - 30
   31 - 35
   36 - 40
   41 - 45
   46 - 50
   51 - 55
   56 - 60
   61 - 65
   66 - 70
   Over 70 years old Prefer not to say

6. Name of institution *

7. City / State *

8. Community environment of your institution *Mark only one oval.
   City
   Suburban
   Town
   Rural

9. Enrollment * Mark only one oval.
   Fewer than 500 students
   500 - 1,999 students
   2,000 - 4,999 students
   5,000 - 9,999 students
   At least 10,000 students

10. Job Title *

11. Number of years in this position *

12. Education level completed * Mark only one oval.
   High school degree or equivalent (e.g. GED)
   Some college but no degree
   Associate degree
   Bachelor's degree
   Graduate degree (Master's level)
   Doctoral degree

13. Is this education level required for this position? * Mark only one oval.
   Yes
   No
14. Title of the person to whom you report *

15. Department / Division of the institution in which your position is situated *

16. Direct reports to you (titles only)

17. For which college functions are you responsible? *

18. Are you directly responsible for the Registered Apprenticeship initiatives at your institution? * Mark only one oval.
   Yes
   No
   Other:

Your Involvement with Registered Apprenticeship Programs
19. My state registers apprenticeship programs with: * Mark only one oval.
   The State Apprenticeship Administration
   The Federal Department of Labor
   I'm not sure.

20. My college has an established Registered Apprenticeship Program. * Mark only one oval.
   Yes, it is well established and more than 5 years old.
   Yes, it is between 2 - 5 years old.
   Yes, we are just getting involved. Our program is 0 - 2 years old.
   We do not have a RA program yet but are in the planning and development stages.
   No, we have no Registered Apprenticeship Programs at this time.

Colleges with RA Programs
21. For which occupation(s) is the college providing the RTI?

22. How long has your college provided RTI for the oldest occupation?

23. When did your college begin providing RTI for the most recently developed occupation?

24. Is your college a Registered Apprenticeship program sponsor? * Mark only one oval.
   Yes
   No
   I'm not sure.
   Other:

25. How many apprentice employers are partnered with the college currently? * Mark only one oval.
   1 employer
   2 - 5 employers
6 - 10 employers
11 - 20 employers
21 - 30 employers
31 - 40 employers
41 - 50 employers
More than 50 employers
None yet.
I'm not sure.

26. Has the RA program affected enrollment, retention, or completion numbers at the college? In what way?___

**Registered Apprenticeship Team**

27. Where is the Registered Apprenticeship program housed within the college?

28. Is there one single person or department "in charge" of the RA programs at the college? Mark only one oval.
   Yes
   No

29. If you answered Yes above, please list department or describe the person's role.

30. My college has at least one full-time employee dedicated to RA program(s). Mark only one oval.
   Yes
   No
   Other:

31. Are you the decision maker for the RA program(s) at the college? Mark only one oval.
   Yes
   No
   Other:

32. If you are not the decision maker, would you say that you are a champion, promoter, or facilitator for the program(s)? Mark only one oval.
   Yes
   No
   I'm not sure.

33. Indicate all the individuals or departments helping to deliver RA program(s) at your college? Check all that apply.
   Academic Department office staff
   Admissions Office
   Registrar's Office

144
34. The RA program at the college would not have started, or would fall apart, without this critical component or person: ________________________________

### Deciding to Offer RA Programs

35. How did your college become involved in delivering RA program(s)? * Check all that apply.
   - The college was approached by a Company, or Apprenticeship Agency (e.g. DOL), with a RA program and needed an education partner.
   - A college leader or administrator decided to become involved and pushed decision down.
   - A college department or career program wanted to become involved and championed the idea upwards.
   - The college received a grant and was tasked with growing and expanding RA programs.
   - The college has been involved in the RA program for so long that no one remembers how it was decided.
   - The college adopted or took over the administration of an established RA program from another provider and has had to fit the pieces into existing college departments.
   - The college is only involved in one small part of the delivery (e.g. recruiting candidates, faculty, facilities, other) of the RA program and all oversight is handled off campus.
   - I'm not sure.
   - Other:

36. What factors drove the decision towards implementation? Check all that apply.

<table>
<thead>
<tr>
<th>Factor</th>
<th>Definitely drove decision</th>
<th>Somewhat drove decision</th>
<th>Not considered in the decision</th>
<th>Unsure</th>
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<tbody>
<tr>
<td>A trusted colleague at another college with RA programs suggested we get involved</td>
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<tr>
<td>The college looked at various sources of data to determine it was a viable fit</td>
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<td>RA program fit naturally into existing program delivery with no real change or disruption required</td>
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### Table

