ABSTRACT

HOWZE, PAMELA BOLTON. American Apprenticeship as a Transformative Learning Experience: A Phenomenology. (Under the direction of Dr. James Bartlett).

American Apprenticeship as a Transformative Learning Experience: A Phenomenology is an in-depth investigation into the phenomenon of a transformative learning experience for three American high school students who were given a traditional apprenticeship opportunity, including a community college degree, in lieu of going away to a four-year university. This apprenticeship was financed by their employer. The participants of this study were in their fourth year of apprenticeship at a global, Fortune 100 manufacturing facility and attending community college. The participant’s voices were captured in three semi-structured interviews over a six-week period.

If American industry is to be globally competitive, students must be ready for a career or college upon graduating from high school. In the United States, technical trades are not typically taught in high schools. With the Baby Boomers reaching retirement age, there is a minimal pipeline of skilled workers entering the job market, which has a significant impact on the ability of advanced manufacturing facilities to hire for critical, technical jobs—ultimately affecting our global competitiveness.

This study revealed the following findings: The consensus derived from the study of all 3 apprentices is that the experience changed their perception of the community college. They had never had any experiences with the community college and had never been informed of the opportunities within community colleges. It also changed their perception of work. They were not aware of the technical work opportunities that existed. They found that work is not always as people described it to them when they were in high school. All 3 apprentices describe the impact of contextual learning and being allowed to use what they learned in
school and immediately apply it in the workplace. They all spoke of the impact of being financially secure and independent at a young age and their excitement about having no college debt. They all 3 intend to finish a four year degree in a related field while staying employed with the sponsor company.

The experience was a positive, impactful and favorable experience for all 3 apprentices. The experience impacted their futures greatly. They all discussed the importance and value of the mentor relationship during their experience. All of the participants plan to complete a four year degree.
American Apprenticeship as a Transformative Learning Experience: A Phenomenology

by
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DEDICATION

This research is dedicated to all of the students in the United States that feel they have no alternatives other than a traditional four year university track in order to fulfill their career dreams. This research is for those students who may not fit into that traditional track and may not have the resources available, and is intended to help educators and students alike understand that there are other viable, alternatives that exist. It is for the non-traditional, career technical education student who does not desire to go away to college, but instead would like to start a career either during high school or shortly after graduation. It is also for all of those passionate educators who know that going away to college is not for all of their students and persist in helping their students find the right career fit or community college education.
BIOGRAPHY

Pamela Howze graduated from Kings Mountain High School, earned a BS Degree from Western Carolina University and an MS Degree from Troy State University. She began her career as a U.S. Army Officer and served for seven years both on active duty and in the S.C. National Guard. She began her community college career in 1990 and fell in love with teaching the adult learner. She taught in both the N.C. and S.C. systems for over 20 years, mostly in corporate and continuing education with business and industry. She left to work in private industry in advanced manufacturing as a Work Force Development Professional for five years and loved that work as well. She now serves as the state wide Director for the N.C. Department of Commerce/NC Works and is responsible for the apprenticeship, business services, veterans initiatives and rapid response divisions. In 2010 she began her journey as a student at N.C. State University in the Doctorate of Education in Adult and Community College Education.

She is the wife of Gary, Mom to Andrew, Sarah Kate and Natalie, Step-mom to Kim and Kelli and “Mimi” to Jacob, Shelby and Cooper.
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CHAPTER I

Introduction

Chapter one addresses the United States national skills gap and the inability of advanced manufacturers to attract skilled workers because of the career technical educational gap of American high school students. American high school students are only informed of the four year college route as the way to succeed and as a result many are being trained for jobs that no longer exist. The theoretical and conceptual frameworks for the study are introduced in this chapter, as well as the research questions and the significance of the study. The chapter concludes with the limitations and delimitations of the study and a definition of the terms used in the study.

According to a 2009 McKinsey and Company study, The Economic Impact of Achievement Gap in Americas Schools, the extent to which a society utilizes its human potential is among the chief determinant of its prosperity. In the United States, according to this study, one area of concern in this regard has been the existence of a so-called achievement gap in education between different groups of students (p. 5).

According to the 2011 Pathways to Prosperity, published in February 2011 by the Harvard Graduate School of Education, the fundamental problem in the United States system has not evolved to serve young adults in this radically changing world. The assumption that a four-year college degree is the only acceptable route to success clearly still benefits many young adults, especially students who are fortunate enough to attend highly selective colleges and universities. It also benefits affluent students, who can often draw on family and social connections to find their way in the professional world (Symonds, W., Schwartz, R., &
“College for all” might be the mantra, but the hard reality is that fewer than one-in-three young adults are able to attend college (Symonds et al. p. 9). According to Hollenbeck, we generally assume that education programs enhance participant’s human capital and productivity—qualities that are evident in increased wage rates (2008, p. 12). However, community colleges, apprenticeships, private career schools, vocational rehabilitation centers, and programs for blind and visually impaired also show substantial wage rate increases in addition to employment rate increases (2008, p. 13). Avoidable shortfalls in academic achievement impose heavy and often tragic consequences, such as lower earnings, poorer health, and higher rates of incarceration, and the persistence of these educational achievement gaps in the United States threatens to produce the economic equivalent of a permanent national recession (McKinsey and Company 2009, p. 6). In a 2011 Deloitte study, Boiling Gap? The Skills Gap in U.S. Manufacturing, companies were asked which factors would help improve their businesses in the next five years; a highly skilled and flexible workforce topped the list for manufacturers, ranking ahead of product innovation, increasing market share, low-cost producer status, and even supply chain integration with suppliers, among other factors (Morrison et al., p. 9).

Opportunity for Action, Preparing Youth for 21st Century Skills, a 2012 study by the International Youth Foundation, discovered that in 2010, an estimated 11% of young people ages 15 to 24 in North America and Western Europe were not engaged in education, employment, and training (p.10). The large number of young people who are in this position has led to the creation of the acronym NEET: Not engaged in employment, education, or training (p. 10). In a 2012 study by the Economic Policy Institute, The Class of 2012, Labor
Market for Young Graduates remains Grim, the unemployment rate for young high school graduates jumped from 17.5 % in 2007 to 32.7 % in 2010, dwarfing the increases in prior recessions; the rate declined slightly to 31.1 % over the last year (April 2011-March 2012) (Shierholz, Sabadish, and Wethin, p.4). According to Gray (2009), the national dropout rate, when calculated by comparing the number of entering ninth graders to the number of diplomas awarded four years later, is about one third (approximately 1.2 million annually). Since 1990, the rate has increased 4 % nationally (p.34). According to a 2009 study by the Center on Education and the Workforce, approximately 16 % of people ages 18 to 24 in the United States—more than 16 million—have not completed high school (p. 11). If only about 20 % of twenty-six-year-olds in the United States have any credentials, they need to have something to do in order to reach age 20 without landing in jail, on welfare, or on the street—something that provides structure and lets them recognize their potential and figure out their interests (http://www.thenation.com/node/167476 Goldstein, 2012, p. 2).

The manufacturing industry can’t solve all of its challenges in regards to the talent pool on its own. Government agencies and educational institutions also have roles to play in creating a clear path for students to receive the right skills and training that will adequately prepare them for a career in manufacturing (Deloitte, 2011, p. 2).

Statement of Problem

According to the literature, American high school students do not graduate from high school prepared to enter the workforce. Instead, they graduate with the misconception that
going to a four year university is their only route to success. The result is a national technical skills gap and advanced manufacturers cannot find the right people with the necessary skills to perform the work.

Stephen B. Plank (2001), in his article titled *A Question of Balance: CTE, Academic Courses, High School Persistence, and Student Achievement*, says that we as a society expect a lot from our high schools. Society asks high schools to promote student proficiency in multiple core academic areas. We ask them to prepare individuals for postsecondary endeavors, whether that is participation in the labor force, continuing education, or both. We ask high schools to help develop and encourage certain socially desired behaviors, attitudes, and capacities in students, while also discouraging them to pursue these varied—sometimes competing—goals. We hope that high schools will make the experience engaging and rewarding enough to convince students to remain within the formal educational system until they graduate from high school (Plank, 2001, p. 279-280).

Venzia, Kirst, and Antonio (2003) say that students, particularly at-risk and low-income students, often times do not receive adequate information about requirements for postsecondary education until it is too late, and they lack clear pathways to postsecondary education and careers. Therefore, they do not make the right choices about careers and education. Brand (2003) states that the federal investment in CTE must take into account the reality of the dismal state of the high school experience for many students, especially those in urban high schools. Education issues that impact CTE at the secondary level include: dropout rates in large urban high schools as high as 60 %, with students leaving as early as ninth grade, student performance on math, science, and English, which has shown almost no
improvement over two decades and is mediocre compared to other developed countries (National Center on Educational Statistics, 2000), the well documented achievement gap, and the structure and culture of many high schools, which inhibit personal learning and allow too many students to “fall through the cracks” or get by with a smorgasbord of low level courses (National Center on Educational Statistics, p. 11).

According to the National Commission on the High School Senior (2001), Steinberg, and Allen (2002), too few students will leave high school with the necessary thinking skills and character traits needed to be successful in the workplace due to a lack of lifelong learning and personal accountability left undeveloped in high school. According to the 2011 Harvard Graduate School of Education’s Pathways to Prosperity Report, middle school students overwhelmingly aspire to go to college, and college enrollment has continued to escalate. Our national failure to better prepare our young people cannot be explained by poor communication or low levels of aspiration. The report discovers the paradox that even though young people understand they need post-secondary education to make it in the 21st century America, huge percentages continue to drop out of high school and college (Symonds et al., p. 9). According to research conducted by Harnischfger and Wiley, test scores have been declining for about a decade. From 1968 to 1976, Scholastic Aptitude Tests (SATs) fell 42 points in the verbal and 26 points in the mathematical sections of the test. Standardized achievement test scores, such as the California Test of Basic Skills, show similar declines (Harnischfeger & Wiley, 1976, pp. 5-12).

Beatty (1992), in her article titled The Undeniable Link: Adult and Continuing Education and Individual Change, says, “The educational system states that in order for a
person to succeed, someone else must fail.” The article also references that education has a “covert curriculum of training in punctuality, obedience, rote memorization, and competition and that schools manufacture soldiers of production for the work force, especially for industry, and for other places in which these attributes are appreciated” (p. 27).

Federal legislation has attempted to improve the availability of work-related education for all students, but high schools have the tendency to operate in their own way, and most high schools have an academic track and an early work-related entry track. Others, however, tend to follow a generalized educational track, and students left to figure out high school on their own (Hallinan, 1994; Hughes et al., 2001; Oakes, 1994; Selvin, Karoly & Guiton, 1992).

**Theoretical Framework**

The theoretical lens or perspective in qualitative research provides an overall orienting lens for the study of questions of gender, class, or race (or other issues of marginalized groups). This lens becomes an advocacy perspective that shapes the questions that are asked. (Creswell, 2007, p. 62). A theoretical or conceptual framework provides a distinct point of view that explains the need for study and circumstances surrounding problems selected for study, defines relevant variables, aids in selecting appropriate research designs and data analysis, and supports the interpretation of results (Farmer and Rojewski, 2001, p. 353). Creswell (1994) called this a systematic view of theory and used the metaphor of a rainbow to explain this meaning of theory: theory provides a bridge between the independent and the dependent variables or constructs in any given study. The bridge ties
together the variables, providing an “overarching explanation for how one would expect the independent variables to explain or predict the dependent variable (pp. 82-83). According to Marriam (1998), it would be difficult to imagine a study without a theoretical or conceptual framework (p.45). In a manner befitting of a qualitative researcher, Marriam provided her concept of theoretical framework by explaining and giving examples, rather than by specifying a succinct definition. Marriam held the notion that the theoretical framework of a study is really the researcher’s pre-conceived conceptual perspective. The researcher’s disciplinary orientation leads to topics that will be studied and the questions that will be asked. It is the “lens” through which the researcher views the world (p.45).

Camp (2001) says we might call it theory, theoretical perspective, theoretical frame, theoretical framework, conceptual framework, or theoretical/conceptual framework. Regardless of semantics, the researcher attempts to identify a theory or several closely related theories from the literature to form the conceptual point of departure for the study (p. 17).

Three theories will be examined in this study: Transformative learning, systems thinking and human capital. These theories will interconnect the topics of the study in regards to the importance of career technical education and the need for work-based learning for American high school students, and they will present alternatives to traditional work-based learning.

According to Jack Mezirow (2000), “A defining condition of being human is our urgent need to understand the meaning and order the meaning of our experience, to integrate it with what we know to avoid the threat of chaos” (p. 3). Transformative learning refers to the process by which we transform our taken-for-granted frames of reference (meaning
perspectives, habits of mind, mind-sets) to make them more inclusive, discriminating, open, emotionally capable of change, and reflective so that they may generate beliefs and opinions that will prove more true or justified to guide action (p. 8). That is why it is so important for adult learning to emphasize contextual understanding, critical reflection on assumptions, and validating meaning by assessing reasons (Mezirow, 2000, p. 3). Mezirow’s theory of transformative learning may be described as an extensive and comprehensive type of learning. Boyd and Myers say that education must adopt the end-in-view concept of helping individuals work towards acknowledging and understanding the dynamics between their inner and outer worlds. For the learners, this means the expansion of consciousness and working toward a meaningful, integrated life—as evidenced in authentic relationships with self and others (Mezirow, 2000, p. 3).

We have called this view of education transformative education (1988, p. 261). As defined by Mezirow, transformative education is also primarily a cognitive process, although Mezirow recognized that important emotional changes are involved (Illeris, 2004, p. 79). According to Clark (1993), transformational learning can occur gradually or from a sudden, powerful experience (p. 53). The most fundamental assumption of the learning theory is that all learning includes two essentially different processes: (a) an external interaction process between the learner and his or her social, cultural, and material environment and (b) an internal psychological process of elaboration and acquisition in which new impulses are connected with the results of the prior learning (Illeris, 2004, p. 81). The cognitive, rational approach to transformational learning, advanced by Mezirow (1991; 2000), shares theoretical underpinnings with Friere. Both perspectives assert that adult education should lead to
empowerment (Friere, 2000; Mezirow, 2000). While Freire’s focus is oriented around social justice, Mezirow concentrates on the importance of rational thought and reflection in their transformative learning process (Mezirow, 1991, p. 168). Learning is understood as the process of using a prior interpretation to construe a new or revised interpretation of the meaning of one’s experience as a guide for future actions (Mezirow, 2000, p. 5).

While not all transformations lead to the expansion and integration of an individual’s personality, it is only through transformations that significant changes occur in the individual’s psychosocial development. A positive transformation is experienced as a clearly demarcated event that moves the person to psychic integration and active realization of their true being. In such transformations, the individual reveals critical insights, develops fundamental understandings, and acts with integrity (Boyd and Myers, 1988, p. 262).

Transformative learning involves participation in constructive discourse, to use the experience of others to assess reasons justifying these assumptions, and in making an action decision based on the resulting insight (Mezirow, 2000, p. 8). Learning occurs in one of four ways: by elaborating on existing frames of reference, by learning new frames of reference, by transforming points of view, or by transforming habits of mind. Transformation refers to a movement through time of reformation-reified structures of meaning by reconstructing dominant narratives (Mezirow, 2000, p. 19). Transformative learners, with social or organizational change as objectives, seek out others who share their insights to form cells of resistance to unexamined cultural norms in organizations, communities, families, and political life; they become active agents of cultural change (Mezirow, 2000, p. 30).
Transformative learning, which can occur gradually or from a sudden, powerful experience, changes the way people see themselves and their world (Clark, 1993).

While most studies have been on individual transformation, a recent examination of group and organizational transformations focused on inquiry (Davis and Ziegler, 2000; Kasl and Elias, 2000; Shaw and Taylor, 2000; Yorks and Marsick, 2000). According to Yorks and Marsick (2000), the goal of the transformational organizational learning is for the organization to “realize its performance objectives” (p. 254). Kasl and Elias (2000) report on the transformational learning that occurred in an organizational change effort. This tale of transformation describes changes in the structure “and the content of the group’s consciousness” (p.234). Specifically, it delineates how the group adjusts to the new frames of reference as the school is reorganized, the critical reflection the group engages in to clarify its mission, and the new worldview that emerges (Baumgartner, 2001, p. 20). Mezirow’s ideal conditions for transformational learning include the need for a “safe, open, and trusting environment” that allows for participation, collaboration, exploration, critical reflection, and feedback (Taylor, 2000a, p. 26). Robertson (1996) recognizes that the teacher-learner relationship is one of trust and caring and is vital to creating the right conditions for a transformational learning experience.

In this study each apprentice was assigned a machining mentor that had years of experience. These mentors were specifically chosen by the operations and training teams because of their vast knowledge, patience, and overall attitude towards the company and the new apprenticeship program. According to Daloz (1986, p. 21), the mentor in the learning process serves as guide, cheerleader, challenger, and supporter during the transformative
learning process. The teacher/mentor challenges students to examine their conceptions of self and the world and to formulate new, more developed perspectives. Daloz concentrates on the importance of stories in the journey toward an expanded world-view. He notes, “The first business of a guide is to listen to the dreams of the pilgrim. How are our students moving? What do they want for themselves? How do they tell their own stories?” (1986, p. 21).

Boyd’s psychoanalytic approach, grounded in depth psychology, sees transformation as an inner journey of individuation from parts of the psyche, such as the ego and the collective unconscious (Boyd, 1991, pp.261-283) He defines transformation as “a fundamental change in one’s personality involving conjointly the resolution of a personal dilemma and the expansion of consciousness resulting in greater personality integration” (Boyd, 1989, 1991; Boyd and Myers, 1988, p. 459).

**Systems Thinking**

According to Kauffman, a system is a collection of parts that interact with each other to function as a whole (1980, p.1). According to Emery, living systems, whether individuals or populations have to be analyzed as open systems (i.e., as open to matter-energy exchanges with an environment). Human organizations are living systems and should be analyzed accordingly. Usually, one designates by system any aggregate of elements considered together with the relationships holding among them (1969, p. 8, 20).

In the article *Informal Systems Thinking or Systems Theory*, the authors write that “Ludwig von Bertalanffy, the father of General Systems Theory, wanted to prevent the bad consequences of overspecialization and wanted therefore to provide for holism as a new
worldview rather than as a science of its own narrow scope” (Mulej, M. et al., p. 77).

Bertalanffy required that General Systems Theory become a teaching as a new worldview that would ask all of us to feel and act as citizens of the entire world, not just individual nations (Mulej, M. et al., 2003 p. 84). According to Anderson and Johnson, a system is a group of interrelated, or interdependent, components that form a complex and unified whole. A system’s components can be physical objects that you can touch, such as various parts that make up a car. The components can be intangible, such as processes, relationships, company policies, information flows, interpersonal interactions, and internal states of mind (i.e., feelings, values, and beliefs). Systems have several essential characteristics: A system’s parts must be present for the system to carry out its purpose optimally; a system’s parts must be arranged in a specific way for the system to carry out its purpose; systems have specific purposes within larger systems; systems maintain their stability through fluctuations and adjustments; and systems have feedback (1997, p. 2-4). Complex systems behave differently from simple systems and pose special challenges for systems thinkers. In action, a complex system appears to have many variables, many factors at play, and semi-dependent but interlocking components. Some defining characteristics of complex systems are: they tend to be self-stabilizing, they appear to be purposeful, they are capable of using feedback to modify their behavior, they can modify their environments, and they are capable of replicating, maintaining, repairing, and reorganizing themselves (Anderson and Johnson, 1997, p. 78).

All organizations sit within larger systems—industries, communities, and larger living systems (Senge). In one sense, it is illogical to think that the well-being of a company can be
positively affected independent of the wellbeing of its industry, its society, and the natural systems upon which it depends. For a long time, businesses have mostly taken these larger systems for granted, but it is now increasingly evident that the consequences of that relationship are significant. Systems citizenship starts with seeing the systems we have shaped and that shape us in turn. Being stuck in a system that is not working invariably leads to a feeling of frustration; we feel trapped until we see the larger patterns and our own part in creating these patterns. Once we see the larger patterns and our role in them, new alternatives become evident (2006, p. 342-343). The real systems citizens are mostly under the age of twenty. If schools could see their role and think of themselves as part of a global system, they could play a pivotal role in transforming young people’s concerns about the future into the foundations for productive systems citizens. Yet, we all know the education for the 21st century must be profoundly different from education for the nineteenth and twentieth century (Senge, 2006, p. 362).

In Barton, Emery, Flood, Selsky, and Wolstenholme, (2004), Eric Wolstenholme, an author and leader in the topic of systems thinking, states that part of the problem “lies in the way we were brought up and the way the education system works, both school and higher education. We were brought up to think sequentially, rather than in parallel and in organizations to think uni-directionally” (p.10).

Brand (2003) explains that partnerships with employers and the community are needed to help provide information about careers and the workplace to students and their parents, to serve as mentors or advisors, and to help relieve the burden on school counselors. Counselors and teachers also should participate in externships with employers to learn more
about the workplace, emerging careers, and the application of knowledge to workplace
problems. Employers play a key role in CTE programs of study as a means of strengthening
and ensuring the quality of programs. Employers, as partners, can provide opportunities for
internships and work-based learning experiences for students and teachers, serve as mentors,
provide input and guidance on curriculum, ensure that the curriculum meets industry
standards, provide information on emerging technology and careers, and donate equipment
and other material to high schools. Employer involvement needs to be continued as students
move through the program of postsecondary education, where industry input into curriculum
and standards becomes much more relevant (p.6).

CTE programs would be open to students of all abilities. Students would not be
tracked or assigned to a CTE program of study based on previous history, grades, or other
arbitrary selection processes, but, rather, students would select a program of study based on
their interests. Summer boot camps for CTE teachers and guidance counselors would expose
students to the real needs in the industry and allow them to use more experiential learning in
the classrooms. This would require strong industry and education partnerships. In addition, it
would be helpful to replicate the European apprenticeship training programs in high schools
that are successful in Austria, France, and Germany. Developing pre-apprenticeship
programs will help CTE students make realistic career and educational decisions about what
type of skills they want and need to acquire (Brand, 2003, pp. 3-27). The kind of highly
effective training that the future demands is not likely to occur without profound changes in
the systems that interact and shape the training process (Nadler and Nadler, 1994, p. 8).
Students drop out of high school and college for many reasons, including under-preparation for the required academic work, financial pressures, competing claims of family and jobs, etc. A major reason for the increase in the dropout rate is that students can’t see a clear, transparent connection between their program of study and tangible opportunities in the labor market. It is time to widen our lens and to build a more finely articulated pathways system—one that is richly diversified to align with the needs and interests of today’s young people and that is better designed to meet the needs of 21st century economy. A pathways system can be seen as a roadmap that provides young people with clearly articulated routes for living successful lives as adults. Our fundamental problem is that our system has not evolved to serve young adults in this radically changing world, and we need a more comprehensive effort to develop a robust pathways system. For example, if high school career-focused pathways were firmly linked to community college and four-year career majors we believe more students would be likely to stay the course (Symonds, Schwartz, & Ferguson, 2011, p. 10-13).

Testifying before Congress in 2007, Evelyn Ganzglass, Director of Workforce Development Center for Law and Social Policy, said:

The workforce system is critical to helping job seekers and workers succeed in today’s global economy…the systems should work with employers, preferably on a sectorial basis, to improve workplace practices, including creating internal career ladders, offering competitive wages and benefits, providing on-the-job training and informal apprenticeships, linking training to advancement, cross training employees, [and] implementing a mentoring program [among other recommendations (p. 7).
Human Capital Theory

In the human capital study, *Employer value from investing in workforce education*, Bellevue University’s Human Capital Lab measured the impact ExCo’s tuition assistance program has on retention, job mobility, and performance ratings. The study included all employees who earned an associate or bachelor’s degree using the company’s tuition assistance from 2006-2009. The study also included a random sample of employees from the same period who did not earn a degree but had similar characteristics to those earning a degree. This analysis concludes that investment in employee education increases the likelihood of retention for those pursuing a bachelor’s degree and that strategic investment in education programs creates value through job mobility, job performance, and retention. When considering influential factors, a successful tuition assistance program can benefit the employer and employees by creating educated individuals who stay with the company, diversify skills through job mobility, and perform better. A good program can identify needed skills within the company and present opportunities for the workforce to acquire those skills (2010, p. 4). Developing countries like India, China, South Korea, and Brazil, following the lead of the U.S. and other developed nations, have learned that an educated workforce translates into global economic advantage (Bray, Painter and Rosin, 2011, p. 5). For manufacturing, the greater the proportion of time spent in formal off-the-job training, the higher the productivity on the job. There are two possible reasons for this: First, training workers outside working hours lowers the output loss associated with on-the-job training. Second, those employers who train workers off the job may be investing in more advanced and time intensive skills development (Black and Lynch, 1996, p. 266).
Human capital theory holds that education and training inputs (human capital) are directly related to worker productivity and wages, which are factors that contribute to return on investment (Glover, Long and Haas, 1999, p. 27). Considering the characteristics of ROI in the HRD field, Wang, Dou, and Li (2002, p. 212) redefine return on investment for an HRD program as *any economic returns*, monetary or non-monetary, that are accrued through investing in the HRD interventions. Monetary returns refers to those that can be measured and expressed in dollar values; non-monetary returns apply to any other returns that have an economic effect on the business results but may not be explicitly expressed in dollar values. Examples include customer satisfaction and employee job satisfaction.

According to the 1995 study from the National Center on the Educational Quality of the Workforce, when all other factors remain the same, a 10% increase in the average education of all employees in a firm is associated with an 8.6% increase in output for all industries. There is also an 8% increase in wages associated with every additional year of schooling. According to Glover, Long, and Haas, existing research suggests a strong relationship between training and firm performance, yet more is needed to provide a solid empirical base (1999, p. 32).

**Conceptual Framework**

The conceptual framework does not necessarily solve all problems or answer all questions that come about in a profession, but it should provide a schema for establishing the critical issues and allowing for solutions, either by conforming the problem to the framework or vice versa (or, perhaps, both). Frameworks should be fairly stable but have the capacity to
change over time and adapt to external factors (Rojewski, 2002, p. 8). The conceptual framework for this study shows a graphical depiction of the relationship between traditional educational paradigms and lack of student knowledge about private industry opportunities on the student apprentice.

![Conceptual Framework Diagram]

**Figure 1. Conceptual Framework**

**Research Questions**

1. What does it mean to the participant to be an apprentice?
2. What was the experience of three teenagers who entered a formal apprenticeship program?

**Significance of the Study**

This research study has the potential to measure individual experiences of an opportunity that participants never knew existed and to evaluate the way it transformed
individuals’ lives, futures, and thinking. It also provides solid research on apprenticeship as a viable investment option for private employers to create a talent pipeline. This study also has the potential to have an effect on more high school participation because of improved alignment of high school programs that can meet local industry needs. The increased awareness and partnerships between the public and private sector could provide greater opportunities for work-based learning for students. The study also has the potential to affect economic development as the awareness of apprenticeships and the link between apprenticeships and economic development and influence continues to grow.

**Limitations**

One limitation of a study design/instrument is the systematic bias that a researcher did not or could not control and that could inappropriately affect the results (Price and Murnan, 2004, p. 1). According to Farmer and Rojewski (2001), procedural issues suggest the need for caution in interpreting the findings. Often in “real world” research, there are design elements that cannot be implemented in an ideal way without the potential for confounding variables. Here, then, readers are cautioned to clearly identify any design “imperfections” (p. 63).

The researcher has had business and personal involvement with the participants in the study and is therefore tied personally to the participants. Research was conducted at the beginning of 2015, and the research population came from one private, industrial organization. It is important for the researcher to make generalizations about the experience rather than the population as a whole.
**Delimitations**

Delimitations provide specific descriptions of decisions made about the sample, environment, variable characteristics, or method that are narrower than would typically be anticipated from the general description of the research design. Delimitations of a study act as boundaries or parameters that may affect the replicability or generalizability of the investigation (Farmer and Rojewski, p. 62). According to Price and Murnan, the researcher has control over a delimitation (2004, p. 1).

In this study, all three apprentices had similar experiences and were all assigned handpicked mentors who had similar skill sets. All of the participants have received consistent treatment in regards to the selection process, training, pay, and interviewing experiences.

**Definition of Terms**

*Apprentice*: the expert shows the apprentice how to do a task, watches as the apprentice practices portions of the task, and then turns over more and more responsibility to the apprentice until the apprentice is proficient enough to accomplish the task independently (American Education, 1991, p. 2).

*Cognitive Apprenticeship*: “build on traditional apprenticeships, a tested, cross cultural strategy for effectively acquiring visually observable skills. They also build on and incorporate ideas and findings of a community of serious thinkers and researchers, from John Dewey to today’s cognitive scientist” (Berryman, 1990, p. 7).
System: “a group of interrelated or interdependent components that form a complex and unified whole (Anderson and Johnson, 1997, p. 2-4).

Transformative Learning: “the process by which we transform our taken for granted frames of reference (meaning perspectives, habits of mind, mind-sets) to make them more inclusive, discriminating, open, emotionally capable of change, and reflective so that they may generate beliefs and opinions that will prove more true or justified to guide action” (Mezirow, 2000, p. 8).
CHAPTER II: REVIEW OF THE LITERATURE

Introduction

This chapter provides an extensive overview of the literature as it relates to career technical education and traditional work-based learning. It includes twelve sections and each section presents content relative to the topic of this study. To include some historical background, section one contains an overview of career technical education in America. Section two focuses on the No Child Left Behind legislation and its impact on career technical education. Section three focuses on the National Association for Vocational Education. Section four reviews the effect of social factors on educational achievement and career technical education specifically. Section five provides an overview of the trends in career technical education. In section six, the literature review focuses specifically on traditional apprenticeship programs. Section seven focuses on apprenticeships abroad, specifically those in Germany and Switzerland. Section eight reviews the literature on cognitive apprenticeships, which build on traditional apprenticeship programs. Section nine focuses on ethics in education, specifically the issue of tracking students into career technical education programs. Section ten provides an overview of career technical education. Section eleven has to do with all discussion that happens in American high schools about college. Finally, section twelve reviews vocational and career education pathways.

Section One: Career Technical Education (CTE) in America

Secondary career and technical education (vocational education) provides general workplace and, to some extent, specific occupational skills instruction to high school
students. CTE Programs are designed to develop the skills, understanding, and attitudes needed by workers in their occupations (Hollenbeck, 2011, p. 113). The first legislation to pass in regards to vocational education was the Smith-Hughes National Vocational Education Act of 1917. This was an act of the United States Congress that promoted vocational agriculture to train people "who have entered upon or who are preparing to enter upon the work of the farm" and provided federal funds for this purpose. As such, it is the basis both for the promotion of vocational education and for its isolation from the rest of the curriculum in most school settings (Retrieved 9/28/09 from http:www.ed.gov/offices/OVAE/CTE/legis.html).

According to Rojewski, Asunda, and Kim (2008), career and technical education is an integral part of secondary and postsecondary public education and is designed to educate about, through, and for careers (p.57). The National Association of State Directors of Career Technical Education Consortium states, “Career technical education provides students and adults with technical skills, knowledge, and training necessary to succeed in specific occupations and careers. It also prepares students for the world of work by introducing them to the workplace competencies that are essential no matter what career they choose. And career technical education takes academic content and makes it accessible to students by providing it in a hands on context” (p.1). Brand (2003) says that a CTE program of study is defined as a multi-year sequence of courses that integrates core knowledge with technical and occupational knowledge leading to higher levels of skill attainment over time with a unifying theme around which to organize the curriculum. CTE is a needed option for youth to
keep them engaged and interested in school, especially in light of the pressure from standards-based reform (pp. 7, 9).

Early research indicates that CTE can help decrease dropout rates, increase college enrollment, and improve attendance and grades, although there are no studies available on the impact CTE has on test scores (Hughes, Bailey, & Mechur, 2001).

According to federal reports, vocational education courses or programs are offered in 93% of the nation’s 15,200 comprehensive Grade 9-12 high schools. Nearly all of the high schools offer introductory courses for the purpose of general labor market preparation, which provide students with practical or life skills like word processing, introduction to computers, technology education, or family and consumer sciences. About 75% of all comprehensive high schools offer several courses in one or more specialized labor market preparation programs, historically identified as agriculture, business and office, marketing, health, family and consumer sciences (occupational or wage earning), trade and industrial, and technical and communications (Bpesel, Hudson, Deich, & Masten, 1994). More recently, the federal government added public and protective services, childcare and education, food service hospitality, technology, and communications, and personal and other services to vocational education programs (Levesque, Lauen, Teitelbaum, Alt, Libera, & Nelson, 2000).

In addition to comprehensive high schools, there are also about 1,100 vocational education centers nationwide where students can attend classes for specialized vocational training. Students attend their local high school part of the day and spend the remainder of the day at the center where they focus on a specialized trade. About 250 vocational, career, or specialty high schools in the U.S. focus on preparing students for a particular occupation or
industry while also offering academic and general courses at the high school. Students at these schools attend the vocational center as full time students (Lynch, 2000, p.2).

**Section Two: No Child Left Behind Legislation**

President George W. Bush signed the No Child Left Behind Act (NCLB) of 2001 into law on January 8, 2002. The NCLB Act amended the Elementary and Secondary Education Act of 1956 and made significant changes in federal education programs. It has been referred to as “the most noteworthy of recent congressional attempts to improve student achievement and otherwise reform elementary and secondary educational programs in the United States” (Simpson, LaCava & Graner, 2004, p. 67). The ultimate goal of NCLB was to ensure all children the same opportunity for a quality education and proficiency on standardized state tests (Simpson, et.al, 2004).

The United States Department of Education states that this legislation, which is based on the principles of stronger accountability for students in the areas of math, language arts, and reading, offers more flexibility on how funds are spent and gives parents more options when their children are attending lower performing schools. NCLB also emphasizes teaching methods that have been proven to improve student performance (2004). The NCLB Act continues to support the promise of closing the achievement gap, creating opportunities for the alignment of other federal acts with the common goals of increased graduation rates, effective transitions into postsecondary experiences, and the attainment of industry-recognized credentials and postsecondary degrees (Brand, 2003, p. 26).
Section Three: National Assessment for Vocational Education (NAVE)

The NAVE 2004 Executive Summary states that nearly half of all high school students are involved in vocational programs as a major part of their studies. Federal efforts to improve the quality and availability of vocational programs were articulated most recently in the Carl D. Perkins Vocational and Technical Education Act (Perkins III). Passed in 1998, this act reflects both continuity with previous vocational legislation and some substantive departures, specifically in funding and accountability (NAVE Executive Summary, 2004, p. 1).

The Carl D. Perkins Vocational and Applied Technology Education Act is a federal program administered by the Department of Education’s Office of Vocational and Adult Education (OVAE) and provides federal funding to help provide educational programs in the vocational and technical arena to youths and adults. The Perkins Act defines vocational-technical education as programs that offer courses that help prepare individuals for future employment in careers that do not require a four-year degree. Funds are provided at the state level and only state boards may apply for these funds. Funds can be used to purchase equipment and curriculum, for staff development, career counseling, and guidance activities, and for hiring staff or expanding the current technical preparation program. The United States is in a global economy, and the purpose of the Perkins Act is to provide a workforce with the academic and vocational skills needed to compete successfully in a world market (9/28/09fromhttp://www.ed.gov/offices/OVAE/CTE/legis.html).

NAVE was charged with evaluating the status of vocational education and the impact of Perkins III. After more than three years of study, NAVE found that vocational education
has important short- and medium-run earning benefits for most students at the secondary levels and that these benefits extend to those who are economically disadvantaged. NAVE also concluded that over the last decade of academic reforms, secondary students who participate in vocational programs have increased their participation in academic courses and their achievement in those courses, making them better prepared for both college and careers than their peers in the past. In fact, students who take both a strong academic curriculum and a vocational program of study may have better outcomes than those who pursue one or the other.

NAVE also found that while positive change is occurring at the high school level, secondary vocational education itself is not likely to be a widely effective strategy for improving academic achievement or college attendance without substantial modifications to policy, curriculum, and teacher training. The current legislative approach to encouraging “integration” as a way to move secondary vocational education toward supporting academics has been slow to produce significant reforms (NAVE Executive Summary, 2004, p. 2).

Section Four: CTE and Socioeconomic Factors

Many studies in the sociology of education have explored the impact of social factors on educational achievement. Specifically, studies have focused on factors that influence how well students perform in school. Some of those factors include students’ socioeconomic and family background (Dauber, Alexander, & Entwisle, 1996, Ensminger & Slusarcick, 1992, Roscigno & Ainsworth-Darnell, 1999). Society does not only present high schools with a diverse set of goals; social demographics also present high schools with a diverse set of
students who require guidance and education. Individuals enter high school with different levels of academic preparation, a variety of home and neighborhood backgrounds, varying degrees of commitment to formal educational endeavors, and a wide range of desires and expectations for the years following high school.

Regarding academic standing, vocational education, which CTE formerly referred to, has often been the educational path taken by students who were lower achievers and had no intentions of attending college (Palmer and Gaunt, 2007). The National Center for Education Statistics (NCES) between 1982 and 1994 found that students with lower grade point averages generally completed more vocational credits (NCES, 2002). In regards to academic standing, vocational education has often been considered the track for low-achieving, non-college-bound students (Palmer and Gaunt, 2007, p. 35). In relation to income level, Campbell (1986) found that CTE students represent a significantly higher portion of students who have low socioeconomic backgrounds.

The National Center for Education Statistics (NCES) has reported social living arrangement data for high school sophomores nationwide. Their data indicated that 22% of CTE students lived in a single parent household, while 17% lived with one biological parent and a stepparent (NCES 2002). Gaunt (2006) says that students without the financial means to go to college are often placed in the CTE pathway, but Gaunt offers no explanation as to why that dynamic exists. Levesque and Hudson (2003) found that students who are higher academic achievers are less likely to be in a CTE concentration. In a study that involved a group of CTE and non-CTE high school students in Michigan, CTE students were found to
be more financially disadvantaged than non-CTE students were, and the typical CTE student was not performing as well academically as the non-CTE student (Palmer and Gaunt, 2007).

Section Five: Trends in CTE

According to the National Center for Education Statistics (2005), there are higher percentages of 2005 public high school graduates concentrated (earning 3.0 or more credits) in the areas of computer technology and agriculture than in any other occupational program area (3 versus 2 % or less of graduates). Ninety-seven and one half percent of students took CTE courses, while 92.0% took occupational courses. Twenty-eight and one half percent completed an occupational concentration. Smaller percentages of students took the following courses: agriculture, 3 %, business services 1.9%, communications technology 1.2%, computer technology 2.7%, material production 1.5%, other precision production 0.2%, health care 2.1%, childcare or education 0.7%, protective services 0.4%.

Section Six: Traditional Apprenticeship

Traditionally, teaching and learning were accomplished through apprenticeships. The apprenticeship was the vehicle for transmitting the knowledge required for expert practice in fields from painting and sculpting to medicine and law (Collins, Brown and Holum, 1991, p. 1). Lerman states that apprenticeship programs offer an number of advantages over pure postsecondary education programs, and since apprenticeship openings depend on employer demand, mismatches between the skills taught and supplies and skills demanded in the workplace are rare (2009, p. 2).
In traditional apprenticeship, the expert shows the apprentice how to do a task, watches as the apprentice practices portions of the task, and then turns over more and more to the apprentice responsibility until the apprentice is proficient enough to accomplish the task independently (American Education, 1991, p. 2). It focuses closely on the specific methods for carrying out tasks to a domain; skills are instrumental to the accomplishment of meaningful real world tasks, and learning is embedded in a social and functional context—unlike schooling, where skills and knowledge are usually abstracted from their use in the real world (Collins, 2006, p. 48). In traditional apprenticeship, the process of carrying out and learning to complete a task is a process that is, usually, easy to observe; learning is situated completely in the workplace and the skills to be learned are inherent in the task itself (American Education, 1991, p. 2). Lerman (2009) says that apprenticeship programs train individuals to achieve the skills of a fully skilled worker through supervised, work-based learning and related academic instruction; apprentices are employees at the firms and organizations where they combine productive work with learning experiences that lead to demonstrated proficiency in a significant array of tasks (p. 1). Hollenbeck (2011) says that apprenticeships are formal arrangements between employed individuals, employers, and the state in which classroom instruction and formal on-the-job training are combined; apprenticeships are typically multi-year efforts and are supervised by journey-level craftspeople or other trade professionals (p. 103). In completing apprenticeship training, workers earn a recognized and valuable credential, which attests to their attainment of the mastery of skill required to be successful in the relevant occupation (Lerman, 2012, p. 4). Completion standards typically include 2000 work hours and at least 144 hours of related and
supplemental formal instruction (Hollenbeck, 2011, p. 103). There are 470,000 apprentices in programs registered with the U.S. Department of Labor and perhaps another 500,000 or more in unregistered programs. Though research on apprenticeship programs is sparse, one careful study found that both the short- and long-term earnings gains and overall social benefits from apprenticeship trainings are extremely high (Lerman, 2009, p. 2).

Stephen Wolter, head of the Centre for Research in Economics in Education, states that “apprenticeship is not just education for dummies,” and “it attracts the most talented students, so when companies hire former apprentices, they know they are getting qualified employees” (2012, p. 5). According to Hollenbeck (2011), apprenticeship training far exceeds the returns from other types of training, including two-year, community college programs; the present value for apprentices post-program increases in earnings, net of any earnings foregone during the training period, amounted to over $50,000.00 for the first 2.5 years after exiting the program (p. 7). According to Lerman (2012), six years after starting a program, earnings of the average apprenticeship participant (after the average duration of an apprenticeship) stood at 1.4 times the earnings of non-participants with the same pre-apprenticeship history (p. 7).

Section Seven: Apprenticeship Abroad

According to Symonds, Schwartz, and Ferguson, there is much to learn from the German and Swiss apprenticeship systems. In these systems, the employers play a major role; they take the lead in defining occupational qualifications, providing paid apprenticeships or other work-based learning opportunities, and (in collaboration with
educators and trade union partners) assessing student performance and awarding certificates.

In Germany, for example, employers pay about half of the expenses associated with the system, contributing roughly as much as the government. They are willing to make that investment because German employers believe that the best way to get a highly qualified workforce is to invest in the development of young workers and to participate directly in their training and socialization in the workplace. German employers then hire those who have proven themselves to be productive at the end of the apprenticeship period. Some studies suggest that the work completed by and the benefits of having apprentices more than offset the costs to employers. Roughly, more than a quarter of German and Swiss employers participate in the dual system (Symonds, Schwartz, & Ferguson, 2011, p. 16). In Switzerland, about two-thirds of fifteen and sixteen-year-olds who finish nine years of obligatory schooling choose to continue their education through Vocational Education and Training (VET), a system that churns out skilled workers who are the backbone of the country’s thriving economy (Bachmann, 2012, p. 4).

Section Eight: Cognitive Apprenticeship

Cognitive apprenticeship strategies build on traditional apprenticeships, a tested, cross-cultural strategy for effectively acquiring visually observable skills. They also build on and incorporate ideas and findings of a community of serious thinkers and researchers, from John Dewey to today’s cognitive scientist (Berryman, 1990, p. 7).

Cognitive apprenticeship is designed to bring these cognitive processes into the open, where students can observe, enact, and practice them (Collins, 2006, p. 48). In cognitive
apprenticeship, one needs to bring the thinking to the surface deliberately—to make it visible—whether it’s in reading, writing, or problem solving. That is the most important difference between traditional apprenticeship and cognitive apprenticeship (American Education, 1991, p. 2).

Cognitive apprenticeship theory is a pedagogical model developed within the situated learning paradigm. The theory is inspired by the apprentice-master model of traditional crafts commonly found in non-formal instructional environments, but it has been adapted for “cognitive” or intellectual domains. Cognitive apprenticeship might be viewed as *learning by doing*; it is a sequentially guided learning process with expert models and expert feedback (Stewart and Lagowski, 2003, p. 1362). The cognitive apprenticeship strategy is a pedagogic technique that can be used in the classroom but is designed to create a learning environment that reproduces the technological, social, and motivational characteristics of the real world situations—that which is being learned will be used (Berryman and Bailey, 1992; Collins, Brown & Newman, 1989). It emphasizes that knowledge must be used in order to solve real world problems (Collins, 2006, p. 48).

By incorporating education into real world situations, (cognitive) apprenticeship appears to have bridged this intellectual or cognitive gap between school and work, or, more broadly, between school and social activity in general (Bailey 1993, p.6). The tasks and problems are chosen to illustrate the power of certain techniques and methods, to give students practice in applying these methods in diverse settings, and to increase the complexity of tasks slowly so that component skills and models can be integrated (Collins, 2006, p. 49).
Cognitive apprenticeship is a useful instructional paradigm when a teacher needs to teach a fairly complex task to students, and it encourages the student to become the expert (Collins, Brown and Holm, 1991, p. 17). Empirical studies have confirmed much of what theories have suggested: (1) that the cognitive apprenticeship model is an accurate description of how learning occurs naturally as part of everyday life and social interactions, and (2) that the instructional strategies that have been extracted from these observations of everyday life can be designed into more formal learning contexts with a positive effect (Dennen and Burner, 2008, p. 436).

Cognitive apprenticeship focuses on four dimensions that constitute any learning environment: Content, method, sequencing and sociology (Collins, 2006, p. 49). According to Wang and Bonk, the six instructional methods of cognitive apprenticeship are as follows:

- **Modeling** provides opportunities for students to observe an expert’s practices. The learning situation must include examples of how an expert performs the tasks.
- **Coaching** offers students help in the form of hints, scaffolding, feedback, modeling, goal setting, and reminders while they are carrying out tasks.
- **Scaffolding** provides temporary support by teachers for the parts of the tasks students have difficulty performing. The support can take the forms of suggestions or direct help. Fading is the gradual removal of this support until students are left to complete tasks on their own.
- **Articulation** requires that students explicitly express their knowledge, reasoning, or problem solving processes for problems or issues they are tackling. Articulations can
include students engaging in a dialogue, verbalizing their thoughts, or assuming the role of monitor or critic in cooperative activities.

- **Reflection** offers a mechanism for students to externalize their metacognitive processes and, therefore, open them for evaluation. It enables them to compare their own problem-solving processes with those of an expert and other students.

- **Exploration** invites students to tackle and solve problems independently. Usually, instructors set general goals and teach exploration strategies. Students are then encouraged to focus on particular sub-goals within learning tasks, or even to revise the general goals in order to come up with their own solutions (2001, p. 132).

**Section Nine: Ethics and Education**

The ethics of responsibility in the context of education assumes that effort (or pure will) is one of the key determinants of school achievement by children; children after a certain age are responsible for the intensity of the effort level that they put into the learning process. This notion of “responsible” effort requires some clarification. At the basis of this analysis is the idea that effort is the result of a conscious, deliberate “choice,” and choices are the expression of a person’s preferences—thus, they are ultimately a product of her freedom to conduct her life (De Ville, 2003, p. 11). A “just” educational system should give the opportunity for every child, whatever her background or social origin, specific abilities to achieve the highest possible general education level and enable her to further study or compete for jobs that are appropriate for her (De Ville, 2003, p. 15).

According to the 2011 Pathways to Prosperity Report by the Harvard Graduate
School of Education, one of the most fundamental obligations of any society is to prepare its adolescents and young adults to lead productive and prosperous lives. This means society must prepare all young people with a solid enough foundation of literacy, numeracy, and thinking skills to cultivate responsible citizenship, career development, and lifelong learning (Symonds, Schwartz, & Ferguson, 2011, p.1). At the end of the 21st century, there are profoundly troubling signs that the U.S. is failing to meet its obligation to prepare millions of adults. In an era in which education has never been more important to economic success, the U.S. has fallen behind many other nations in educational attainment and achievement. Within the U.S. economy, there is also growing evidence of a “skills gap” in which many young adults lack the skills and work ethic needed to be successful at jobs that pay a middle-class wage. Simultaneously, there has been a dramatic decline in the ability of many young adults to find work. Indeed, the percentage of teens and young adults who have jobs is now the lowest it has been since World War II (Sum, 2010). School attainment takes shape over the long term, which is the result of an interaction between the characteristics of students (ability, motivation, family support, and social background) and the channeling efforts of school organization (Gamoran, 1987, Oakes, 1998, Oakes, Gamoran and Page, 1992).

Section Ten: Educational Tracking

In the U.S., formal tracking begins in middle grades; course sequences are introduced that may make later movement up or down the hierarchy more difficult. In fact, low-level course tracking in middle school may be one factor that links early retention to later dropouts (Dauber, Alexander, and Entwisle, 1996, p. 291). According to Gamoran and Mare, students’
chances of college-track membership depend on their own attributes and on their standing relative to others in the school and on the school’s programmatic organization. Features of a school’s composition (its racial and ethnic makeup and the achievement level of the student body) and aspects of school organization (such as the proportion of students in the academic track and the availability of advanced courses) may have an effect on a student’s opportunity to enroll in a college preparatory curriculum. By influencing track assignment, these school-level variables indirectly affect student outcomes, such as achievement (1989, p. 1152).

According to Oakes (1985) and Persell (1977), there is a persistent association between social background and academic placement. Students of minority groups and with lower socioeconomic status are more likely to be at the bottom of the educational hierarchy all along. Entwisle and Hayduk (1982) say that favorable economic circumstances may allow families to provide resources that contribute to students’ academic performance, such as tutors, summer camps, daily newspapers, books, and computers (pp.1-215).

One premise that now underpins vocational education is the idea that high school students need to see that there are viable options for structuring their future other than the four-year college trajectory Gray, 1996; Gray and Herr, 1995; Rosenbaum and Pearson, 2003). Over time, studies (e.g. Bishop, 1989) have shown that high school vocational concentrators did in fact earn higher wages than their peers on the academic track (Lewis and Cheng, 2006, p. 68-69).

The first major pedagogic rationale for academic tracking is that students have differing academic goals and learn best in different environments. Ideally, a system of academic tracking will match students’ aptitudes with the objectives and learning
environments to which they are best suited (Cook, 1924, Whipple, 1936, Conant, 1967). Critics of academic tracking stress the potential of tracking systems to widen differences among students. According to this argument, tracks stratify students and produce larger academic and post-schooling inequalities than those that would exist without tracking (Findlay and Bryan, 1971; Schafer, and Olexa, 1971; Rosenbaum, 1976; Ball 1981; Hallinana, 1984; Oakes, 1985). Other critics imply that tracking fails to improve outcomes for high-track students and depresses results for others. Tracking, according to this view, reduces productivity and increases inequality (Gamoran and Mare, 1989, p. 1149). Another side of the argument insists that effects of tracking on levels and inequalities of outcomes are largely neutral; tracking systems neither reduce nor widen pre-existing inequalities among groups of students, nor do student track assignments have harmful or beneficial effects on students’ levels of achievement, competence, or post high school success (Jencks, et. al.1972; Jencks and Brown, 1975; Alexander and Cook, 1982).

From a U.S. perspective, perhaps the most important distinction among Austria, Denmark, Finland, Germany, the Netherlands, Norway and Switzerland, is the age at which students are separated into different tracks. Germany and Switzerland have separate middle or lower secondary schools based largely on the school’s assessment of a student’s academic potential. This is a practice the U.S. deplores, and it is no surprise that the students in the bottom track in German middle schools fare the worst in the labor market. Finland and Denmark, on the other hand, keep all students in a common, untracked comprehensive school until grade nine or 10, at which point students and their families, not the school, decide which kind of upper secondary education the students will pursue. The Pathways to
Prosperity reports that this model makes much more sense, but for the U.S. to consider implementing this model, we would have to be willing to abandon our reliance on the various forms of tracking, subtle as well as overt, that pervade much of our education system through the elementary and middle school years (Symonds, Schwartz, & Ferguson, 2011, p. 16).

**Section Eleven: The College for All Discussion**

In *The Baccalaureate Game, Is It Right for All Teens?* Kenneth Gray says the following:

The academically talented, who take the honor diplomas and advanced placement classes, who graduate academically prepared and head off to prestigious four-year colleges don’t make me worry. It’s the fate of the rest that concerns me, particularly the academic middle of any high school graduating class. A comparison of their post-secondary plans with their academic records and labor market prospects suggest that most of these young people are seriously adrift. But the fault is not theirs. They have been told by parents and teachers alike that their generation has only ‘one way to win’ in the game of life; namely to get a four-year degree that will open doors to professional or managerial positions. But the majority of these students from the academic middle who attempt to follow this advice will fail. Of those who beat the odds and graduate, one third or more will end up in jobs they could have obtained without a four-year degree. The costs of this folly, both financial and human, are staggering for students, and the nation. It is time to challenge the one-way-to-win mentality that pervades our schools and our nation (1996, p. 528).
In the June 2010 report from Georgetown’s Center on Education and the Workforce, *Help Wanted: Projections of Jobs and Education Requirements Through 2008*, the “forgotten half” challenge has increased with the growing importance of post-secondary education to success in the labor market. In 1973, nearly a third of the nation’s 91 million workers were high school dropouts, while another 40% had not progressed beyond a high school degree. Thus, people with a high-school education or less made up 72% of the nation’s workforce. In an economy in which manufacturing was still dominant, it was possible for those with less education but a strong work ethic to earn a middle class wage like 60% of high school graduates did. A high school diploma was therefore seen as the passport to the American Dream for millions of Americans.

According to the Center for Education and the Workforce report, this picture had changed beyond recognition by 2007. While the workforce had exploded nearly 70% to 154 million workers, those with a high school education or less had shrunk to just 41% of the workforce (2010, p. 13). Although operating and maintaining the latest technology does not require a four-year college degree, it can require college-level competencies in disciplines such as engineering, math, biological sciences, and medicine (Goldin and Katz, 2010). Thus, over the past third of a century, all of the net job growth in America has been generated by positions that require at least some post-secondary education. Workers with at least some college education have increased to 59% of the workforce, compared to just 28% in 1973. Over the same period, many high school dropouts and those with no more than a high school degree have fallen out of the middle class, while those who have been to college, and especially those with bachelor’s degrees, have moved up (Center for Education and the
In the Economic Policy Institute Briefing Paper titled *The Class of 2012: Labor market for young graduates remains grim*, the authors state the following:

In economic recessions as well as expansions, the unemployment rate for young workers (those under 25) is typically around twice as high as the overall unemployment rate (p. 2). Though there has been some increase in job opportunities over the last year, the unemployment rate for young high school graduates is still extremely high, at 54%, as is the unemployment rate for young college graduates at 19.1%. Thus the class of 2012 will be the fourth consecutive graduating class to face the severe short-term and long-term consequences of entering the labor market during a period of profound weakness. In the 2011-2012 school years the total cost of attendance for an on campus student including in-state-tuition, books, room and board, and transportation expenses—at a four-year public school averaged $21,447. For a four-year private school it was $42,224.00. The cost of higher education has been rising faster than family income, making it harder for families to pay for college (2012, pp. 14-16).

Gray (1996) says that the reality is this: since the 1950’s, only around 30% of all jobs have required a four-year college degree and only 20% of all employment has been in the professional ranks. Today, downsizing companies are laying off college educated middle managers and engineers, but they are not laying off skilled employees on the production lines (1996, p. 530). A bachelor’s degree is no longer the ticket to job security it once was. In terms of getting a job after graduation, a B.A. degree today is becoming comparable to a high
school diploma of 20 years ago; new graduates with B.A. degrees are qualified for retail, consumer service, or low-level office positions (Bray, Painter and Rosin, 2011, p. 5). Thus, it should not be surprising that the New York Times recently ran an article documenting the fact that more and more college graduates are taking jobs as factory workers because they cannot find college-level employment (1996, p. 530).

Gray also says that today’s young people, particularly those who graduate in the academic middle of their class, have alternatives to college that make good economic sense. These alternatives include higher education at the certificate or associate’s degree level that can lead to careers that provide lifetime earnings, which are equal to careers that provide lifetime earnings to four-year college graduates (1996, p. 532). Recent data suggest, however, that technical credentials have the potential to outpace the wages of bachelor’s degree holders as well as those with just a high school diploma. Twenty-seven percent of people with occupational licenses and certificates and 31% of people with an associate’s degree earn more than people with a B.A. (Bray, Painter and Rosin, 2011, p. 5). Furthermore, researchers from the U.S. Department of Labor have concluded that the lifetime earnings of individuals in such occupations as precision metals, the crafts, specialized repair, and other nonprofessional technical occupations will exceed the earnings of all college graduates, except for those who are successful in finding work in the professional managerial ranks (Gray, 1996, p. 532).

Section Twelve: Vocational and Career Technical Education Pathways

Vocational education, or career and technical education (CTE), is one academic
pathway that is continuing to emerge as a boundary-spanning approach to facilitating student’s transition from high school to postsecondary education. Though it was once considered a track for non-college bound high school students, CTE has evolved to include an increased emphasis on rigorous academic preparation. According to the Association for Career and Technical Education (2006), CTE is now a “major enterprise within the United States’ P-16 education system” (p.9). In the past, CTE has been viewed as an undesirable curricular track, one suitable only for students who will not go to college. Today, many high schools offer CTE that requires advanced academic skills to help students make the transition to college-level technical and professional studies (Dare, 2006, p. 73).

Participants in the 2003 National High School Leadership Summit noted that the once common assumption that CTE does not prepare students for higher education is no longer valid (U.S. Department of Education, 2003). Newer models include helping CTE students meet high academic and technical expectations, easing CTE students’ transitions to postsecondary education and advanced training, and increasing the rigor of CTE instruction. Summit leaders cited several examples of comprehensive high school reform that combine academic preparation with CTE to support students in attaining education beyond high school (Dare, 2006, p. 74).

**Apprenticeship as a Pathway**

According to the U.S. Department of Labor, apprenticeship is a combination of on-the-job training and related instruction in which workers learn the theoretical aspects of a highly skilled occupation. Apprenticeship programs can be by individual employers, joint
employer and labor groups, and/or employer associations. Registered apprenticeship is a training system that produces highly skilled workers to meet the demands of employers competing in a global economy. A proven strategy, registered apprenticeship ensures quality training by combining on-the-job training with theoretical and practical classroom instruction to prepare exceptional workers for American industry (www.dol.gov/topic/training/apprenticeship.htm).

In the United States, apprenticeship is largely a program for career training of adults who are already employed; the average age of apprentices is in the mid-twenties (Brodsky, 1989, p. 41). In addition, and perhaps most important for a U.S. audience, the most intensive forms of workplace learning-apprenticeship and sustained internships are especially effective in meeting the developmental needs of young people. They provide a structure to support the transition from adolescence to adulthood that is lacking for the majority of young people; the U.S. Apprenticeships provide increasingly demanding responsibilities and challenges in an intergenerational work setting that lends a structure to each day. Adult relationships are built on support, accountability, mentoring, and supervision (Symonds, Schwartz, & Ferguson, 2011, p. 20).

In Austria and Germany, apprenticeship is the main form of vocational training for young people (Commission of the European Communities, 1986, p. 34-37). In Austria, approximately one-half of fifteen-year-olds enter the system after leaving full time school. In Germany, the majority of sixteen-year-old secondary graduates go into the apprenticeship system. In both countries, there is an official list of occupations for which apprenticeship is the recognized, or is, in some cases, the only way of receiving initial training (Brodsky, 1989,
The youth apprenticeship movement can be seen as a broad attempt to break down the distinctions between learning and working, school and community, academic and vocational education, and college-bound and non-college-bound youth. It is also aimed at fostering interactive links between schools and employers and at incorporating authentic work-related learning into the education of a large number of adolescents. Although many barriers stand in the way of the development of a large-scale youth apprenticeship system, these objectives of the system have the potential to make fundamental contributions to the nation’s educational system. Another broad approach to developing apprentice-like strategies is to try to solve the problems with employer participation directly (Bailey, 1993, p. 9).

It is clear that the American system for preparing young people to lead productive and prosperous lives is badly broken. It is no longer acceptable for the U.S. to behave as if it has nothing to learn from other countries (Symonds, W., Schwartz, R., & Ferguson, R., 2011, pp. 18-23). In the U.S., Canada, and Europe, a high school education is no longer sufficient for guaranteeing a living wage (Bray, Painter and Rosen, 2011, p. 5). Many of these young students are frustrated by an education they find irrelevant and removed from the world of work, and, given the barriers of weak or nonexistent career counseling, rising college costs, inadequate financial aid, and the frequent need to balance their courses with jobs that are often totally disconnected from their programs of study, it is a minor miracle that so many still manage to complete a college degree (Symonds, W., Schwartz, R., & Ferguson, R., 2011. P. 13).

What if the U.S. became more like most European systems, which have rigorous tests
that provide differential qualifications depending on performance? What if mastery exhibited on tests was required for students to move from elementary to secondary school and to graduate from high school? Changes such as these, which are under serious consideration in many states and districts throughout the U.S., would represent a profound change in the way American education is organized. This shift would embrace greater centralization and standardization of the curriculum than has occurred in the past; at a minimum, it would involve a high degree of standardization at the state level, if not federally (Gamoran, 2001, p. 147).

**Apprenticeships: A Solution**

If you look at the U.S. secondary education system through a comparative lens, one big difference becomes immediately apparent: most economically advanced nations place far more emphasis on vocational education than we do. Throughout northern and central Europe especially, vocational education and training is a mainstream system—the pathway helping most young people make the transition to productive adulthood. In Austria, Denmark, Finland, Germany, the Netherlands, Norway, Switzerland, between 40 and 70% of young people opt for a three-year educational program that typically combines classroom and workplace learning after grade nine or 10. This culminates in a diploma or certificate—a “qualification,” as it’s called, with real currency in the labor market. In virtually all of these countries, vocational education also provides a pathway into tertiary education for those who choose to take it.
Upper secondary vocational education (or VET) varies significantly in structure from country to country, but there are two basic models for it. The first, usually referred to as apprenticeship or the dual system, allows students to spend three or four days a week in paid company-organized training at the workplace and another day or two in related academic work in the classroom. Germany has the oldest and best-known apprenticeship system; it offers programs that lead to recognized qualifications in about 350 different occupations. Switzerland also has a very highly regarded apprenticeship system (Pathways to Prosperity, 2011, p. 14). Melvin Brodsky (1989), author of *Foreign Labor Developments: International Developments in Apprenticeships*, summarizes the apprenticeship training programs in Austria, Germany, France, United Kingdom and America. In Austria, approximately one-half of fifteen-year-olds enter the apprenticeship system after leaving full time school. In Germany, the majority of sixteen-year-old secondary school graduates go into the apprenticeship system. In both Austria and Germany, there is an official list of occupations for which apprenticeship is recognized, or in which an apprenticeship is the only way of receiving initial training. In Austria, there are 245 occupations that fall under this category. In France, apprentices enter into a contract with employers, which entitles the apprentice to receive three to four days of on-the-job training with the company each week and one or two days at a college or training center where the apprentice can acquire the theoretical knowledge to reinforce practical on-the-job training. About 15% of compulsory graduates receive apprenticeship training.

In the United Kingdom, the Youth Training Scheme (YTS) has replaced the apprenticeship system. The YTS, first introduced in 1983, offers a two-year basic training
program and planned work experience for sixteen-year-old school “leavers” and a similar one-year program for seventeen-year-olds. Although training is delivered primarily in the workplace, most trainees receive 20 weeks of off-the-job training as well. The government guarantees a place in the YTS for every sixteen and seventeen-year-old who wants one, and approximately 60 to 70 % of sixteen and seventeen-year-old school “leavers” now participate (Brodsky, 1989, p. 40-41). In all of these apprenticeship systems, employer organizations play a major role. They take the lead in defining occupational qualifications, providing paid apprenticeships or other work-based learning opportunities, and assessing student performance and awarding certificates in collaboration with educators and trade union partners (Pathways to Prosperity, 2011, p. 16).

Crosby (2002) states that apprenticeships in America are available for more than 850 occupations. Construction and manufacturing apprenticeships are most common, but apprenticeships are available for all sorts of occupations. Possibilities include telecommunications, environmental protection, pastry making, healthcare, childcare, the arts, and more. Current programs vary in length from one to six years. Throughout that time, apprentices work and learn as employees. When they complete a registered program, apprentices receive a nationally recognized certificate from the U.S. Department of Labor as proof of their qualifications. Apprenticeships also can be combined with other kinds of training; classroom instruction often counts toward licenses, certifications, and college degrees. Apprenticeship is career preparation—it mixes on-the-job learning with learning in the class. A child development apprentice, for example, might spend the day as an assistant teacher, helping to supervise children, lead activities, and organize arts and crafts materials.
In class that evening, the apprentice might learn safety procedures and theories of child development (p.3).

Most formal apprenticeships are registered with the U.S. Department of Labor. This registration means the program meets Government standards of fairness, safety, and training. Graduates of registered programs are called “journey workers.” Employees associations, employers, or employer groups manage apprenticeship programs. As program sponsors, they choose apprentices, develop training standards, and pay other wages and expenses. When apprentices are accepted into registered programs, the sponsors and the apprentices sign an agreement. The agreement explains the specifics of the apprenticeship program, the skills apprentices will learn on the job, the wages they will earn, and the amount of time the program will take. In signing the agreement, the sponsors promise to train the apprentices and make every effort to keep them employed. The apprentices promise to perform their jobs and complete their classes (Crosby, 2002, p.2-3).

Pre-apprenticeship programs are organized by nonprofit organizations, schools, and government agencies to help young people qualify for apprenticeships. They target specific groups, such as including high school students, disadvantaged youth, veterans, and women (Crosby, 2002, p. 12).

**Summary**

The United States apprenticeship system is largely a private sector program. While there are more than 800 apprenticeship occupations, many have no registered apprenticeships. In the United States, apprenticeship is largely a program for career training
of adults who are already employed; the average age of apprentices is in the mid-twenties. Apprenticeship programs average over three years in length. In recent years, the relative labor market share of apprentices has been declining. In an effort to improve and strengthen the apprenticeship system, the U.S. Department of Labor launched its Apprenticeship 2000 initiative. With this initiative, the Department is reviewing the current program and alternatives to determine the most effective role of apprenticeship training in meeting the future needs for a highly skilled workforce. One idea under consideration is to apply lessons from apprenticeship programs here and abroad to occupations and industries not currently being served by the apprenticeship programs in the United States (Brodsky, 1989, p. 41). In addition, and perhaps most important for a U.S. audience, the most intensive forms of workplace learning—apprenticeships and sustained internships—are particularly effective in meeting the developmental needs of young people. They provide a structure to support the transition from adolescence to adulthood that is currently lacking for the majority of young people in the U.S. Apprenticeships and increasingly demanding responsibilities and challenges in an intergenerational work setting that lends a structure to each day. Adult relationships are built on support, accountability, mentoring, and supervision (Pathways to Prosperity, 2011, p. 20).
CHAPTER III: METHODS

Chapter three provides an overview of the research methodology that was used in this study. The study is a qualitative phenomenology. The chapter begins with a discussion of why phenomenology is the best methodology for this study. Furthermore, this chapter covers the following: the research questions to be answered, ethical considerations, sampling, informed consent, the research methodology, data collection, data storing procedures, organizing the data, transcribing the interviews, summarizing the data, and data analysis procedures.

Phenomenological, human scientific researchers tend to choose the interview due to their interest in the meaning of the phenomenon as it is lived by other subjects (Englander, 2012, p. 13). The epistemology of phenomenology focuses on revealing meaning, rather than on arguing a point or developing abstract theory. Discovery of knowledge cannot be attained by the empirical analytical sciences (van Manen, 1997).

This study is a qualitative research study using phenomenology to capture the experiences of three student apprentices that are in the final year of their apprenticeship training program while simultaneously attending the community college and nearing completion of a two year technical degree. The study attempts to capture the meaning of this unique experience and whether or not the experience impacted their lives.

Obtaining informed consent agreements from participants ensures that they are participating for the purpose of the research. Data is collected in various ways, typically through interviewing, collecting field notes, or a combination of the two. The research questions come from the researcher, who is attempting to find an answer to a
phenomenology. There are ethical considerations for choosing not to pressure participants into being interviewed for the study. The data is summarized and the researcher looks for emerging themes from the data. Following the interviews, the data collected during transcribed and recorded interviews is summarized. The data is then organized and analyzed and conclusions are reached based on that analysis.

**Phenomenology**

Because all knowledge and experience are connected to phenomena—things in consciousness that appear in the surrounding world—a unity must exist between ourselves as knowers and the things or objects that we come to know or depend on. In phenomenological studies, the investigator abstains from making suppositions; the investigator focuses on a specific topic with a fresh and naïve eye, constructs a question or problem to guide the study, and derives findings that will provide the basis for further research and reflection. In phenomenological science, a relationship always exists between the external perception of natural objects and internal perceptions, memories, and judgments (Moustakas, 1994, p.44-47).

Two major approaches—hermeneutic phenomenology and transcendental phenomenology—represent philosophical assumptions about experience and ways to organize and analyze (Moerer-Urdahl and Creswell, 2004, p. 19). Hermeneutic science involves the art of reading a text so that the intention and meaning behind appearances are fully understood. There is a relationship, for example, “between a poetically sensitive listener’s comprehension of a play and the most excellent literary-historical analysis”
(Dilthey, 1976, p. 182). According to Keen, phenomenological psychology seeks to articulate explicitly the implicit structure and meaning of human experience (1937, p. 19). This interrelationship—the direct conscious description of experience and the underlying dynamics or structures that account for the experience—provides a central meaning and unity that enables one to understand the substance and essence of that experience. Interrelationship of science, art, and history is at the heart of hermeneutic design and methodology (Moustakas, 1994, p. 9). By interpreting it phenomenologically, we are expanding what we already do in everyday experience by making it explicit (Keen, 1937, p. 27).

Transcendental Phenomenology is a scientific study of the appearance of things, of phenomena, just as we see them and as they appear to us in consciousness. Any phenomena represent a suitable starting point for the phenomenological reflection. The very appearance of something makes it a phenomenon (Moustakas, 1994, p. 49). “In phenomenological methodology, the research question is concerned with the experience of the participants, and phenomenology is concerned with the meaning of the lived experiences for several individuals about a concept or the phenomenon” and “exploring the structures of consciousness in human experiences” (Creswell, 1998, p. 51).

The challenge is to explicate the phenomenon in terms of its constituents and possible meanings, thus discerning the features of consciousness and arriving at an understanding of the essence of the experience (Moustakas, 1994, p. 49). Phenomenology also concerns the inward consciousness of the participants. Since interaction is an issue full of personal feelings, it is important to investigate the underlying consciousness beneath their experience. Therefore, we can grasp a whole picture of the phenomenology (Liu  www.westga.edu)
The first challenge of the researcher in preparing to conduct a phenomenological investigation is to arrive at a topic and question that have both social meaning and personal significance. The question must be stated in clear and concrete terms. The key words of the question should be defined, discussed, and clarified so that the intent and purpose of the investigation are evident. The position of each key word or focus of the question determines what is primary in pursuing the topic and what data will be collected (Moustakas, 1994, p. 104).

The Research Question

In phenomenological research, the question grows out of an intense interest in a particular problem or topic. The researcher’s excitement and curiosity inspire the search. Personal history brings the core of the problem into focus. A human science research question has definite characteristics:

1. It seeks to reveal more fully the essence and meanings of human experience;
2. It seeks to uncover the qualitative rather than the quantitative factors in behavior and experience;
3. It engages the total self of the research participant and sustains personal and passionate involvement;
4. It does not seek to predict or to determine causal relationships;
5. It is illuminated through careful, comprehensive descriptions—vivid and accurate renderings of the experience, rather than measurements, ratings, or scores.
Ethical Considerations

Given the strong relationships between methodology, ethics, and research artifacts, the APA code encourages researchers to invest their ingenuity in discovering ways of conducting studies that avoid ethical violations—circumstantial support for the view that a written or verbal assurance of confidentiality comes from a number of other areas, though the pattern of results is not unequivocal. Ethical practice requires researchers to respect an individual’s freedom to decline to participate. However, a number of research strategies have been described to deal with the potential costs of subject selection bias. The psychology of recruiting participants for a research protocol is not dissimilar from other social marketing situations. There is a gray line between applying pressure to participate and being a competent recruiter and researcher. The gray area creates the opportunity for many ethical dilemmas (Blanck, et. al., 1992, p. 959-963). According to Moustakas, human science researchers are guided by ethical principles when conducting research with human participants. The studies referred to in his book, Phenomenological research methods, maintained the necessary ethical standards, established clear agreements with the research participants, recognized the necessity of confidentiality and informed consent, and developed procedures for insuring full disclose of the nature, purpose, and requirements of the research project (1994, p. 109-110).
**Sampling**

According to Creswell (1998), the appropriate number of participants is ten or less and the in-depth interview can go as long as two hours for each session. A semi-structured interview allows more variation than traditional structured interviewing and reflects the importance of co-construction between the research and the participants. (Liu, [www.westga.edu](http://www.westga.edu), 10/14/2012). According to Hycner, the phenomenon dictates the method (not vice-versa), including the type of participants. Groenwald (2004) discusses the various sampling methods; in a study, he chose purposive sampling as the most important kind of non-probability sampling to identify the primary participants. Snowball sampling is a method of expanding the sample by asking one informant or participant to recommend others for interviewing (Babbie, 1995, Crabtree and Miller, 1992, Bailey, 1996, Holloway, 1997, and Greig and Taylor 1999).

The participants of this study were recruited by the researcher. The researcher was involved in the recruitment and ultimately the placement of the three participants in the apprenticeship training program at a large, private, advanced manufacturing facility. They all volunteered to be a part of the study and signed an informed consent before being interviewed.

**Informed Consent**

An informed consent agreement from participants ensures that participants are willingly participating in the research and are aware of the purpose of the research, the procedures of the research, the risk and benefits of the research, the voluntary nature of the
research, the subject’s (informant’s) right to stop the research at any time, and the procedures used to protect confidentiality (Arksey and Knight, 1999, Bless and Higson-Smith, 2000, Kvale, 1996, Street, 1998).

Data Collection

In a typical phenomenological investigation, the long interview is the method through which data is collected on the topic and the question. The phenomenological interview involves an informal, interactive process and utilizes open-ended comments and questions. Although the primary researcher may develop a series of questions aimed at evoking a comprehensive account of the person’s experience of the phenomenon in advance, these are varied, altered, or not used at all when the co-researcher shares the full story of his or her experience of the bracketed question (Moustakas, 1994, p. 114). The tape-recorded interviews are open-ended, non-directive, and aimed at attaining the fullest verbal description possible for the subject (Keen, 1937, p. 47).

The phenomenological interview often begins with a social conversation or a brief meditative activity with the purpose of creating a relaxed and trusting atmosphere. Following this opening, the investigator suggests that the co-researcher take a few minutes to focus on the experience—paying close attention to moments of particular awareness and impact—and then to describe the experience fully (Moustakas, 1994, p. 114).

The relationship between the write-up and intensive interviewing correlates to the relationship between field notes and participant observation—it is the crucial data log out of which the analysis will emerge (Loland and Loland, 1995, p. 3-4). Groenwald identifies four
types of field notes: observational notes, theoretical notes, methodological notes, and analytical memos (2004, p. 16). The first step in taking field notes is to orient your consciousness to the task of remembering data that can be sorted into these and, as the research develops, other categories. As a general rule, write promptly. Full field notes should be written no later than the morning after an observation day. Field notes are a running description of events, people, and things heard and overheard—conversations among people and conversations with people. The period of concerted activity is greatly facilitated if, during the fieldwork itself, you are also logging conceptual material—creating a foundation of possible lines of analysis and interpretation. In addition to providing a record of the setting and of analytic ideas, field notes are used for recording your impressions and feelings. The opportunity to dictate one’s field notes into a machine is not limited to those who are affluent. Inexpensive and compact tape recorders make this a possibility for almost all researchers, and there are certainly a number of advantages to the practice. One can, for example, “talk into the tape” instead of making written notes, and, since most of us can speak faster than we can write, the accumulation of the day’s oral jottings will often be detailed enough to constitute full field notes (Loland and Loland, 1995, p. 3-6).

The sample size for this phenomenological study is three participants that were individually interviewed in three semi-structured interviews of about 30 minutes each. These interviews were conducted over approximately a six week period with about a two week lapse between each interview. The interviews were conducted at the participating apprentices’ employer location. The data was collected in recorded interviews and the data is stored in a password protected file on the researchers’ personal computer.
Organizing the Data

According to Hycner (1985, p. 280), the following guidelines have risen out of a number of years of teaching phenomenological research classes to graduate psychology students and remain true to the phenomenon of interview data, while also providing concrete guidelines. According to Moustakas (1994, p. 118-119), an obvious but important step in phenomenologically analyzing interview data is to have the interview tapes transcribed. Creswell says that the researcher should begin with a full description of his or her own experiences (1998, p. 147). Organization of the data begins when the primary researcher studies the transcribed interviews before him or her through the methods and procedures of the phenomenal analysis. The procedures include horizontalizing the data and assuming every horizon or statement relevant to the topic and question has equal value. Palmieri (1990) refers to this as recognition that every statement has equal value. From the horizontalized statement, the meaning or meaning units are listed. These are clustered into common categories or themes, and overlapping or repetitive statements are removed. The clustered themes and meanings are used to develop the textural descriptions of the experience. From the textural descriptions, structural descriptions, and an integration of textures and structures, the meanings and essences of the phenomenon are constructed.

Keen (1975, p. 38) states that “the phenomenological reduction is a conscious, effortful, opening of ourselves to the phenomenon as a phenomenon...We want not to see this event as an example of this or that theory. We want to see it as a phenomenon in its own right, with its own meaning and structure.” According to Creswell (1998), “these statements are then grouped into “meaning units.” The researcher lists these units, and he or she writes a
description of the textures (textural description) of the experience—what happened, including verbatim statements (p.150).” Anybody can hear words that were spoken; to listen for meaning as they eventually emerge from the event as a whole is to have adopted an attitude of openness to the phenomenon in its inherent meaningfulness. To hear the meaning beyond the words is to have ‘bracketed’ our response to separate parts of the conversation and to have allowed the event to emerge as a meaningful whole—suspending (bracketing) the researcher’s meanings and interpretations as much as possible and entering into the world of the unique interviewee. It means using the matrices of that person’s worldview in order to understand the meaning of what that person is saying, rather than what the researcher expects that person to says Keen (1975, p. 38).

The next step to listen to the interview to grasp a sense of the whole. This will involve listening to the entire tape several times as well as reading the transcription a number of times (Hycner, 1985, p. 281). Creswell refers to this as interpreting and developing an overall description of the experience, the “essence” (1998, p. 148). This will provide a context for the emergence of specific units of meaning and themes later on. When doing this, the researcher wants to listen to the non-verbal and para-linguistic levels of communication, the intonations, especially—the emphases, the pauses, etc. (Hycner, 1985, p. 281).

Transcribing the Interviews

The researcher is then ready to begin the rigorous process of going over every word, phrase, sentence, paragraph, and noted significant non-verbal communication in the transcript in order to elicit the participant’s meanings (Hycner, 1985, p, 282). Creswell (1998,
p. 149) refers to this as present narration of the “essence” of the experience. Hycner says this is to be done with as much openness as possible; at this point, the researcher does not yet address the research question to the data. This is a process of getting to the essence of the meaning expressed in a word, phrase, sentence, paragraph, or significant non-verbal communication (1985, p. 282).

Once the units of general meaning have been noted, the researcher is ready to address the research question. The researcher addresses the research question to the units of general meaning to determine whether or not what the participant said responds to and illuminates the research question. A good reliability check is to train other researchers to carry out these procedures independently in order to verify the present findings. The researcher is ready to look over the list of units of relevant meaning and eliminate those that are not clearly redundant to others previously held. Once the researcher has the list of non-redundant units of relevant meaning, he or she renews the effort to bracket his/her presuppositions and tries once again to stay as true to the phenomenon as possible. The researcher then tries to determine if any of the units of relevant meaning naturally cluster together (Hycner, 1985, p. 284-287).

The researcher interrogates all the clusters of meaning to determine if there are one or more central themes that express the essence of these clusters. When all of the steps are complete, it is helpful to go back to the interview transcription and write up a summary of the interview while incorporating themes that have been elicited from the data. An excellent experiential “validity check” is to return to the research participant with the written summary and themes and engage in a dialogue with this person concerning what the researcher has
elucidated so far. The researcher can then begin to look for themes that are common to most or all of the interviews, as well as the individual variations. This procedure requires the phenomenological viewpoint of eliciting essences and the acknowledgement of existential individual differences (Hycner, 1985, p. 290-293).

**Summarizing the Data**

Following the organization, presentation, and analysis of data derived from a phenomenological investigation, the researcher summarizes the study in its entirety and considers possible implications (Moustakas, 1994, p. 155). It is helpful and instructive to write up a composite summary of all the interviews that would accurately capture the essence of the phenomenon being investigated. Such a composite summary describes the “world” in general as experienced by the participants. At the end of the summary, the researcher might want to note significant individual differences (Hycner, 1985, p. 294). The researcher then returns to the literature review and distinguishes her or his findings from prior research, outlines a future research project that would provide advanced knowledge on the topic, and discusses the outcomes of the investigation in terms of social meanings, social implications, and personal and professional values (Moustakas, 1994, p. 155).

**Conclusion**

Research into the meaning and structure of human experience is a valid and valuable effort. The philosophy of phenomenological research makes the study of human experience possible. Methodological techniques used to reveal the meaning of human experience are,
necessary, descriptive and take into consideration the inevitable bias of any researcher (Knaack, 1984, p.114).
CHAPTER IV: PRESENTATION OF THE DATA

This chapter presents the findings of the data collected in this qualitative, phenomenology research study. The research questions for this study are:

1. What does it mean to the participant to be an apprentice?
2. What was the experience of three teenagers who entered a formal apprenticeship program?

The participants are identified as apprentice 1, apprentice 2 and apprentice 3 in order to maintain confidentiality in regards to their identities. The chapter begins with a discussion of Epoche, which means setting aside prejudgments and opening the research interview with an unbiased, receptive approach (Moustakas, 1994, p. 180), then horizontalizing in which every statement has equal value, followed by individual textural descriptions which are descriptive integrations of the individual participants, using verbatim responses. The chapter concludes with composite textural descriptions, which is an integration of the individual textural descriptions into a group description of the phenomenon being studied.

Epoche

The Epoche is the first step in coming to know things, in being inclined toward seeing things as they appear, in returning to things themselves, free of prejudgments and preconceptions (Moustakas, 1994, p. 90). Husserl uses eidetic Phenomenological Reduction: he calls it Bracketing away/suspending, disconnecting. It seeks to momentarily reduce, effectively erase the world of speculation by returning the subject to their primordial
experience of the matter, whether the object of inquiry is a feeling, an idea, or a perception.

Bracketing (epoche) is the act of suspending judgment about the natural world. They systematic removal, one by one, of the inessential aspects, the symbolic meanings, context, to get to the core: leaving only the essence of what constitutes the thing (Husserl, 1913, p. 163).

**Horizontalization**

Phenomenological Reduction is the process of horizontalization. Horizons are unlimited. When we horizontalize, each phenomenon has equal value as we seek to disclose its nature and essence (Moustakas, 1994, p. 95). The phenomenological reduction of bracketing is essential: the phenomenological reduction helps us to free ourselves from prejudices and secure the purity of our detachment as observers, so that we can encounter “things as they are in themselves” independently of any presuppositions (Husserl, 1913, p. 163). I used the process of horizontalization with written verbatim transcripts from the recorded interviews from each participant. Through this process I uncovered 39 relevant, and non-repeating statements that uncovered 7 overarching themes. The themes that are most prominent are; (1) future intentions before apprenticeship, (2) current plans after apprenticeship, (3) view of work experience, (4) pay, (5) community college experience, (6) view of apprenticeship, and (7) contextual learning. These horizons are further explored in the individual textural descriptions.
Individual Descriptions

Individual Textural Descriptions

The individual textural descriptions are an integration, descriptively, of the invariant textural constituents and themes of each research participant (Moustakas, 1994, p. 180).

Individual Structural Descriptions

The individual structural description provides a vivid account of the underlying dynamics of the experience, the themes and qualities that account for “how” feelings and thoughts connected with insomnia are aroused, what conditions evoke insomnia (Moustakas, 1994, p. 135). This section uses the horizons and themes from each participants transcribed interview to create the individual structural description of the phenomenon. The Chapter also includes the structural description of the participants.

Apprentice 1 (Laura)

Laura is a participant in her fourth year of an apprenticeship training program. She began her apprenticeship as a 17 year old, high school junior. She is confident and personable. She went through a rigorous screening process to get into the apprenticeship program that involved submitting her high school transcripts, taking multiple tests, and a participating in a panel interview process by several of the sponsor companies’ leadership. She has completed the degree requirements for an Associate Degree in Mechatronics Engineering at the local, large, urban community college. She will additionally complete her apprenticeship training at the advanced manufacturing, Fortune 100 company in August.
She currently earns $22.36 per hour, an annual salary of $46,508.80 without overtime and has benefits that include medical, dental and life insurance, a 401(k) with a company match, and paid time off. She just returned from an overseas vacation to Europe that she paid for herself. She initially planned to attend a four year university upon high school completion but during her junior year she discovered the apprenticeship program and decided that she wanted to participate. This decision was against the wishes of her parents. Her parents were very “blue collar” and had aspirations of her being the first college graduate in her family.

**Individual Textural Description**

She described the experience of serving as an apprentice as rewarding for her in a number of ways. The experience drastically conflicted with her original plans for her future of going straight to college. Before learning of the apprenticeship experience, the four year college was the only option she had considered. When asked about her career plans prior to her apprenticeship experience Laura described her goals as follows:

**During 7th and 8th grade I knew I wanted to do something creative, I definitely wanted to go to a four year college. So I was going more of the psychology or international studies route was what I was planning on doing. I just always enjoyed human interaction and trying to figure out what someone else was thinking or maybe how I could persuade someone a bit more was what interested me. I was very good at math and science but I just, it was more for I was good at it not that I enjoyed doing it. I enjoyed human interaction a bit more than the other things. During my sophomore year of high school I actually did get a study abroad chance so after that my entire plan was to do international relations. I was going to go to a four year university. I had one picked out and I was going to do a major in international relations and hopefully go on to get on to graduate school in ambassadorship was my entire goal in life. I wanted to attend the Richmond International Institute in London. I just loved the school and it was a very accredited school for International studies and then for the**
possibility of going into the ambassador program, so I felt it was just what I wanted to do and I wanted to go live somewhere else for my studies.

When asked how she was going to pay for the four year college Laura was never informed of the financial implications of her plans to attend an international college in London. When I probed about the financial impacts of attending such an elite school she said:

That definitely crossed my mind a lot because it’s definitely not a cheap school. I definitely had very big taste when it came to colleges so, because I was trying so hard to get into that particular school I was doing enough things so that I could get scholarships to that school. I was doing certain things and applying to certain things that would give me a study abroad opportunity here or give me a volunteer opportunity here so that I would look good enough to be able to get the scholarships to pay for it. My parents were never going to be able to pay for it. We had financial struggles, we had medical bills, my parents were not going to be a factor when it came to paying for my college so, I had to bank everything off of scholarships and loans……. which would have been a lot.

Laura was surprised to learn of the apprenticeship opportunity. Her parents told her that she could not be an apprentice because they wanted her to be the first college graduate in their family. She asked me to intervene on her behalf so I met with her parents to explain that she would still be going to college, only taking a different no-traditional route. When asked about her initial thoughts when she discovered the apprenticeship opportunity and the response of her family and friends she stated:

My parents said no. They had not gone to college and they definitely wanted me to go to a four year university. I had to get someone from the sponsoring company to talk to them and help me to convince them to let me participate in the program. My friends were definitely shocked. Because when they thought of me they did not necessarily think about me going to a community college or
doing something mechanical. That was not something that people associated with me. So my friends were definitely surprised and thought I was a little crazy, but once I started telling them the perks of the apprenticeship they were kind of jealous that I had gotten it or was thinking about getting it. Their complete attitude towards that apprenticeship opportunity changed over time. They were definitely skeptical of it as were a lot of people but as it went on they saw that maybe they should have done it too.

When asked to describe a typical day, whether at work or at the community college she says:

A typical day in your work life: well, currently, seeing as I am a fourth year apprentice here my day is normally an 8 to 4 job like most first shifts are and I will come in and go to my mentor and me and him will go work on a machine. Some days, he mostly lets me do something while he does something else. Others we are working together completely. Some days they ask me to do other task in the department. They definitely like using the apprentices for versatility, for things that need to get done so it’s never the same thing every day. But I work with my mentor most of the time and then one day out of the week I go to college for the full day. And I only have one more semester left of that. It’s a Very long day, we normally, they try a normal college work load for us like 2 to 3 classes for us and they try to fit it into one day so that we can have more time with on the job experience as opposed to having multiple days at school so we will start at like 8 AM and we will still be at school until 8 or 10 at night with the 2 to 3 classes. Classes are generally mathematical or science based with the occasional electrical class. But we will stay in class about 5 or 6 hours and then have a lunch break then go back to class for another couple of hours.

Laura describes the experience as one that completely changed her perception of the community college. Instead of it being a second choice, it was not seen as a credible and affordable way to get a college education. When asked about how the apprenticeship opportunity had changed the way that she thought about work and community college she answers:
It definitely changed my viewpoint of the community college. I was one of those kids who looked down on community college I thought that it was someplace that people go if they did not know what to do with their life or if they just weren’t good enough to get into a university. But after being at my community college for so long I just see it as just a financial opportunity I mean if I had thought about this before I thought about going to a four year, I would have thought about going to a community college and then transferring to a four year. It’s such a money saver its and there are very good classes that are taught very well and honestly if it’s accepted by university’s then it’s obviously good enough. A lot of my friends are now going to community college. A lot of people have realized that community college is a chance. That it’s not something that should be looked down on and that thankfully the apprenticeship is helping people to change their attitudes about it. I definitely have more of an appreciation for the blue collar field and the manual labor side of it. Like my father was always a manual skills job being a mechanic and what not so I never thought of it as something that would be associated with college, that there was something for everybody and yet, now that I am doing it is definitely, I have realized, it is a lot a lot harder than you think it is and it’s better to have on the job experience with school because it makes school a lot more interesting and you pay attention a lot more because you know you are going to use that in your daily life.

She describes her image of her future career as slightly different than when she entered the program. When asked specifically about her image of what she wanted to be when she grew up she responded:

It has definitely changed, I would not say that it has completely changed, I still love the international relations side but I have made a point of doing certain things, to where I can still have both in my life

When asked about the idea of a stigma associated with community college versus going to a four year university she said:

Well I believe that the community college stigma comes from the fact that it’s not a bad choice when you graduate from a community college that technical degrees, which there’s nothing wrong with a technical degree, I mean, I’ve learned that, that people need more technical degrees in life, but when they think
of a technical degree they think of someone that just learned to work on a car for a year and then went off to a job, or learned to run a lathe and just went off to a job, but that’s not what it is. Community Colleges are revamping technical degrees and allowing people to cheaply pay for the first two years of college and the problem is that there’s not enough publicity and there not enough stories that highlight the fact that community colleges aren’t just an easy route and aren’t just a little thing for someone to go on and work for minimum wage for the rest of their life. People just don’t have the opportunity to see that.

She describes the financial rewards of the apprenticeship she responded:

I have definitely gotten better at time management that’s for sure. There’s no more, or no such thing as procrastinating any more, there’s no such thing as I’ll get to it later or I’m just gonna go hang out with friends and not worry about anything. I have to keep a schedule because I know I have to be at work at this time I gotta only have these 2 days and a certain amount of hours to get something done because I am at work or school; it helped me gain a sense of responsibility that most kids my age don’t get a chance to get, most kids my age are off at college and there only responsibility is 3 classes at like noon on this day so I appreciate the chance of getting so much responsibility because it’s also helped me out with my family life. They like to brag, they try and tell all of their friends about how good of an opportunity it was that they don’t have to worry about college loans, that they don’t have to worry about making sure I have a beat up car that’s going to run. They don’t have to worry about these things and I think that’s the best gift I could have given to my parents at this time.

I have met so many people here who only have Associates degrees or don’t even have a degree and they make and provide for their families without having to live paycheck to paycheck. They get to go on extravagant vacations because they can afford it and I’ve been trying to, ever since I found all of this out to be able to promote the fact that you don’t need a four year college to survive that you don’t need it to succeed that you can take advantage of the opportunities that are offered, such as an apprenticeship you can’t just expect to skip college and be fine that you’ve gotta have the on the job experience if you don’t want to do a four year college. And it’s almost that on the job experience that is better than any degree sometimes.

When asked about her experience with contextual learning she says:
It’s definitely allowed me to pay more attention in classes, I mean at such a young age, definitely most people my age do not pay their full attention in class, they zone out, they sleep, they don’t show up, I mean at our age it’s just what we do, we pass, we skate by.

Laura plans to continue her education and get a four year degree while working at her sponsor company.

Well my apprenticeship opportunity is in machining so I will definitely stay a machinist until I finish all of my college. Next semester is my last semester for this particular degree so I will start on a new degree after that and I’ve already signed up for classes and I will get an Associates in Arts, transfer over to a four year college and get a Bachelors in Communication and International Studies or International Business, somewhere so I am hoping to go into the training department and in hind sight what I would like to be doing in fifteen or twenty years is running the apprenticeship program myself. Or heading up a training department that helps out younger kids like this apprenticeship program has helped me. And, it’s easier to train someone with the technical skills if you have the technical skills.

**Individual Structural Description**

The structures that pervade the phenomenon of her apprenticeship experience are her initial perception of a community college not being as good as that at a four year university.

There is definitely a stigma. I mean in America alone people believe that if you don’t go to a four year college then you are wasting your life almost, that you have settled for second best. That you need a four year college or even more, like graduate school, to succeed in life, to make good money and that’s not the case.

Laura is financially secure as a result of the apprenticeship. She lives independently in an apartment and has purchased a new car. She pays all of her own bills.
It’s definitely helped out a lot. I’m not sitting around working at a minimum wage job where I am hoping to have enough money to have gas and hang out with friends. I have enough money to pay bills, I have enough money to buy a car, to be able to make car payments, to move out on my own. I’ve had a chance to do all of that because of having a good job at such an early age. Plus it takes a lot of weight off of my parents, they don’t have to worry about my college fund, they don’t have to worry about making sure that I have an allowance, that I have all these things because I can do it on my own. So I enjoy the fact that my parents don’t have to worry about me.

Laura was not initially supported by her parents when she told them that she wanted to enter the apprenticeship program. They were adamant that she not participate in the program, but go on to a four year university out of high school. She asked a representative from the sponsor company to talk her parents into giving the apprenticeship a try.

Especially with the apprenticeship my family was not happy about it. They were those people who had a stigma. They believed that not going to a four year college was doomed, that I was never going to do anything with my life. My dad, being a blue collar worker was OK with it to a point because he was proud that his daughter was doing something that he had done. So it took a while to get them to warm up to it but now they are proud of me and happy to be able to say that this is what my daughter is doing, look what your child is doing, it’s not as good.

Laura likes to learn in context and describes the value of learning something at school and using it the next day at work, and describes how rewarding it is to have tangible proof of something that she has done.

I have found that I love to be able to make something while I am here and I love being able to go home and to be like, I accomplished this, this and this and I can see the tangible proof that I have done something. But I know I don’t want to be on a shop floor for the rest of my life so I’ve made it to where everything that I am doing now is a stepping stone to move along to other things and I know that future employers will definitely look at me in another light because I have had on the job experience.
Laura has enjoyed her apprenticeship experience. She now has a two year college degree, is financially independent and she has no student loan debt. She plans to continue on to a four year degree while still working for the sponsor company and use the company’s tuition reimbursement process. She would like to work in the technical training field to help other apprentices. Her perception of community college has completely changed and she enjoyed her educational experience at the community college and now tells her friend that they should attend the community college.

**Apprentice 2 (Edward)**

Edward is a participant in his fourth year of an apprenticeship training program. He began his apprenticeship as a 16 year old, high school junior. He is polite and soft spoken and he speaks English as a second language. He went through a rigorous screening process to get into the apprenticeship program. He has completed his degree requirements for an Associate Degree in Mechatronics Engineering at the local, large, urban community college and will complete his apprenticeship training at the advanced manufacturing, Fortune 100 company in August 2015. He currently earns $22.36 per hour, an annual salary of $46,508.80 without overtime, and has benefits that include medical, dental and life insurance, a 401(k) with a company match, and paid time off. He initially planned to attend a four year university upon high school completion but when he discovered the apprenticeship program decided that he wanted to participate, with the full support of his parents.
Edward had changing views about his career and did not have just one specific goal in high school.

I wanted to be a lawyer. I was a lot into law at the time and I wanted to be a lawyer and then to be a judge for some reason. I don’t know why. Things happened that changed my mind like some courses that I took in high school, like I wanted to be an engineer. Then I moved to wanting to be an architect. And then there were courses that I actually liked, like working with numbers, the school I went to was very heavy on math and technology so I enjoyed that aspect of it and the more knowledge I grew with that topic the more I liked I as I got older. I was still wanting to be an architect at that point. I was actually looking into architectural school my junior year. And I wanted to go for any kind of scholarships I could find for architecture because that was one of my passions at that time. I was looking into scholarships and loans and things that could help me. It was depending on what scholarships I could get but it was also a risk because you never know if you would get those scholarships and are you going to get the help and if you are going to be able to get a job afterwards when you were done with the schooling, so that was something I was looking into but once I found out about this program I did not think about that any more.

Edward describes his first reaction when he learned of the apprenticeship opportunity through a presentation at his high school and the reactions of his family and friends.

I actually thought that it was a good opportunity. Once I saw the requirements and saw that I met those requirements then I wanted to go for it. And I saw that engineering was very involved in the school that I went to and it was something I had planned to do, that was actually my plan “B”, to be a stepping stone I weighted the benefits and the cons and there were not many cons so I tried it. Once I explained to them what the apprenticeship was all about and the benefits that came with it they were all for it. They supported me and they told me to go for it. They knew it was a good opportunity for me so they advised me to put as much effort that I could to get into the program, and I did. I told very few people. I told them what the benefits were, what the pay was going to be and
whatever else came with it. They were asking me how to get in it also. They were excited for me. And they asked me like “hey once you go through it can you let me know how I can do it next year?” They tried to get into the program because they knew it was a one of a kind experience that had not been introduced to them.

Edward is mechanically inclined and has worked for his father in an automotive repair shop. When asked about a typical day, either at work or at the community college he replies:

It differs from day to day because nothing that we do here is consistent or the same so it changes every day and I never know what I am going to get into because I have something different every day that I come in here and that’s what drives me to come in every morning. Today, normally I work with a mentor, but I move from machine to machine and learn about different types of programs, and types of machines, so my supervisor moved me to the old machine that I was running because they are confident that I can run it myself. So, they had to move one of the employees to another area that they needed help in so he put me in his position and had me run the machine today.

A typical day at the school, we have very long days at school, starting at 8 AM and going to maybe 10 or 11 PM at night. They are very long days and it is hard, but we are four years into the program and its something that does not trouble us too much anymore. School is very difficult, especially dealing with work and every other thing we have to do in life so it is difficult.

The apprenticeship experience has not drastically changed the way that he thinks about work. He has worked for his father in a technical automotive shop for many years, and is used to hands-on type of work, and getting up early to work hard.

Personally for me it hasn’t too much. Because growing up I was always working with my father and going to school at the same time so it did get, it did change my life a little bit but not too much, actually I take my job more seriously than when I was working with my father because I could sleep in one day and say I didn’t want to go it helped me realize that, I mean..........Its great because you
have a steady paying job and you learn how to manage time, because when I was younger I could do whatever I want. It gives you something to do. When I go on breaks I don’t know what to do with myself because I am so used to working all the time. So it definitely has impacted my life and starting at a young age has helped me further because it prepared me for when I do get older and I get into my thirties and working and I am already in that environment. It’s not like somebody fresh out of high school getting their first full time job. Not knowing what that’s like. It hasn’t too much. I still have a lot of personal time with my family. They understand that I am working and have to do what I have to do for my future and my family, they are all workers also, so they know what’s it like so it kind of gives you a bittersweet feeling because when you are away you are a little bit bitter but when you get together you appreciate those moments when you are together.

The mentor relationship is very important to Edward and he describes the relationship with his mentor and the importance of the mentor and how he helped him.

My mentor now is the reason that I can be able to do what I can do now in the workforce. He did not hold anything back and he taught me everything that he knew. Or nearly everything that he knew and all of those people along the way that teach you, you learn more as a person also. They are there to help and they teach you everything they know. Connecting with that person and knowing that you are going to work for them for a while, its, you develop a bond with them.

Edward plans to continue his education and get a four year degree while remaining at the sponsor company. He describes his community college education as a stepping stone in his career.

My plan is to continue getting my four year degree, also having my Associate degree as my stepping stone for my four year and going into engineering at some time in my life. Having that experience as a machinist I feel like would help me a lot and knowing what the workforce is like and being a machinist and an engineer.
Individual Structural Description

The structures that pervade the phenomenon of his apprenticeship experience are his perceptions of the community college.

Edward

To Edward, attending the community college was never even a thought. He knew very little about the community college and did not consider it as an option for him.

Regarding community colleges? I never thought about community college, actually, I never thought I would be in a community college. Growing up I always thought I would go to the standard four year university and get a degree and I have learned that community colleges are not bad like ……………they are actually very valuable for those technical jobs and moving into the college you have less debt or none at all so they are very beneficial and it hasn’t been a bad experience at all and it’s a very positive way for me. This is something very different for me.

The experience also changed the way that Edward thinks about work. He views work and community college very differently now than he did before the apprenticeship experience. He also values his newly earned degree and is motivated to continue his education.

I never thought it would be this way. I was always told that you can’t do this and you can’t do that at work but as an apprentice you learn that that’s not really how it is, that the workforce is not completely serious. It’s very different. Especially working here and I learned that you go in and do what you have to do and enjoy your work. At that point I have been told that it’s not work so it changed my views because I always thought that I would be grumpy coming into work every morning and that because of it I would get tired of it at some
point but that’s not the case. Getting an Associate degree is also a stepping stone for those that do want to go to a four year degree. And get their bachelors and their masters. It is very helpful because it introduces you to what you need to know and for you to do better…being in a community college now helps you realize that. And these are well paying middle class jobs that we work at and you have the opportunity to move up so I know people now that only have associates degrees and they are in higher positions now because they realize that it’s not the only route to take. I am not sure to be honest because people think that a four year degree is what people need to be successful. They don’t really think about a two year Associate degree that might actually be more beneficial to them than an actual four year degree. So I think its just the way our society has thought about community colleges and downgrading that from four year universities.

Summary

Edward has found the apprenticeship experience to be very rewarding. He is financially independent and has bought a car. He recent became engaged to his girlfriend and feels confident in his future because of his financial security. He plans to continue his education and get a four year engineering degree while still working for his sponsor company and using the tuition reimbursement process.

Apprentice 3 (Sara)

Sara is a participant in her fourth year of an apprenticeship training program. She is shy and petite and she speaks English as a second language. She began her apprenticeship as a 17 year old, high school junior. She went through a rigorous screening process before going into the apprenticeship program. She has completed her degree requirements for an Associate Degree in Mechatronics Engineering at the local, large, urban community college and will
complete her apprenticeship training at the advanced manufacturing, Fortune 100 company in August 2015. She currently earns $22.36 per hour, an annual salary of $46,508.80 without overtime and has benefits that include medical, dental and life insurance, a 401(k) with a company match, and paid time off. She initially planned to attend a four year university upon high school completion but when she discovered the apprenticeship program decided that she wanted to participate, with the full support of her parents. Her father is a machinist and was very supportive of her decision to enter the apprenticeship program.

**Individual Textural Description**

The apprenticeship experience changed the way that Sara thought about her future. She had only previously focused on a four year degree as her only career option. When asked what her plans were before she learned of the apprenticeship opportunity she states:

*Back in middle school I don’t think I had an idea of what I wanted to be. There were many things going through my mind I think there was a point when I wanted to be a nurse actually, or some kind of teacher but honestly I did not really have an idea of when I was in middle school of what I wanted to be. Well in high school it was different, especially during junior year that was when I actually really started seeing what my interest was. And I had a really good interest in international relations because I really enjoyed social study classes, learning about other countries, other places in the world, so I felt like international relations would be a good route for me and I was planning on going to probably UNCC, and seeing if I could get an international degrees from there or also there was a possibility of Queens University and then I was actually thinking maybe about the possibility of going out of state, possibly a college in New York, and going for an internationals degree and with that possibly get some kind of job in a traveling agency, or you know, maybe, I don’t know somewhere for, like government offices or something like that, I don’t know, that was usually my route that I was going to go for after high school.*
When asked about her reaction when she learned about the apprenticeship opportunity at her local high school and the reaction of her friends and family she says:

**When I first heard about it I wasn’t completely sure what we were going to do in the apprenticeship. I understood that they were going to give us a job and we were going to work and they were going to pay us for work and give us a free college education, so I understood that part, but I wasn’t really sure exactly of what we were going to do, exactly. But once they came to our school and gave a presentation on what the apprenticeship was about, then it became more clear what we were going to do.**

Sara describes the typical day for her when she goes to school and work and the way that the experience has changed the way that she thinks about work.

**Currently, right now I am in my Dept. and I come in at 8:00, that’s when first shift begins, I come in and currently I am working on the grinders so usually when we come in if there is already a compressor disc inside the machine we just wait until it finishes up and then we take the disc out and then we prepare the machine for the next disc to come in and then once we have another disc in we set it up and we load the program, once we have all the offsets and everything touched off perfectly then we just run the program and let it go and the same repetition pretty much for all the parts like that. As of right now I am taking, well I was taking two classes, the semester ended yesterday. Going in the morning and go to the first class, usually the classes can go from three hours to five hours sometimes, and usually go in one of our classes had a lecture part so we would go in for lecture and then we would do hands on work and lab work pretty much and then we would end that class and then we would take a break, go to lunch or something and then go on to our next class and it was pretty much the same thing, lecture time. And then the rest of the class time averaged two hours, three hours of hands on stuff. So, it was kind of a lengthy day, but it was overall really good.**
The experience has changed the way that she thinks about community college and the opportunities that exist that she never knew anything about. She had never considered attending a community college and did not think about an alternative to a four year degree program. She describes her experience and the way it changed her perception of community college.

So I feel it is a shorter time, not as long as a four year college and its not as big as a four year college but I really do feel like ..........they make it very direct and very precise in what you need in the field. I honestly wouldn’t know where that idea about community college would come from. I don’t think there is a negative image about not going to a four year college. Because like the apprenticeship has shown us that there are other opportunities out there other than going to a four year college. Just because you don’t go to a regular four year college, doesn’t mean that there aren’t other opportunities out there for you, you could be going out there and doing what we are doing right now, working, and going to school, or possibly the work you are going at offering you some kind of education so no I really believe there are other opportunities out there instead of just going to a four year college. Yes, it has definitely changed. Back in high school I pictured myself going to a four year college with an Internationals degree and working at some traveling agency or some government office possibly and now I see myself completely differently, working at a manufacturing company that makes big parts and getting a free college education as well as learning a field and you know, possibly in the future getting a mechanical engineering degree, and becoming an engineer, so it is a complete 180 turn from where I thought I was going to be in high school.

Sara’s perception of work has changed. She describes how the apprenticeship has impacted her perception of work at a young age.

It has shown me that you could, it’s given me a really good view about what the workforce is because back in high school they told us about how in the real world workforce you gotta do this and that, blah, blah, but it’s completely different from actually being in it (the real world) being in it, so I feel like the apprenticeship gives you that experience, it gives you that look really early at
what the real world is and you don’t have to wait until four years after college go to college to see what it is all about, it gives you an early look of what the workforce is actually.

\textit{Individual Structural Description}

The structures that pervade the phenomenon of her apprenticeship experience are her perceptions of the community college When asked if the apprenticeship opportunity has changed the way that she thinks about work and college Sara says:

The apprenticeship has changed my view about college, because it has shown me that not a four year college way is the only way really to get a degree and to get a job. It’s an opportunity where you could go to college and learn, but at the same time work and gain some experience in the field and the degree that you are going for, so it has shown me that there are other opportunities out there basically other than four years. Yes, I was probably one of those people that thought that maybe community college was maybe like the easy way out, or something, maybe not as good as a four year college, but now going to a community college, I don’t really think that, I feel like sometimes community colleges have a more kind of like direct more precise way of seeing what field you are in. For example in the mechatronics degree that we are in right now they really know what classes you need they really put into the classes like what you would do in the real world and in real world jobs in that specific class or what do you call it?

Sara had the support of her parents, because her father was a blue collar worker and understood the benefits of learning a technical trade. He encouraged her to enter the apprenticeship and encouraged her the entire time.

My parents response was pretty positive, my dad, he works in a machining company so he understood a little bit more about this field and everything so he was all on board for it about having a job and going to college, having no debt, and working in a field where he knew that there was a future in that field so he was pretty positive about it and that he wanted me to do it and also my mom, she felt like it was really a good opportunity.
Sara describes the reaction of her friends when she decided to enter the apprenticeship and how it changed their thinking about the opportunity over time.

At first, my friends didn’t, like me, they didn’t really understand what it was all about because they never really heard about it, but once I started telling them what it was all about, what it involved and what the benefits were they were like, oh man I wish I could have an opportunity like that, so they were kind of a little jealous about it and they thought it was a really good opportunity as well.

Sara describes the responsibility associated with her apprenticeship and the impact it has made on her. She describes the responsibilities of work, college and managing finances.

It’s changed for the better. It’s given me a whole lot more responsibility. At a very early age it’s given me discipline. It’s really different being nineteen years old and having this money in your hands... it gives you a big responsibility of how this is in your hands so you can do something with this and its prepared you for life at an early age and the effects of it have been very good on me. It’s affected it in a good way.

Sara talks about the financial impact that the apprenticeship experience has had on her financial security and her independence, and the fact that her parents do not have to support her financially.

Now having a full time job at an early age my parents don’t have to pay for anything for me. I pay for everything by myself. So that takes off a financial burden for them. It’s also shown that I can be responsible and that I am an adult now and you know its shown that I am growing up now and that I can be independent now so it’s been a pretty good thing.
Summary

Sara is financially secure and proud of the fact that she does not rely on her parents for money. She describes herself as a responsible adult. She is proud of her accomplishment of completing her degree at the community college and her pending completion of the apprenticeship program. She plans to continue her education while still employed by the sponsor company and use the tuition reimbursement process to pay for her four year degree.

Composite Description

The unchanging meanings and essence of each of the three participants have been evaluated to create a both a composite textural description and a composite structural description for this group.

Composite Textural Descriptions

The composite textural description is an integration of all of the individual textural descriptions into a group or universal textural description (Moustakas, 1994, p. 180). The three participants had similar backgrounds and the feelings and attitudes of all three of them were similar. The composite textural descriptions reveal the following themes:

(1) Initially, participants did not think community colleges were the best way to get a college degree because they were for people who could not get into a four year college, (2) they learned of an opportunity they never knew existed (3) the rewards of financial security at such a young age, (4) the value of learning in context (5) the impact of the experience on their futures. These five themes are used to create the
following composite textural descriptions that depicts the experiences of three young people who enter a youth apprenticeship in high school.

**Composite Structural Descriptions**

The composite structural description is an integration of all the individual structural descriptions into a group or universal structural description of the experience (Moustakas, 1994, p. 181).

The apprenticeship opportunity changed their lives because they were all free from college debt and employed with a Fortune 100 employer that sponsored them through their apprenticeships. The opportunity changed their paradigm of community college as a “not as good” alternative to a four year university. They had all learned to be responsible because of the commitment required during their schooling and working. They were all financially secure, paying for their own personal expenses. All 3 apprentices spoke of the value of learning in context and how that impacted their apprenticeship in a favorable way. They were all 3 optimistic about their futures.

**Research Questions**

1. What does it mean to the participant to be an apprentice?

   A. The consensus derived from the study of all 3 apprentices is that the experience changed their perception of the community college. They had never had any experiences with the community college and had never been informed of the opportunities within community colleges. It also changed their perception of work.
They were not aware of the technical work opportunities that existed. They found that work is not always as people described it to them when they were in high school. All 3 apprentices describe the impact of contextual learning and being allowed to use what they learned in school and immediately apply it in the workplace. They all spoke of the impact of being financially secure and independent at a young age and their excitement about having no college debt. They all 3 intend to finish a four year degree in a related field while staying employed with the sponsor company.

2. What was the experience of three teenagers who entered a formal apprenticeship program?

A. The experience was a positive, impactful and favorable experience for all 3 apprentices. The experience impacted their futures greatly. They all discussed the importance and value of the mentor relationship during their experience. All of the participants plan to complete a four year degree.

Chapter Summary

This chapter encompasses the voice of three teenagers that entered a youth apprenticeship programs and the phenomenological process of their experience. The voices of these apprentices were heard over a six week period of three semi-structured, recorded interviews. The five themes of (1) perception of the community college, (2) the value of learning of an opportunity they never knew existed (3) the rewards of financial security at such a young age, (4) the value of learning in context (5) the impact of the experience on
their futures. This chapter concludes with the answers to the researcher two research questions. Chapter 5, the final chapter contains an overview of the study, and the implications and outcomes of the study.
CHAPTER V: CONCLUSIONS, IMPLICATIONS AND RESEARCHER INTERPRETATION

Introduction

Chapter V is the final chapter in this study and provides an overview of the phenomenon studied by the researcher. Following the overview is a review of the major themes identified in the study and best practices for future studies on apprenticeship. Future research in apprenticeship be in the final section along with limitations, delimitations and implications for future research. The chapter concludes with a personal statement from the researcher.

Overview of the Study

According to the literature, American high school students do not graduate from high school prepared to enter the workforce. Instead, they graduate with the misconception that going to a four year university is their only route to success. The result is a national technical skills gap, mounting student debt and advanced manufacturers cannot find the right people with the necessary skills to perform the work.

This study is a qualitative research study using phenomenology to capture the experiences of three student apprentices that are in the final year of their apprenticeship training program while simultaneously attending the community college and completion of a two year technical degree. The purpose of this phenomenology study is to capture the meaning of this unique experience and whether or not the experience impacted their lives. The analysis of the qualitative data revealed the following as the essence of their experience
as youth apprentices: the students never fully understood the possible educational and career opportunities available to them while they were in high school. They thought that the only alternative available to them was to go away to a four year university and use scholarships and financial aid to pay for it.

**Conclusions**

There are several conclusions derived from this study. First, students and their parents are not fully informed of all of the educational and workplace opportunities that exist. They have little or no knowledge of the types of jobs in advanced manufacturing, the salaries associated with these jobs and little to no knowledge of the types of education required to land those jobs. The study also reveals that there is a stigma associated with attending a community college and that community college is perceived as a second choice for the participants of this study. The participants in this study referred to community college as a second class education or a plan “b”. Their parents were not well informed of the educational or workforce opportunities that existed for their children, other than a four year university degree program.

**Researcher Interpretation**

Epoche is the process of setting aside pre-judgements and opening the research interview with an unbiased, receptive presence (Moustakas, 1994, p.80). The researcher took a great deal of effort to interview the participants and interpret the data without any preconceived ideas about what the participants would say. The researcher used exact quotes
from the participants’ transcribed interviews which were transcribed word for word from the participants answered. The researcher did however, have to interpret the data and draw conclusions about the participants’ narratives and classify them into related themes to understand the phenomenon of the experience of being a youth apprentice (Moustakas, 1994).

**Implications**

Labor market outcomes analyses can help students decide where to enroll, what to study, and how to finance their education (The Aspen Institute, 2015, p. 11).

Student loan debt is mounting for students attending four year universities. As of June 2015, there is more than $1.2 trillion in outstanding student loan debt, 40 million borrowers with an average of $29,000 in debt. Mounting student loan debt is ricocheting through the United States, now affecting institutions and economic patterns that have been at the core of America’s very might (http://www.usatoday.com/story/money/markets/2015/06/24/cnbc-student-debt-crisis/29168475/). Furthermore, delinquency rates on student loans are currently 10%. And the government supports 95% of student loans, meaning that the private sector is protected from direct economic fallout in a way that is not true in the subprime crisis (http://www.forbes.com/sites/robertfarrington/2014/04/28/three-smart-ways-to-graduate-college-student-loan-debt-free/). According to ED.Gov, there is over $120 billion of student loans in default and more than one in five loans used to fund a for-profit education, which would be most of those that lead to actual jobs, will never be repaid to Uncle Sam, and the ultimate payer will be the taxpayer, when the student loan bailout time comes.
defaulsts-hit-146-billion-highest-default-r).

In a recent speech, Republican presidential candidate Marcus Rubio stated “We still
tell students to get a degree, they have to spend four years on a campus; tens of thousands of
dollars on tuition, books, room and board; hundreds of hours in a classroom, often learning
subjects that aren’t relevant to the modern economy. The result is that many young people
are graduating with mountains of debt for degrees that will not lead to jobs, and many who
need higher education the most—such as single parents and working adults—are left with few
options that fit their schedules and budgets
(http://www.aol.com/article/2015/07/07/republican-rubio-calls-u-s-higher-education-system-
cartel-ur/21206230/?icid=maingrid7|bon1-c|dl6|sec1_lnk3%26pLid%3D217438503).

Nationally, in 2010, nearly one-in-five households (19%) owed student loans. In 1989
less than one-in-ten households had outstanding educational loans. Because outstanding debt
has been rising and household incomes have been falling since 2007, outstanding educational
debt has risen as a share of household income for all income groups considered (Fry, R.,
2012, pp.2-7).

Student loans can reduce both the educational and income equality among those in
the same generations and between generations. Only 55% of dependent students who
anticipate completing a BA degree actually do so within six years of graduating from high
school, while more than one-third of them do not complete any postsecondary degree within
six years. Borrowing among students at the median is relatively modest: zero for students
beginning at community colleges, $6,000.00 for students at four year public colleges, and
$11,500.00 for students at private nonprofit colleges. Even at the 90\textsuperscript{th} percentile, student borrowing does not exceed $40,000.00 outside of the for-profit sector (Avery, C. & Turner, S. 2012, pp. 167-186).

Tuition is the most visible college price, and it is the one that is most escapable. College tuitions are conspicuous, and students are unusually conscious of them. Annual increases generally are well publicized and often are debated publicly (Leslie, L.L. & Brinkman, P.T. 1987, p. 196).

There is wide level concern about the level of debt incurred by those acquiring a post-secondary education. Among the concerns is that debt burdens distort graduates’ post-schooling decisions. There is evidence that debt leads graduates to choose higher salary jobs and appears to reduce the probability that students choose low paid “public interest” jobs. Additionally, young workers’ current annual incomes are typically much lower than their permanent incomes and many may prefer to borrow to finance current consumption (Rothstein, J. & Rouse, C.E., 2008, pp. 150-162).

The natural advice for a high school graduate contemplating the economic consequences of investing in college is to estimate the probabilities of the long term outcomes as precisely as possible. In particular, a student needs to focus on the probability of degree completion, the earnings difference associated with different levels of degree completion, and the choice of a field of study (Avery, C. & Turner, S. 2012, p. 188).

U.S. Secretary of Labor Thomas Perez had his mouth wide open when he learned that a 23-year-old graduated apprentice who had just handed him an air bag cover fresh from a mold press, already owns a home. Perez toured Mooresville-based Ameritech Die and Mold
Inc., one of the five partners of Apprenticeship 2000, on June 30, 2015 to see the Charlotte-area program in action. He talked with business owners, educators, apprentices and parents about the alternative to college education. “Apprenticeship is the other college, except without the debt,” Perez said. (http://www.charlotteobserver.com/news/business/article25928539.html#storylink=cpy).

Students, institutions, and policy makers need significantly better information than is currently available about the economic returns of a college education. The rising costs of college and increasing labor market demands for college educated workers have caused policy makers and institutions to recognize that counting credentials is a measure of what’s really at stake: Making sure students acquire meaningful skills and abilities that will enable them to lead productive and engaged lives. Among students who earn two year degrees (without further higher education), technical degrees typically lead to higher earnings than other associate’s degrees and many vocationally and technically oriented credentials tied to specific high-demand jobs provide stronger earnings than many other two and four year degrees assuming no further higher education. (The Aspen Institute, 2015, p. 9). In a 2014 study titled The Labor Market Return in Earnings to Community Colleges and Credentials in California completed by Peter Riley Bahr, he found that the economic benefits of the community college credentials in CTE fields has been provided in recent research and that of the 44 CTE credentials (of all levels) that were analyzed in the study, over half (52%, or 23 of 44) are associated with significant increases in earnings. In contrast the findings regarding credentials in non-CTE fields are dismal. Of the 21 credentials (of all levels) in non-CTE fields, over half (52%, or 11 of 21) are associated with significant decreases in earnings (p.
Graduates of the best community college programs often earn more, and have a far clearer sense of direction, than some of their counterparts with B.A.’s. Indeed, some graduates of four year degree colleges return to community college for precisely this reason (Symonds, W., Schwartz, R., & Ferguson, R., 2011, p.25).

The observation that college is a good investment for most young people still leaves a number of significant and unanswered questions about how students make decisions about collegiate attainment and student borrowing. Student decisions about whether to enroll in college, where to enroll in college, what to study in college and how to finance college are complex and highly dependent on individual circumstances. While some uncertainty will inevitably remain about the decision of whether and how to invest in higher education, it seems clear that a substantial number of students could benefit from more tailored and individualized advice than they have been receiving (Avery, C. & Turner, S. 2012 p. 189).

Policy Makers

Many of the CTE pathways can be economically beneficial to students, and insofar as that is true, they are also beneficial to the state. For example when students’ earnings increase, tax revenues increase and the demand placed on publicly funded social services shrinks. In other words, improving students’ economic position offers the dual benefit to the state of increasing revenues and reducing financial outlays for support programs. Ensuring an adequate supply of workers serves the state’s overall economic health and progress, and thus policies that reduce the production of these workers by limiting access for students who are not pursuing “completion goals” is not in the best interest of the state (Bahr, 2014, p. 60).
the state level, policymakers should revisit their licensing practices to ensure they aren’t encouraging the creation of potentially unnecessary programs or requiring more hours of instruction than jobs require. At the federal level, the government lacks the capacity to oversee and approve each and every program, but it can create broad policy incentives to shape institutional behavior and plan an important role in transparency (The Aspen Institute, 2015, p. 39).

It is possible that had student financial aid not been available in as generous amounts as it was, enrollment rates of lower income students would have declined or not increased as much as they did. While this is an appealing excuse when expectations fail to materialize, there may be some validity to this point. Many members of Congress and of the higher-education community have often asserted that federal student financial aid programs do increase access. To the extent, however, that the data do not support the claims made for four year degree programs, they may be more vulnerable than many people have thought (Hansen, 1983, p. 95).

An important policy question concerns the relative student sensitivity to tuition on the one hand versus price minus student aid on the other. In an analysis done by Leslie and Brinkman (1987) student aid may be viewed as a reduction in net price that is conceptually the same as a tuition reduction. Yet, students do not appear from most studies, to act as though this were true (p. 196).

Policymakers need to provide students and colleges with more data. Given the heterogeneity in pathways and length of time needed for college to pay off, both students and colleges require a substantial amount of information to make optimal decisions.
Policymakers should therefore provide resources for the collection and analysis of data on optimal college choices and provide the information to students in a timely fashion (The Aspen Institute, 2015, p. 27). In countries that do the best with young people that are in danger of being left behind either in school completion or apprenticeships, traineeships or jobs, they have a mainstream alternative to university preparation-vocational education- that can be adapted to serve struggling young people, although its main purpose is to launch the majority of young people into careers. The links to the labor market are built into the system, and employers can be incentivized to work with harder to integrate young people, just as young people can be pushed into various ways to enter an education program (Hoffman, 2011, p. 150).

Policymakers need to expand community college success metrics. Limiting success metrics to completion of a college credential misses important ways that community colleges support the workforce. Despite the prevalence of short term job training programs that do not lead to a degree, metrics often focus on graduates. To better understand how colleges help bridge skills gaps, workforce education success metrics should incorporate employment retention, attainment of living wages, earnings gains and securing third party credentials that are valued by employers (The Aspen Institute, 2015, p. 23). Community colleges, which serve many struggling, young adults often reinforce societal disparities. They are grossly under resourced compared to the four year colleges that many affluent students attend (Symonds, Schwartz, & Ferguson, 2011, p.35). Policymakers need to encourage people to think about upgrading their technical skill set. This can be done through credentials with high
market value. A full four year degree or even two year degree program may not always be necessary (The Aspen Institute, 2015, p. 41).

The U.S. postsecondary education system is a kaleidoscope of institutions and interests, and educational policies vary from state to state. Most importantly, there is no unified data system that connects postsecondary fields of study and degrees with actual labor market demands. Such a system would enable students to better understand how their training is likely to fit into the real world job market, and it would also motivate institutions to be more accountable for shaping their programs to fit their students’ needs (The Aspen Institute, 2015, p. 31).

**Institutional Leaders**

Better labor market outcomes data can help institutional leaders improve planning and program design, and can also help them demonstrate the value of their colleges’ and universities’ educational offerings to students, legislators and other stakeholders (The Aspen Institute, p. 14).

Institutional leaders need to examine local career pathways and determine where short-term course taking pathways fit in their curricula, how these course clusters relate to industry needs and which types of students benefit most from particular pathways. This information can be used to drive goal setting, program evaluation, and student advising. They need to ensure that programs are aligned with labor market and further education requirements in high return fields (The Aspen Institute, 2015, p. 23).
Institutional leaders should prioritize counseling students about which programs to enroll in based on the likely labor market outcomes of the programs. Projections data and real time labor market information can provide institutional leaders with a sense of which career fields are projected to grow over the next decade and have substantial numbers of job openings. Institutional leaders can use these data to counsel students about relative labor market value of different programs of study as well as inform decisions about which programs of study to offer or expand (The Aspen Institute, 2015, p. 30).

**Contextual Learning**

Much of school based teaching and learning goes on in traditional ways, although where workplace learning is fully problem based, there are reflections back in the school curriculum. That is the workplace, not the school, is the center of the student’s world of learning, and the school reflects workplace needs (Hoffman, 2011, p. 14).

Bahr (2014) reasoned that community college coursework, particularly coursework in career and technical education, teaches skills that are valuable in the labor market, but that many community college credentials have low signaling value to employers. In short, workers are able to translate the competencies that they master in college directly to their work or to securing a certification or license given by a third party, both of which have greater value in the workforce than a community college certificate or degree (p.60).

Learning that occurs within the context of application is considered more likely to result in improved practice. Formal education systems are criticized when they lack
situatedness and fail to engage learners in authentic practices with cultural tools and natural performance conditions (Dennen and Berner, 2007, p. 427).

In formal apprenticeships, there is an emphasis on the social context in which learning takes place. Apprenticeship derives many cognitively important characteristics from being embedded in a subculture in which most, if not all members are participating in the target skills. Learners have the opportunity to observe other learners with varying degrees of skill, among other things, this encourages them to view learning as an incrementally staged process, while providing them with concrete benchmarks for their own progress (Collins, A., Brown, J., & Holum, A., 1991, p. 2).

**Public/Private Partnerships**

In her book, Schooling in the Workplace, author Nancy Hoffman says that there is no more urgent and important economic development strategy than making sure that our K-12 education system, our higher education systems and the private sector, up to now, largely working in silos, work together to redesign education and career opportunities for young people, so they will have the education and skills necessary for economic self-sufficiency. She also says that in order for businesses to take major responsibility with a nation’s education system for training the next generation of workers, they must have substantial formal power to make decisions in partnership with public entities (p. 67). Business leaders certainly understand the need to improve our education system and in recent years have been at the forefront in championing such reforms as choice and accountability. They need to be deeply engaged in multiple ways at an earlier stage in helping to set standards and design
programs of study; in advising young people; and most importantly, in providing greatly expanded opportunities for work linked learning (Symonds, Schwartz, & Ferguson, 2011, pp. 29-30).

Research shows that school to work transition programs such as apprenticeships and other on the job learning experiences is more cost effective than the usual U.S. route. Over the long run, it is less expensive for a company to partner with the public education system and business organizations to shape young people for full time, regular employment while still in secondary school, than to undertake the U.S. alternative; hire on the basis of level of schooling completed, major field of study, and personal characteristics, and then provide the job specific training needed (Hoffman, 2011, p. 46). Work linked learning should be made widely available beginning at the secondary level, and adapted to accommodate the abilities of each age. Thus, younger students could begin with workplace tours, attending job fairs, and participating in projects designed to expose them to the kind of challenges workers face in fields like engineering. Older students enrolled in a career focused program of study could work with career mentors and take part in internships (Symonds, Schwartz, & Ferguson, 2011, p. 31).

Students

Employment in the teen and young adult years can have a very positive impact on future prospects for employment and earnings. Teens who have good high school work experiences are more likely to be inspired to stay in school, graduate, and adopt ambitious goals. Conversely, low-income teenaged males who cannot find work may be more likely to
get into trouble with the law, while their female counterparts may be more likely to become single mothers (Symonds, Schwartz, & Ferguson, 2011, p. 5).

Students are often confused by the large number of choices available to them and unclear about the optimal path to program completion and employment and further education goals. As a result many students do not take optimal paths through college, taking courses that do not count toward their intended degree, or for community college students taking courses that will not transfer for junior standing in their desired major (The Aspen Institute, 2015, pp. 27-28). Students should “know before you owe”, and not borrow excessively, where excessive depends on the wages they are likely to command given their program of study and students need to always master a set of skills that can help them in the job market (The Aspen Institute, 2015, p. 41).

Apprenticeships give students as young as sixteen a sense of purpose and well-being, as well as wages that lend them an age appropriate independence as they become adults. Even those that may be mediocre students, with some firm training completed may have aspirations for not just a career but for higher education (Hoffman, 2011, p. 48). Apprenticeships and sustained internships are especially effective in meeting the developmental needs of young people. They provide a structure to support the transition from adolescence to adulthood lacking for the majority of young people in the U.S. Apprenticeships provide increasingly demanding responsibilities and challenges in an intergenerational work setting that lends a structure to each day. Adult relationships are built on support, accountability and supervision (Symonds, Schwartz, & Ferguson, 2011, p. 20).
The Role of Parents

Strong evidence indicates that college planning starts for many families well before the high school years and that parents exert a heavy influence on those plans (Flint, 1992, p. 689). Parents have their children’s best interest in mind when they promote 4 year college attendance because they see it as the only way to win (Gray, 2006, p. 160). When it comes to college—yes or no—many parents, perhaps most, simply ignore reality when the signs are clear that college for their kid, for now at least, is not a great plan. Parents will second mortgage their home to send their kid to college even when it is clear the teens themselves do not really want to go and the previous twelve years of school have well demonstrated that academics is not something they are at all interested in (Gray, 2009, pp. 30-31). Going to college has been seen in the past by young people, their parents and substantial portions of society as a way to enhance one’s earning power, to widen ones intellectual and social horizons, and to contribute to the larger social welfare (Hansen, L. 1983, p. 85).

Many middle class parents struggle to support their college aged children, and the students are forced to juggle college with work and take out huge student loans. Meanwhile, young adults from low income families receive little or no financial or critical social network resources that would help them make a successful transition (Symonds, Schwartz, & Ferguson, 2011, p. 35).

Career Technical Education (CTE)

For all of its potential, CTE is often demeaned and disparaged, especially among the nation’s elites. It isn’t uncommon to hear prominent educational leaders, including
superintendents of districts serving large low income minority populations to dismiss CTE. To be sure, there are far too many obsolete CTE programs that are not well-aligned with either workforce needs or post-secondary standards. These prejudices are deeply rooted, and stem from vocational education’s history. However, CTE can be highly effective in promoting student engagement and in educating students who for whatever reason are not motivated by a purely academic program (Symonds, Schwartz, & Ferguson, 2011, pp. 28-29).

Future Research

There is very little research on the role of the parent in college and future educational choice. I was not able to find any significant studies about the parental paradigm in regards to their children attending a four year university versus attending the community college. Another potential study is a return on investment study for private industry for investing in apprenticeships and work based learning opportunities for youth and veterans. Case studies on young adults that have completed youth apprenticeships and their success factors would be valuable research to the field of apprenticeship.

Personal Statement and Closing Remarks

This phenomenological study of youth high school apprentices attempted to uncover some myths about both the workplace and a community college education at a large urban community college in North Carolina. I am optimistic that the study is complete with regard to every detail and reflects the actual participants’ experience. Starting this youth
apprenticeship program was a “grand experiment” for me and I was optimistic about the outcome. It has been one of the most professionally rewarding experiences of my career and I am now in a professional position to implement these programs all over the state of North Carolina. That provides me with a great sense of satisfaction to know that I can help impact the lives of so many ill-informed youth.
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http://www.ed.gov/offices/OVAE/CTE/legis.html


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APPENDIX A: Interview Questions

1. Participant Number

2. Date and Time of Interview

3. Start time

4. End time

5. Gender

6. When you were in middle school, what did you plan to be when you grew up?

7. When you were in high school, before you learned about the apprenticeship opportunity, what were your plans for the future?

8. What were your first thoughts or responses when you heard about the apprenticeship opportunity?

9. How did your parents respond when you told them you were interested in the apprenticeship opportunity?

10. What were your friends’ responses when you told them you were interested in the apprenticeship opportunity?

11. Talk about a typical day in your work life.

12. Talk about a typical day at school at the community college.

13. How has this apprenticeship opportunity changed the way that you think about college?

14. How has this apprenticeship opportunity changed the way you think about work?

15. Has the image of what you wanted to be when you grew up changed as a result of this experience?

16. In your opinion, is there a stigma associated with not going to a traditional four-year university?

17. How has having a full-time job changed your life?

18. How has having a full-time job affected your family?
## APPENDIX B: Schedule

<table>
<thead>
<tr>
<th>Start</th>
<th>Deadline</th>
<th>Preliminary</th>
<th>Completion</th>
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<tbody>
<tr>
<td>05/15/2013</td>
<td>08/09/2013</td>
<td>Decide on topic</td>
<td>08/09/2013</td>
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<tr>
<td>08/10/2013</td>
<td>09/15/2013</td>
<td>Begin preliminary research</td>
<td>09/15/2013</td>
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<tr>
<td>08/10/2013</td>
<td>09/15/2013</td>
<td>Identify and state problem</td>
<td>09/15/2013</td>
</tr>
<tr>
<td>09/16/2014</td>
<td>10/15/2014</td>
<td>Finalize thesis statement</td>
<td>10/15/2013</td>
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<tr>
<td>10/16/2014</td>
<td>10/30/2014</td>
<td>Decide/Develop research design</td>
<td>10/30/2014</td>
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### The Proposal

#### Chapter 1 Background

<table>
<thead>
<tr>
<th>Start</th>
<th>Deadline</th>
<th>Task</th>
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<tbody>
<tr>
<td>11/01/2013</td>
<td>11/13/2013</td>
<td>Write background information</td>
<td>11/13/2013</td>
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<tr>
<td>11/15/2013</td>
<td>12/30/2013</td>
<td>Design and justify research method</td>
<td>12/30/2013</td>
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<tr>
<td>01/01/2014</td>
<td>01/15/2014</td>
<td>Research problems</td>
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<td>01/16/2014</td>
<td>02/15/2014</td>
<td>Chapter 2 Review of the literature</td>
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<td>02/16/2014</td>
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<td>Write literature review</td>
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<td>03/01/2014</td>
<td>05/15/2014</td>
<td>Write conclusion for literature review</td>
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<td>05/16/2014</td>
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<td>Write introduction to the literature review</td>
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#### Chapter 3

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<td>06/15/2014</td>
<td>Introduce proposed research design</td>
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<tr>
<td>06/16/2014</td>
<td>07/15/2014</td>
<td>Design and justify research method</td>
<td>07/15/2014</td>
</tr>
<tr>
<td>08/01/2014</td>
<td>08/15/2015</td>
<td>Discuss ethical constraints</td>
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<td>10/1/2014</td>
<td>Finalize proposal</td>
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<td>10/05/2015</td>
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<td>Hand in proposal</td>
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### The Dissertation

#### IRB approval

<table>
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<tr>
<th>Start</th>
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<td>IRB approval</td>
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<tr>
<td>01/16/2015</td>
<td>02/28/2015</td>
<td>Complete data collection</td>
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<td>03/15/2015</td>
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<td>04/15/2015</td>
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<td>07/28/2015</td>
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### Submission

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<td>07/01/2015</td>
<td>Hand in final draft</td>
<td>08/07/2015</td>
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<tr>
<td>07/01/2015</td>
<td>08/10/2015</td>
<td>Schedule oral defense</td>
<td>08/21/2015</td>
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## APPENDIX C: Cost Worksheet

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<tr>
<th>Item</th>
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<tr>
<td>Books</td>
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<tr>
<td>Paper</td>
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<tr>
<td>Digital Recorder</td>
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<tr>
<td>Travel</td>
<td>$615</td>
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<tr>
<td>Editor</td>
<td>$300</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>$1,360</strong></td>
</tr>
</tbody>
</table>
APPENDIX D: Final IRB Approval Letter

From: Jennifer Ofstein, IRB Coordinator
North Carolina State University
Institutional Review Board

Date: December 10, 2014

Title: American Apprenticeship as a Transformative Learning Experience: A Phenomenology

IRB#: 5450

Dear Pamela Bolton Howze,

The research proposal named above has received administrative review and has been approved as exempt from the policy as outlined in the Code of Federal Regulations (Exemption: 46.101 b.2). Provided that the only participation of the subjects is as described in the proposal narrative, this project is exempt from further review. This approval does not expire, but any changes must be approved by the IRB prior to implementation.

NOTE:

1. This committee complies with requirements found in Title 45 part 46 of The Code of Federal Regulations. For NCSU projects, the Assurance Number is: FWA0003429.

2. Any changes to the research must be submitted and approved by the IRB prior to implementation.

3. If any unanticipated problems occur, they must be reported to the IRB office within 5 business days.

Please forward a copy of this letter to your faculty sponsor, if applicable.
Thank you.

Sincerely,

Jennifer Ofstein
NC State IRB