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<th>Definitely drove decision</th>
<th>Somewhat drove decision</th>
<th>Not considered in the decision</th>
<th>Unsure</th>
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<tbody>
<tr>
<td>Disruption to existing college processes was minimal such as new hires, new software installation, new process flow.</td>
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<tr>
<td>The college piloted a program for one company to see if it was worth expanding.</td>
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<tr>
<td>College leadership saw / heard about the program functioning successfully at another college and decided to implement.</td>
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<td>The idea germinated for some time to see if other colleges were successful first.</td>
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<tr>
<td>Other factors</td>
<td></td>
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37. What does the college hope to gain by developing and implementing a RA program? *

Registered Apprenticeship College Consortium (RACC)

38. In your own words, describe why your college is listed on the Registered Apprenticeship College Consortium (RACC) at this time. *

39. Describe a situation in which your college's presence on the RACC proved effective in expanding RA programs.

Further Research

If you would be willing to participate in a face-to-face interview at your location, please provide your contact information below. You will be contacted by Melissa MacGregor to schedule a face-to-face interview to gain further insights into the Registered Apprenticeship program(s) at your college.

40. Name

41. College

42. Email address

43. Phone Number

44. Additional comments
APPENDIX C: INFORMED CONSENT — PARTICIPANT
Thank you for agreeing to participate in this study that will take place from August 2017 to December 2018. This form outlines the purposes of the study and provides a description of your involvement and rights as a participant.

I consent to participate in a research project conducted by Melissa MacGregor, a doctoral student at Ferris State University, located in Big Rapids, MI.

I understand the study is entitled *Decision-making and Strategies for Successful Implementation of Registered Apprenticeship Programs at Community Colleges*. The purpose of this study is to identify successful implementation strategies for Registered Apprenticeship programs in partnership with employers within your college district.

I understand that my participation will consist of audio recorded interviews lasting 60 to 90 minutes with a possible second, follow-up interview lasting 60 to 90 minutes. I understand that I will receive a copy of my transcribed interview at which time I may clarify information. I understand that my participation is voluntary and can be discontinued at any time until the completion of the dissertation.

I understand that my anonymity will be maintained and the information I provide confidential. I understand that only the researcher, Melissa MacGregor, will have access to a secured external drive on which will be kept all transcripts, audio recordings, documents and field notes from the interview(s) in which I participated.

I understand there are no anticipated risks or benefits to me, no greater than that encountered in daily life. Further, the information gained from this study could be used to assist in the identification of emerging best practices for partnering with local employers and retaining students.

I understand that in the event I have questions or require additional information I may contact the researcher: Melissa MacGregor, 4080 N Parkside Dr., Hoffman Estates, IL, 60192. Phone: 281-455-1724 or E-mail: Melissa@MacGregor.net.

If you have any concerns or questions before or during participation that you feel have not been addressed by the researcher, you may contact my Primary Advisor and Dissertation Chair: Dr. Rebecca S. Lake, Dean of Workforce & Economic Development, William Rainey Harper College, 1200 W Algonquin Rd., Palatine, IL 60067. Phone: 847-925-6633 or E-mail: rlake@harpercollege.edu

Participant’s Signature: __________________________________ Date: ___________

Researcher’s Signature: __________________________________ Date: ___________
1. Describe the primary reasons why your college first considered Registered Apprenticeship.

2. What specific motivators tipped the consideration towards an implementation phase?

3. Tell me about the scope of the program at your community college.

4. Who are the individuals or departments that are part of the RAP network?

5. Was there a specific event or person that was particularly significant in the implementation of the program?

6. From the time your college decided to develop a program until the actual delivery, give me a sense of the pace of adoption of the RAP program both at your college and within the business community.

7. Describe the facilitators that worked in favor of establishing the RAP at your community college.

8. Describe any challenges or hurdles that had to be overcome during the implementation of this program.

9. What were the lessons learned from your experience?

10. If you had to guide another community college along this path what would be your advice?
Business Outreach Specialist: ____________________ Week ending: __________

Time spent this week: (minutes / hours)

<table>
<thead>
<tr>
<th>Monday</th>
<th>Tuesday</th>
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Research and Lead Generation

Description of efforts:

Industry you are working on:

A brief description of your process:

Results:

Needs: (materials, tours, and additional people to join you?)

Who did you call this week?

Activity

Who did you visit this week?

Which companies did you close this week?

Brief Outline of Plan for Coming Week: