LIVED EXPERIENCES OF LATINO STUDENTS IN CTE HIGH SCHOOL PROGRAMS:
NEGOTIATING/DEVELOPING
IDENTITY, RELATIONSHIPS, AND FUTURE GOALS

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Abstract

With projections over the next decade suggesting that two thirds of future jobs will require some college or advanced technical training, the United States’ ability to educate its students will determine its success in global economic competition. Latinos are increasingly an integral part of the labor market, as it has become the largest minority group in the country. The United States is contending with how to best educate and train the Latino workforce as research literature illustrates a trend of declining high school degree completion. Consequently, Latinos enter the workforce unprepared to attain higher paying jobs. Traditional vocational education has evolved over the past 20 years through education-reform initiatives. The approach of providing students with workforce entry-level skills has been supplanted by the wider perspective of career technical education (CTE), which incorporates increased academic preparation to enable a wider range of career choices. Through a Interpretive Phenomenological Analysis approach focusing on the lived experiences of Latinos involved in CTE, the data from the research question “What are the lived experiences of Latino students in CTE programs in Massachusetts, and how do these students make sense of their experiences in the context of their future aspirations” proposes new solutions to address Latino career readiness. By understanding students’ experiences through use of a social constructivist framework that listens to students’ own voices, stakeholders can provide targeted student support. Major findings from the study revealed the CTE learning environment requires reconsideration and CTE classrooms need to be more flexible to Social Constructivist principles.

Key Words: Career Technical Education, Latino students, social constructivism
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Chapter One: Introduction

“Now, to grow our middle class, our citizens have to have access to the education and training that today’s jobs require. Our economy is stronger when we harness the talents and ingenuity of striving, hopeful immigrants.”

—Barack Obama, *State of the Union Address*, February 2013

Because of growing rates of birth and immigration to the United States, the Latino population has increased more than 350% over the last 30 years, making Latinos the largest minority group in the U.S. and in many individual states, including Massachusetts (U.S. Census Bureau, 2012). Overall, educational and workplace achievement for Latinos has not accompanied population gains, in that this group remains the most undereducated and poorest compared to other minority groups (Maldonado & Farmer, 2014). In Massachusetts, the Latino high school dropout rate has remained consistently higher than the national average (Massachusetts Department of Elementary and Secondary Education, 2012). Many students who do not complete school resign themselves to low wage jobs with minimal education requirements; this includes the service industry, which employs a disproportionately large share of Latinos (Singley, 2011).

With one out of every four U.S. students being Latino by 2020, the potential economic and social costs of not examining Latino educational trends is troublesome. It is well documented that, statistically, high school dropouts are more likely to be incarcerated, be dependent on government assistance, and to live at or below the poverty line (Sum, Khatiwada, & McLaughlin, 2009). Over the last 30 years, there have been many mandated changes for
public schools that did not adequately address issues of vocational education and have included Common Core State Standards Initiative, 2010; Gardner, 1983; Jennings, 1992; No Child Left Behind Act, 2002; Race to the Top, 2010; School-to-Work Opportunities Act, 1994.

Increased global competition is changing workplace requirements, and multidimensional employees are increasingly being sought. Traditional vocational education primarily provided students with entry-level skills for a manufacturing-based economy (Levesque, Lauen, Teitelbaum, Alt, & Librer, 2000). Vocational education’s evolution into career technical education (CTE) was essentially in response to the rapidly changing economy and demand for students to be better-rounded through enhanced technical and academic integration. In response to the latest mandate in 2006, Massachusetts developed and implemented curriculum frameworks specific to the 77 schools that offer Chapter 74-approved CTE programs. As part of the curriculum frameworks mandate, the Certificate of Occupational Proficiency (COPS) was also introduced. The COPS is the CTE equivalent to an academic diploma, and students must demonstrate competency in their technical area of study to earn the certificate. Additionally, upon graduation CTE students must meet academic standards to earn a diploma similar to that from comprehensive high schools (Zinth, 2013).

The literature that explores the educational and vocational transitions of Latino students is limited (Ladany, Melinoff, Constantine, & Love, 1997). For educational stakeholders who want to effectively move towards preparing Latinos with 21st century employability skills, there remains a lack of knowledge on the lived experience of Latino students in CTE.

Historical evidence suggests that the U.S. economy is requiring better educated and prepared workforce entrants. Many of these individuals are emerging from the surging Latino population. However, Latinos in the U.S. continue to experience difficulty attending and
graduating from high school (National Research Council, 2006). If the U.S. economy continues to be increasingly reliant on the Latino workforce, and if Latinos are not being adequately prepared for future work demands, then more must be known about CTE, which continues to be a popular high school choice for Latinos. Therefore, the purpose of this study was to investigate the experiences of Massachusetts-based Latinos as they engage in CTE.

Several studies were conducted prior to the Education Reform Act of 1993 in Massachusetts, including studies that were sponsored by the Massachusetts Department of Education and designed to serve as recommendations for reforms. Jennings’ (1992) and Arbona’s (1990) studies identified specific areas of concern and needs for future research. Based on these studies and others, Massachusetts’ ability (as a part of American society) to compete in a global marketplace may be negatively impacted if students’ needs within CTE remain unmet.

There are several limitations to the current body of literature that this study sought to clarify. Although an abundance of literature speaks to the issues surrounding the Latino education crisis (Leal & Meier, 2010), no studies specifically focus on the lived experiences of Latino CTE students in Massachusetts. In addition, a 2012 publication from the U.S. Department of Education (USDOE) Office of Vocational and Adult Education posited a blueprint to strengthen CTE and thereby better prepare students for 21st century workforce requirements. The publication outlined four major points that would transform vocational education into CTE; however, it did not offer new ideas specifically targeting the Latino population. This study sought to add to the literature by further exploring the lived experiences of Latino students in CTE programs in Massachusetts’ schools and, in so doing, expand upon the information contained within the USDOE (2012) publication.
Educational stakeholders, who want to effectively move toward a more thorough understanding of Latino students in the CTE arena, ranging from building principals and curriculum developers to instructors and students, can directly benefit from this study, which will open new pathways toward modifying and improving existing programs.

By gathering more information on experiences of Latinos in CTE in Massachusetts, new solutions have been explored, from the district level to the classroom to the trade arena. By understanding students’ experiences and applying this information to CTE, stakeholders can begin providing focused support for Latino students through constructivist theories. Parnell (1996) stated that academic education has traditionally focused on the concept of, “Learning to know is most important; application can come later”; of CTE he proclaimed, “Learning to do is most important; knowledge will somehow seep into the process” (p. 19). It is paramount that CTE provide an authentic learning environment so that students will have a deeper understanding of the skills being taught prior to even learning the task (Doolittle, 1999).

With the expanding Latino community tied to the success of local and national economies, there is a moral obligation to provide all citizens with 21st century employability skills. Significant studies such as Arbona’s (1990) suggest that additional research must be done on maximizing a symbiotic relationship between the growing Latino segment of the labor market and skilled, high-wage, in-demand careers. On a local and state platform, Latino student enrollment continues to increase at several Massachusetts CTE schools, such as Greater Lawrence (77%) and Lynn Tech (61%). This study examined Latino students’ lived experiences in CTE institutions in Massachusetts, with the hope of providing information that improves the quality of educational environments for Latinos. Options for prepared students include entry into the information-technology and life sciences sectors, which account for a large segment of
Massachusetts’ world-class innovation economy (Massachusetts Alliance for Economic Development, 2014). In addition, prepared students could attend many of the higher education institutions in the region.

On a national level, nine states currently have a Latino population over one million, and approximately half of New Mexico’s residents are Latino (Pew, 2014). From a global perspective, Carnevale (2005) noted that, if the United States intends to be competitive in the global marketplace, it is vital for the nation to produce many skilled workers and to do so by drawing on contributions from the Latino/a population.

**Research Question**

What are the lived experiences of Latino students in Career Technical Education programs in Massachusetts, and how do these students make sense of their experiences in the context of their future aspirations?

**Theoretical Framework: Social Constructivist Theory**

Constructivism is a theory of learning that suggests that all learners actively participate in the understanding of their own knowledge and of the meaning of their experiences. Constructivism was formed and influenced by numerous developmental and cognitive psychologists, including John Dewey, Maria Montessori, and David Kolb. There are several types of constructivism; however, three main genres, or dimensions, have emerged, each delineated according to its emphasis: cognitive, radical, and social constructivism and are all, to an extent, epistemically related (Phillips, 1995). Ernest (1995) stated, “There are as many varieties of constructivism as there are researchers” (p. 459). Von Glasersfeld (1996) brought forth epistemological tenets of constructivism that provide boundaries for general elements of the
knowledge construction process as described within constructivism. Although the theoretical underpinnings of constructivism are relatively consistent between the types, they differ in the extent to which they align with and emphasize certain tenets.

Social constructivist theory is an outgrowth of constructivism and has largely been attributed to the work of Lev Vygotsky. Social constructivist theory can be viewed as incorporating many tenets and shifting focus from the individual, subjective process of knowledge construction to its social, intersubjective nature (Mehan, 1981). Social constructivists posit specifically that the context by which people perceive and describe the world, including language, is a social artifact (Schwandt, 1994). Consideration of a group and language are paramount to the study of Latinos.

When outlined in greater detail, the tenets of constructivism provided a useful framework to understand the educational experience for Latino students in CTE through an examination of the lived experiences of Latinos in CTE programs in Massachusetts (Von Glasersfeld, 1996). Social constructivist theory was used as a framework to understand the participants’ perception of their CTE experiences. The utilization of social constructivist theory is important because it takes into account the social artifacts in the experiences of Latino students. The historical roots of the concept of social constructivism can be traced back to Dewey’s (1966) *Democracy and Education*, in which he claimed that the activities within the educational setting should emulate real life events, activities and skills. Therefore, the classroom environment should involve authentic learning in which the lessons translate into students’ lives outside of the classroom; students should also be able to make a connection between their lived experiences and the classroom content (Dewey, 1966).
Yet, because this was not necessarily the case within the educational environment, Dewey advocated for learning that promoted creativity and collaboration, which would ultimately prove beneficial throughout life, as opposed to the conventional and too frequently used methods of repetition and memorization (Dewey, 1938). Instead, according to Dewey (1938), “Experience does not occur in a vacuum. There are sources outside an individual which give rise to experience” (p. 39). It is this type of experience from which one learns, thus lending relevance to the notion that schools should attempt to create and provide experiences from which learning can emerge.

However, building upon the aforementioned concepts proposed by Dewey, the genuine concept of social constructivism is generally attributed to Vygotsky. According to Vygotsky (1997), the individual and the social environment are interrelated, with each reciprocally influencing the other. As such, maturation and child development are significantly impacted by the context of the events and by social interactions (Vygotsky, 1929, 1997). Looked at from this point of view, knowledge is not a product of the individual but is instead a social construct that emerges from the interaction of the individual with his or her social environment (Vygotsky, 1978, 1997). Because learning is a function of the social interactions and the context of these social relations, developmental functions occur first at the social level and then are later present in the individual (Vygotsky, 1978). As described in *Mind in Society* (Vygotsky, 1978), these functions that occur during development occur “first between people (interpsychological) and then inside the child (intrapsychological). This applies equally to voluntary attention, to logical memory, and to the formation of concepts… (thus) functions originate as actual relationships between individuals” (p. 57). Social constructivism is a theory of knowledge and learning that purports that individuals within groups, and the groups themselves, create an inventory of
artifacts through collaboration, in which shared meanings emerge and knowledge is constructed (Vygotsky, 1978). It is then evident that an individual, who is immersed within a culture, is continuously learning within this context on many levels, thereby shaping the development of that individual (Vygotsky, 1978). Thus, in its simplest sense, social constructivism is a theory that states that learning is achieved through collaboration, and it is the social interaction that fosters this collaboration from which knowledge is gained (Dewey, 1966; Vygotsky, 1978).

**Tenet One: Knowledge is Not Passively Accumulated**

The philosophy of constructivism explicates that learning occurs when students reflect on their experiences and construct an understanding of the world as they see it. When knowledge is actively constructed by the learner, and not passively received from the environment, the student is actively processing the new knowledge. Active learning is required for knowledge to be owned by the learner. Learning occurs from others through face-to-face interaction as well as through artifacts such as language and traditions (Wells, 1999). Language and tradition represent significant elements of Latino culture. Knowledge is “constructed when individuals engage socially in talk and activity about shared problems or tasks” (Merriam & Cafferella, 1999, p. 262). Further meaning can be made through conversation between those with shared experiences (Merriam & Cafferella, 1999; Vygotsky, 1978).

Shambaugh and Magliaro (1997) suggested that learning involves the use of three crucial factors: activity, concept, and culture. These elements are promoted by authentic tasks within meaningful contexts, such as during workplace learning and on-the-job training. Individuals possess different areas of knowledge and expertise, which can be used to help others in their development (Cole, 1992). By working with other members, the group members can go beyond their abilities to conduct a learning task, which would be difficult to accomplish alone (Wells,
According to Cey (2001), authentic learning occurs when instruction is designed to facilitate, simulate, and recreate real-life complexities and occurrences. Career Technical Education institutions in Massachusetts are supportive forums in this regard, with approximately 50% of a student’s instructional time spent in the shop area, which simulates a workplace environment (Frasor, 2008). Learners generate their own ideas and knowledge by doing, through exertion, and by building upon previous knowledge (Gray, 1997; Murphy, 1997; O’Donnell, 1997). Learners being active by participating, constructing, and cooperating is an integral part of the process.

A glimpse into knowledge not being passively accumulated can be seen in the work of Freire (1972), who once taught 300 sugarcane workers to read and write in 45 days. Freire’s emphasis on dialogue was paramount and entailed working with each other, not one person acting on another. He also insisted on educational activity in the experiences lived by the participants, as he discussed the dangers of passive student learners at length in *The Pedagogy of the Oppressed* through his criticism of the banking style concept of education. He posited, “Education is suffering from a narration sickness” (p. 57) to illustrate the teacher–student dynamic as being one dimensional and ultimately oppressive. Freire suggested that the teacher makes knowledge deposits into students, who are essentially receptacles, in an attempt to fill them up. Students memorize the teacher’s account, which is foreign to them and is detached from meaning making. Therefore, the students do not have an active role in filing or storing information, which is counterproductive to the learning process. Knowledge is the result only through “invention and re-invention, through the restless, impatient continuing, hopeful inquiry human beings pursue in the world, with the world, and with each other” (Freire, 1972, p. 58).
Tenet Two: Cognition is an Adaptive Process

Cognition is an adaptive process that functions to make an individual's behavior more viable given a particular environment. Through the social constructivist viewpoint, the terms “viable” or “not viable” are used in lieu of “incorrect” or “correct”. The knowledge construction process differs from factual knowledge to perceived knowledge. According to Hung (2001), constructivist learning occurs as a social or collaborative process framed in terms of cultural perceptions. Brown, Collins, and Duguid (1989) specifically address the role that CTE educators must take within a constructivist approach to understanding the learning process and maximizing knowledge construction, stating, "Cognitive apprenticeship methods try to enculturate [learners] into authentic practices through activity and social interaction in a way similar to that evident…in craft apprenticeship" (p. 37).

The transition of vocational education to CTE in 2006 has created the mandate that students must develop the knowledge and skills required for success not just in one aspect of industry but also in college and civic life. Employability is explained as the ability to work collaboratively in diverse teams, communicate effectively, demonstrate critical thinking and problem solving, find resources and analyze information, ask challenging questions, and adapt to change (United States Department of Education Office of Vocational and Adult Education, 2012). Learning occurs in socially and culturally constructed environments that are continually changing.

From a social constructivist perspective, learners can utilize cognitive tools. Such tools provide scaffolding, which builds from previous lessons relative to the learner’s ability level (Mercer & Fisher, 1992; Murphy, 1997). Scaffolding transitions student learning to one of
assistance from others to relative independent learning as the learner engages in cognitive processes.

**Tenet Three: The Role of Cognition in Experience**

Learners participate in the knowledge-construction process while attempting to understand the environment through personal filters: experiences, goals, curiosities, and beliefs (Cole, 1992). The role of cognition is that of an organizer and performs the sorting-out process of a learner’s experience. Doolittle and Camp (1999) stated “experience provides the activity upon which the mind operates” (p. 32). Vygotsky’s zone of proximal development theory has provided a basis for cognitive tools in constructivism, such as scaffolding of instruction applicable to the specific learner. Vygotsky believed that cognitive structures “originate in social activity and, as they develop, are inextricably linked with language, which is itself a social construct” (as cited in Hodson & Hodson, 1998, p. 36).

On June 11, 2014, President Obama was the keynote speaker at the Worcester Technical High School Commencement Ceremony in Worcester, MA. He attended the graduation to recognize the incredible transformation of student performance at the vocational school. According to the President, the number of students scoring “proficient” or “advanced” on standardized tests in math had risen 100%; in English the number had risen more than 200%. Ninety-five percent of Worcester Technical High School students—of which 38% are Latino—now graduate in 4 years (Obama, 2014). The president further remarked: “…and that's why I’ve challenged high schools all across the country to do what you’re doing here—better prepare students for the demands of the global economy” (paragraph # 25). He then described a new initiative “to combine quality education with real-world skills” (paragraph # 25). Constructivism posits that the learners must participate in their own creation of knowledge. Experience is vital in
the construction of knowledge, and CTE can provide the environment for teaching, learning, and the understanding process put forth by constructivism.

**Definition of Terms**

**Latino**

This term is used to “denote all U.S. persons whose origins can be traced to Spanish-speaking regions of Latin America, including the Caribbean, Mexico, Central America, and South America” (Flores et al., 2002). It does not describe a homogeneous group subscribing to a specific perspective but a group comprised of many races and nationalities, with similar experiences in the United States. The Latino population in the U.S. is diverse, with the three largest subgroups comprised of Mexicans, Puerto Ricans, and Cubans, respectively. Immigrants from Central and South America create the fourth largest group.

**Vocational Education**

Vocational education is training that provided students with practical experience in a particular occupational field. In 2006, the term was renamed “career and technical education.” This modification signaled a departure in approaching vocational education as being a destination for the student population who do not go to college.

**Career Technical Education (CTE)**

Formerly known as vocational education, CTE is an educational strategy to deliver academic, technical, and cutting-edge employability skills to students. Upon graduation, students are adequately prepared to pursue postsecondary training and higher education or to enter the workforce with the ability for continuous learning.
Chapter 74

Chapter 74 is the chapter in the Massachusetts General Laws that addresses vocational technical education.

Curriculum Frameworks

Chapter 74 curriculum frameworks are a uniform set of standards and measurable learning outcomes applicable to all Massachusetts CTE schools. The frameworks are organized into six strands, which define content to be learned and range from employability skills to embedded academics.

Certificate of Occupational Proficiency (COPS)

This certificate is awarded to students who successfully complete a Chapter 74-approved training program. The certificate is in addition to a diploma and is designed to recognize student achievement and mastery of a core set of skills and knowledge in a particular trade or professional area.
Chapter Two: Literature Review

Overview

CTE has become a pertinent topic of discussion in educational circles. In response, this literature review examined the inventory of available research dealing with CTE, particularly with regard to the experience of Latino students, all examined through a social constructivist perspective. The focus of this study emphasizes the lived experiences of these students in CTE and its importance regarding occupational attainment—a subject that has gained critical attention. The emphasis of this study is because, according to some, the occupational skills and education quality of Latinos will broadly define the future of the labor market, particularly with regard to its quality (Arbona, 1990).

In presenting this topic through a review of the literature, a funnelling approach was utilized in that the review first presents information on broad, but relevant, aspects of the subject as a whole. It then proceeded towards the more specific focus of the experiences of Latino students in CTE within Massachusetts. This review began with an examination of the historical evolution and subsequent importance of CTE as well as a discussion of the theoretical framework emphasized, which is the social constructivist perspective. The next section is a discussion of factors that contribute to experiences in the classroom, from a social constructivist lens, looking at the experiences of Latinos in particular and the perception of the CTE experience from the viewpoint of teachers. The review concludes with the experiences of Latino students in CTE in Massachusetts’ schools, specifically.
The Evolution of CTE in the United States

The historical background of present-day CTE in the United States is commonly associated with an apprenticeship model, which dates back to colonists who brought apprenticeships to the New World from their native lands. Although Gordon (2014) stated that apprenticeship “is the oldest known type of vocational education in the United States” (p. 6), it is generally not regarded as a component of a school curriculum but, rather, as an agreement that connects a master of a specific occupation to a learner for a period of time. Thus, to specifically trace the evolution of CTE, Gordon (2014) advised looking to Rousseau and Pestalozzi’s early nineteenth century European advocacy for vocational elements to be part of a curriculum; after this idea took root in Europe, it ultimately spread to the U.S. CTE empirically has been referred to by many names, such as industrial education, manual education, career education, and vocational education, prior to evolving into CTE.

In the U.S., the Federal Government has long had interest in vocational education and enacted legislation on its behalf. With the Morrill Act in 1862, President Lincoln signed into law a federal mandate to have colleges that placed an emphasis on agricultural and mechanical arts (Gordon, 2014). However, many attribute the Smith-Hughes Act of 1917 as the first true piece of vocational education legislation, due to it specifically dedicating funds for vocational education and training as well as creating a cooperative structure between the states and the Federal Government (Hogg, 1999). From the Smith-Hughes Act of 1917 until 1963, various pieces of legislation were enacted involving vocational education, but none was as significant as the Vocational Education Act of 1963. Initiated during the President Kennedy era and after lengthy legal wrangling, the Act was finally signed by President Johnson and included specifics on ages and other factors such as disability and socioeconomic status (Kliever, 1965). This legislation
was the first departure away from meeting the demands of industry but toward meeting the needs of the individual (Gordon, 2014).

Vocational education amendments and legislation continued to be passed from 1963 through 1984; however, the bill that superseded all before it and is currently in place today is the Carl D. Perkins Vocational Act of 1984 (which was subsequently reauthorized under George W. Bush in 2006). Essentially, the Perkins Act focused on supporting vocational education by channeling federal monies to programs that collaboratively combine academic and vocational education. Specifically, federal regulation in 1990 redefined vocational education as “a series of courses in which vocational and academic education are integrated, and which directly relate to, and lead to, both academic and occupational competencies” (Carl D. Perkins Vocational Education Act of 1990). In addition, the Act expanded on helping disadvantaged people while providing streamlined state controls. Gordon (2014) stated that Perkins “changed the emphasis of federal funding in vocational education from primarily expansion to program improvement and at-risk populations” (p. 113).

Although several sponsors of early vocational education legislation originated from the South—Georgia and Kentucky, respectively—it is noteworthy to add that Massachusetts has long been a pioneer in CTE and was one of the first states to recognize the importance of vocational training. As early as 1814, the Farm and Trade School in Boston was one of the first schools to provide academic and vocational curricula. Also, in 1868 Worcester Polytechnic Institute was one of the first schools designed to have a work component (Bennett, 1926). Massachusetts continues to be an innovative hub for CTE and a model for the nation, as seen in the example of Worcester Technical High School’s recent successes.
Essentially, the transition of vocational education to a model integrating both academics and vocational pursuits hastened in the late 1990s—and resulted in CTE. Education reform continues to evolve as the concerns in the U.S. shift toward competitiveness in a global marketplace and keeping up with technological advances. In 2010, the National Association of State Directors of CTE Consortium (NASDCTE) met to discuss their vision and future pathways. They concluded that their goal was “to prepare students of all ages to succeed in education and careers—and enable the United States to flourish in a dynamic and increasingly competitive global economy” (NASDCTE, 2010).

Theoretical Background

The Zone of Proximal Development

Within Vygotsky’s concept of social constructivism, the zone of proximal development is, perhaps, one of his most renowned contributions (Vygotsky, 1978, 1997). In essence, classrooms that are compatible with social constructivism as an approach may vary greatly in how class is conducted and even how they may or may not look with differing activities, tasks, and learning lessons. Yet, classrooms all possess four basic principles: (a) development, and the learning that fosters it, is an activity that is social and collaborative; (b) learning in educational systems should take place in a context that is meaningful, developing knowledge useful in “real life”; (c) experiences of a student outside of class should be related to the experiences of the student within the classroom; and (d) curriculum can be guided by the zone of proximal development theory (Vygotsky, 1978, 1997).

The zone of proximal development is based upon the fact that learning is an activity that is mediated by social interactions (Vygotsky, 1978, 1997). The skills inherent in learning, such as problem solving, are categorized into three domains:
• Some skills can be independently performed by the child without help
• Other tasks require help from others, in order for the child to perform them
• Finally, in the middle of these categories, is the inventory of skills that are in the zone of proximal development. These are skills that children can learn with the help of others and in which they can eventually become independent.

Role of the Teacher

Within the social constructivist-learning environment, teachers play a prominent and active role (Vygotsky, 1978). It is the teacher’s responsibility to facilitate learning by creating engaging activities that foster collaboration (Vygotsky, 1978). However, the teacher does not play a passive role in which she/he simply directs or supervises activities; instead, a teacher guides students and motivates them to collaborate, challenge themselves, and innovatively gain experience in solving problems that they may encounter in real life (Vygotsky, 1978). In addition, peers within the environment (as well as other adults) also influence learning and the growth that results from it as individuals interact and learn from each other (Vygotsky, 1978). In this regard, others (teachers, in particular) serve as resources for accessing the tools of a given culture, which includes language, history, and social context (Vygotsky, 1978).

According to Cummins (1986), the relationship (i.e., interaction) that occurs between a student and a teacher is influenced by the teacher’s assumed role definition. Further, the role definition is impacted by three different social contexts. The first is the power relations that occur among various groups within a society, while the second is the relationships that exist between the school and the communities (Cummins, 1986). The third contributing factor is interactions that occur between the students and the teacher in the classroom (Cummins, 1986). Ultimately, students from different communities (particularly diverse communities and
backgrounds) are often disempowered by these communities and the power relationships that exist, which are then replicated within the school context (Cummins, 1986). Thus, the interactions that occur within the educational environment, particularly and beginning with the role of the teacher, should in general serve to reverse the roles of society (Cummins, 1986). It is this reversal of interactions and the resulting influence that serves to ameliorate the negative impact of the external environment and relates to the accomplishments of students in academics, which is dependent on the dynamic (Cummins, 1986).

**Constructivist Pedagogy**

In general, when it comes to social constructivism in the classroom, the framework for instruction must be grounded on some core premises. According to Doolittle (1999), these include a belief about reality, which is created through the interactions of human activity, as well as a belief about knowledge, which is a product of meaning derived from the social environment (Doolittle, 1999). Finally, as implied by Vygotsky (1978) and Dewey (1966), learning consists of a process that does not occur within the individual, but occurs when individuals engage in social interaction (Doolittle, 1999).

In light of the aforementioned, Doolittle (1999) in his publication entitled, *Constructivism: The career and technical education perspective*, there are some crucial factors that define the learning environment (particularly CTE) when it is modeled by a constructivist perspective. First and foremost, as formerly mentioned, *learning should occur in an authentic environment*, which means it emulates the “real” world (Doolittle, 1999). And, also formerly mentioned, *learning requires social mediation and negotiation*, in which Doolittle (1999) offers a CTE example in that a student employee must learn the language and skills necessary within the domain of their occupation for the purpose of functioning in that context.
In regard to the content of what is learned, the *skills should be relevant to the learner* (i.e. applicable to their occupational environment) and these *skills taught should be understood in regards to the learner’s knowledge prior to learning the task* (Doolittle, 1999). In the latter situation, Doolittle (1999) offers an example in that if a response to a question is not correct, the teacher needs to know what the student is thinking, in order to assist them in reaching the right answer.

Finally, two tenets address progress in that *the student should be formatively assessed*, in order to genuinely understand where the student is within the process of learning (Doolittle, 1999). Doolittle (1999) refers to this as one of the core components of competency-based learning, such as CTE, in that a student requires ongoing evaluation, in order to improve on deficient areas and, ultimately, master a task in both a cognitive and psychomotor capacity. Eventually, the student acquires the necessary knowledge and skills for becoming independent through self-awareness, self-mediation, and the ability to self-regulate if encouraged by teachers to do so (Doolittle, 1999). In doing so, *teachers must serve in the role of facilitators* of this process and not simply “instructors, while also encouraging various representations of the content being taught to account for the differing types of learners (Doolittle, 1999).

In spite of this constructivist perspective and the importance of social interaction to learning, Gray (2002) reports that most classrooms at the high school level are still functioning under behaviorist perspectives, in which curriculum is devised with the assumption that learning and the knowledge that results from it occurs independent of the environment. However, this researcher also points out the lack of utility in this type of learning environment in that the knowledge acquired is meaningless with the student having no real opportunity to use it in any meaningful way within their own life (Gray, 2002). Inevitably, classes that are taught in this
manner generally only appeal to a small fraction of learners who are intellectual achievers, thereby creating a disadvantage and promoting a learning gap for all those students who are not this type of learner and would learn the content had it been presented in a realistic context (Gray, 2002).

**Career Technical Education (CTE)**

**The Importance of CTE**

Examining the importance of CTE is key for understanding its functions, while also lending credibility to the study of this topic in and of itself. As such, the following section details the relevant articles within the inventory of literature that discuss the benefits and significance of CTE as a whole.

Cohen and Besharov (2002) outlined many benefits of CTE, which include some of its social constructivist elements. One of CTE’s advantages is its potential as a strategy to ameliorate the negative outcomes associated with high school students who drop out or who graduate but are still poorly equipped in regard to skills applicable outside of the classroom. This amelioration can occur as a function of the usable skills that individuals will learn, as well as the element of contextual learning, which may motivate students who otherwise might not have an interest in the curriculum (Cohen & Besharov, 2002). This benefit is supplemented by the advantage of making possible career connections that are useful after graduation as a result of the mentoring relationships that occur (Cohen & Besharov, 2002).

However, Cohen & Besharov (2002) also examined the importance of CTE to minorities, Latinos specifically. In doing so, the authors recognized benefits of CTE that are crucial to these subpopulations more so than they may apply to other groups. In fact, the authors noted that, between 2000 and 2010, 70% of jobs did not require a degree, thereby stressing the need for
individuals with technical and other vocational skills. When examining the 30 occupations that will have the largest supply for new entrants, only 23% of those listed required any type of postsecondary education, again emphasizing the potential benefit of a CTE experience (Cohen & Beharov, 2012). When one considers that drop-out rates are highest among minorities and Latinos, in particular, CTE may be the learning environment needed to hold students’ interest, while also providing the potential for a stable career upon graduation (Cohen & Beharov, 2002). The authors also reported that socioeconomic status is a variable found to be closely linked to the incidence of students dropping out of school. Thus, CTE may not be simply a track that motivates individuals to reach degree attainment, but it can also break the cycle by allowing them gainful employment with marketable skills and a way out of a lower socioeconomic status (Cohen & Beharov, 2002).

The Argument against CTE

Any comprehensive analysis of CTE would be remiss if it did not include some of the reasons individuals may oppose CTE, and Cohen and Besharov (2002) address the limitations. They stated that much of the opposition comes from the contention that CTE will deter students from pursuing a college education and, therefore, will prevent them from realizing their full potential. This premise is accompanied by many examples of poorly functioning CTE programs that fall short of achieving their goals. Yet, Cohen and Besharov refute this concern by discussing the reality that CTE provides all the more reason that good programs should be implemented for the purpose of truly benefiting those that attend them.

A study by Plank, Deluca, and Estacion (2005) entitled *Dropping Out of High School and The Place of Career and Technical Education* set out to examine whether or not CTE was in fact beneficial. In this empirically driven study, the authors used data from the National Longitudinal
Survey of Youth 1997. The independent variables examined were the ratio of academic courses taken by students in high school and the ratio of CTE courses taken by these same students. The objective of the study was to examine if there was any potential relationship between dropping out of high school and taking CTE courses. The underlying causation posited was a lack of interest (disengagement) in education associated with taking CTE courses (Plank, 2001; Plank et al., 2005).

The results of the analysis found that age was actually a decisive factor in whether or not CTE course taking was associated with dropping out of school. Those students who were older than the average age at entry into high school presented with a tendency to drop out of high school more frequently and also took a higher ratio of CTE classes. In contrast, there was no relationship with the likelihood of dropping out for the group of students who were younger at entry into high school. Essentially, a curvilinear pattern emerged in which CTE was a benefit for younger students, but older students who took CTE in a higher ratio was far more likely to drop out. Yet, while the authors purported that the dropout rate for older students is linked to the ratio of CTE courses itself, the descriptive nature of the analysis falls short of proving any significance. Further, it may be likely that those students were prone to drop out of high school anyway due to other causative factors and that their propensity to take CTE classes was not an influencing factor but, rather, a response to their already laissez-faire attitude. Thus, CTE may have been a symptom of an existing problem rather than the problem itself.

When examining education with regard to Latino students, Hoover (2012) reported that Latinos are one of the most rapidly growing ethnic groups in the U.S. labor force and will be the largest group by 2025. However, Latinos are on the disadvantaged end of the achievement gap as a result of diminished access to quality schooling compared with other groups, starting from as
young as pre-school age. When compared to their Caucasian counterparts in the earliest years of
school, Latinos are considerably behind in academic development as a result of the deficient start
in education (Hoover, 2012). This is a disadvantage that only widens as students’ progress
through school, often lending to their eventual indifference and dropping out of school
altogether. As a result, CTE can assist in diminishing this gap by presenting useful skills from
which disadvantaged students can benefit and, therefore, be able to persist to graduation
(Hoover, 2012).

In contrast to the statements of Hoover (2012), Gandara (2006) stated that, if Latino
students were to be provided with the support necessary for closing this achievement gap, the
strategy would necessitate a broad range of resources, including preliteracy skills, which would
likely cost twice the amount that is paid nationally for each student already. Because this is not
likely possible when one considers the cutbacks in schools across the nation already, it is
imperative to identify a more feasible strategy for ameliorating the achievement-gap issue and
CTE appears to be the most viable option (Gandara, 2006).

While the importance of CTE is now evident, the benefits are only realized in programs
that are effective. To understand and evaluate the efficacy of programs, it is first imperative to
understand the factors that influence the CTE classroom environment. This is particularly
relevant in examining the experiences of Latino students in CTE when the environment and
context of the class is so crucial to the outcomes and the overall resulting experience. As such,
the pages that follow address the educational experiences of Latinos, the experiences of students
in the CTE classroom, and ultimately, the experiences of Latino students in the CTE
environment.
The Experience of Latinos in CTE

The examination of the inventory of literature for articles addressing the experience of Latinos in CTE, a body of publications dealing with this topic, specifically, was essentially nonexistent. However, one study by Jennings (1992) did touch upon this topic by studying what was then called vocational education in the context of the experiences of Latinos, using data retrieved from the Massachusetts Board of Education. Participants included students in high school (grades 9-12) during the 1990-1991 school years, and panel members who provided interview data supplemented the study. The interviewees were panel members of the educational system, and they reported on their perceptions of experiences with Latinos in vocational education (Jennings, 1992).

Surprisingly, the data indicated that there were a large number of Latino students within the vocational educational programs, but the interviewees reported difficulty in recruiting Latinos into the programs (Jennings, 1992). One barrier to recruitment was the perception of vocational education as a “dumping ground” for students with low potential, who could not succeed in other programs, thereby giving vocational education a bad reputation, so to speak, and deterring recruitment efforts (Jennings, 1992). This finding was reiterated a year later in the research of Riviera and Nieto (1993). As a result, very few Latinos continued vocational programs by participating in postgraduate or postsecondary programs (Jennings, 1992). With regard to the students’ perceptions, negative aspects of their experience included a lack of Latino faculty and very few Spanish-speaking educators—findings that were still relevant at the turn of the 21st century (Jennings, 1992; Uriarte & Chave, 2000).

However, in spite of this information, the actual usability of the data presented within the Jennings (1992) study is extremely limited due to the lack of insights that could be inferred from...
it. Because of the early publication date, it was also likely that any challenges or conditions described at the time of print are not necessarily the same issues present today. Therefore, in light of the substantially deficient body of literature addressing the specific experiences of Latinos in CTE, the section below elaborates on studies that lend insight into the future of Latinos in CTE. Once again utilizing a funneling approach, the articles of relevance below address the experiences of students in CTE in general, as well as the experience of Latinos in the educational environment, thus allowing for an assessment of the implications while also rationalizing the need for studies to fill the void in the existing literature.

**Experiences of Latinos in the Educational Environment**

In the article published by Hoover (2012), the predominant objective was to explore the factors that defined the educational experience for Latinos in high school. Employing a mixed-methods approach, the study utilized quantitative data through the analysis of survey responses from students. This was supplemented with a thematic analysis of responses derived from focus-group interviews and open-ended student-survey questions. In doing so, the students were categorized in terms of their self-reported GPA, which was reported as low, average, or high achieving. The school experience, overall, was reported as positive, neutral, or negative in terms of measurement. This served as the dependent variable with regard to several factors that were tested for their influence, which were both variables considered conducive to achievement of Latino students and those that were perceived as likely to hinder achievement in Latino students. Results indicated that the students’ belief that they were a high achieving student was significantly correlated with a high GPA ($r[28] = 0.66$, $p < 0.001$) (Hoover, 2012). In addition, the belief that students were encouraged by their friends to do well was also significantly and positively correlated with the variable of high GPA ($r[28] = 0.45$, $p < 0.05$) (Hoover, 2012).
Also relevant within the qualitative analysis, students reported that teachers could have a positive or a negative impact, in that whether teachers were supportive or not influenced student achievement (Hoover, 2012). Further in support of the quantitative findings, friends were reported, once again, as having a positive impact on the experience of students, but only when the friends were supportive. Overall, the relationships in the educational environment, whether with students or teachers, were an important influencing factor in the overall educational experience.

The later study of Clark, Ponjuan, Orrock, Wilson, and Flores (2013) replicated the Hoover (2012) findings from the perception of teachers, and the authors also reported on the significant impact of peers, the influence of teachers, and the overall partnerships that were fostered as variables influencing the educational experience for Latino students. Thus, similar to the beliefs within the social constructivist viewpoint, social interactions are crucial to the experience of education and the learning that occurs within it.

**CTE in General**

Supplementing the aforementioned studies within the literature, the work of Loera, Nakamoto, Oh, and Rueda (2013) examined factors that motivate students in the CTE context. In addition, this study employed a perspective from social cognitive theory for the purpose of examining the factors within the CTE framework and context that influence students. Students participating were 11th and 12th graders who were graduates of a CTE program. Of the 267 students participating, the majority indicated that the interactions with teachers and mentors allowed the students to experience improved outcomes (Loera et al., 2013).

On a much larger scale, Kujipers, Meijers, and Gundy (2011) examined influential factors within the CTE experience among 3,499 students. The sample of students came from both early
vocational education (the later years of middle school) and secondary vocational education (the final years of high school), with the resulting data being analyzed within a correlation analysis. Characteristics of the sample included a predominant number of male respondents (slightly over half) and only 10% being from a minority group.

When examining the interaction of teachers with students in the learning environment, Kujipers et al. (2011) found that, among students who were at risk for dropping out, an increase in interaction with teachers resulted in a decrease in the dropout rate, due to the students’ motivation to reflect on the student–teacher dialogue. Another positive benefit of CTE within this context was the potential for networking in secondary vocational education, which contributed to more positive career goals. Overall, this study illustrated that a learning environment that includes experiential learning from real-life situations and is supported by dialogue about these experiences can greatly contribute to the advantageous use of career competencies. The context of the learning that occurred was, in fact, far more influential than the personality traits of the students themselves (Kujipers et al., 2011). These findings were later confirmed by Torres et al. (2011).

**Looking Towards the Future of Latinos in the CTE Experience**

Within the extremely limited inventory of literature, some information has emerged that allows for the formulation of current challenges in the CTE experience, particularly for Latinos. Cohen and Besharov (2002) addressed the issue of standardized testing. Particularly in Massachusetts, the implementation of the Massachusetts Comprehensive Assessment System (MCAS) tests and state exams that are necessary for degree attainment is a current and relevant issue when discussed within the scope of CTE. According to Cohen and Besharov, one problem with the mandatory nature of these tests in the context of CTE is that teaching the content for the
test for the sole purpose of allowing students to pass takes time away from the occupational skills that they are supposed to learn. Furthermore, the academic nature of the tests and the fact that they must be passed in order for students to graduate tends to go against the very purpose of CTE; CTE programs are meant to provide skills applicable to real life and career attainment as an alternative to college-bound paths, to which these tests cater (Cohen & Besharov, 2002). This has been an ongoing issue, with advocates lobbying for CTE-student exemptions in Massachusetts (Cohen & Besharov, 2002).

Meanwhile, Au (2013) addressed improved ways of closing the achievement gap and meeting the needs of minority students, including Latinos. In this article, as well as prior publications (Au, 2011), Au contended that a multifaceted strategy must be put in place to genuinely ameliorate the concerns associated with sufficiently guiding a diverse population of students towards achievement. However, among the strategies listed, the author stated that goals of education should be to literally build on the strengths that students bring from home, ultimately connecting what they learn in school with what they have experienced prior to the classroom, as well as linking students’ educational experiences with their life outside of the learning environment (Au, 2011, 2013). This approach clearly follows the beliefs of Vygotsky (1978), Doolittle and Camp (1999) and Dewey (1966) regarding a social constructivist perspective and how learning should take place. Supplementing the aforementioned sources, Arbona (1990) deduced from prior research that minority students, particularly Latinos, are generally motivated to learn with regard to educational and occupational aspirations. This information, in conjunction with what is known from the previous literature, clearly indicates that Latinos can be very successful in the CTE experience and the careers that emerge from it; however, this can be true only if CTE programs meet student needs and provide appropriate
tools. Yet, in spite of the positive implications that can be derived from the body of literature presented, there are certain limitations that should be considered, which are detailed below.

**Limitations to CTE**

Within the inventory of literature, one of the primary limitations was associated with studies, such as Plank et al. (2005), which used national student surveys as a source of data. One drawback of this approach is that the students often come from a nationwide sample of schools that may not be equivalent to each other; this sample was then used to look at one outcome associated with this type of school, in spite of the many variations. In contrast, some studies utilize an original sample of participants. However, this had its limitations, too, in that such an approach often results in a small sample size, such as in the case of Loera et al. (2013). This reduced the ability to extrapolate findings while also introducing some selection bias, as often a convenience sample is used. As such, any outcomes may be more dependent on differences that were not measured or on confounding variables, rather than the independent variable itself.

Adding to the aforementioned limitations, some studies, such as that of Hoover (2012), rely on students responding in a self-report format. Naturally, this possessed a concern associated with self-report bias, as the respondents may not have accurately and objectively provided responses; that is, they may seek to present themselves more favorably, or their self-perception may simply not be in tune with reality. Another issue arose from the use of students at differing levels of education, in that 9\textsuperscript{th} grade students differ vastly from 12\textsuperscript{th} grade students in their responses due to the profound maturation that takes place during this period of development. Finally, due to the limited inventory of relevant literature itself, the early publication dates of some of the studies presented an issue in that the information may no longer be accurate, relevant, or reflect the current nature of the topic.
Summary

Within the sections presented above, perhaps the most telling piece of information is the lack of relevant literature overall, clearly demonstrating an existing gap and the need for studies that sufficiently and accurately study the experience of Latinos in Massachusetts CTE programs. Above, prior to discussing specific findings regarding the topic, the work of Doolittle (1999), Vygotsky (1978), and Dewey (1966) was discussed in setting the framework from a social constructivist perspective. Doolittle and Vygotsky emphasized the importance of the social environment and the interactions within it as the source of learning, and Dewey aligned with them in setting forth an original opinion, pertaining to the process of learning and its origination from outside of the individual.

The next theme discussed was the importance of CTE to Latino students, as well as why it is important in general. Cohen and Besharov’s (2002) work was used to show the benefits of CTE to Latino students, including it serving as a deterrent to dropping out and as a means of applying learned skills to an occupation; these factors were noted as important for Latinos, many of whom are living in the lower socioeconomic segment of society. In contrast, the work of Plank et al. (2005) did not identify such straightforward findings in its curvilinear outcomes, but this was refuted by the more recent study of Hoover (2012), who recognized the growth of Latinos in the labor force and asserted that CTE is an alternative education that can motivate Latino students to reach degree attainment and make use of the knowledge they acquire.

As for the experiences of students in CTE and the educational experiences of Latinos in general, both Hoover (2012) and Clark et al. (2013) recognized the importance and influence of relationships within the educational environment, particularly between teacher and students. These findings were confirmed by Loera et al. (2013). The authors realized the advantage of
teacher engagement and interaction, which led to improved student outcomes. As a whole, these findings contributed to the overall conclusion that the context of learning played a significant role in the process of knowledge acquisition; this role is even greater than the impact of personality characteristics, according to Kujipers et al. (2011).

In light of the literature presented in this review, it is evident that learning occurs as a function of the social environment and the interactions that take place within it. This finding supports the nature of CTE programs, which benefits Latinos in joining the labor force and acquiring the skills necessary for a productive and high quality life. While there is substantial information on the process of learning and the influence of social elements, few studies specifically examined these processes in the context of Latino experiences. Certainly, there is a profound void in the literature when it comes to the examination of this topic within the experience of Latinos in CTE programs in Massachusetts. In light of this existing gap and the apparent importance of CTE programs, this current study specifically examined the presence of Latino students in Massachusetts CTE tracks and the experiences that they encounter.
Chapter Three: Research Design

The U.S. economy is requiring better educated and prepared workforce entrants. Many of these individuals are emerging from the surging Latino population. However, Latinos in the U.S. continue to experience difficulty attending and graduating from high school. If the U.S. economy continues to be increasingly reliant on the Latino workforce, and if Latinos are not being adequately prepared for future work demands, then more must be known about CTE, which continues to be a popular high school choice for Latinos. Therefore, the purpose of this present study was to investigate the experiences of Massachusetts-based Latinos as they engage in CTE and in doing so answer the following research question: What are the lived experiences of Latino students in CTE programs in Massachusetts, and how do these students make sense of their experiences in the context of their future aspirations?

Research Design

The following sections outline the research methods utilized to understand the lived experiences of Latino students in CTE in Massachusetts and how they make sense of their experiences in relation to future aspirations. The sections provide an overview of the use of the interpretive phenomenological analysis methodology, including the site, participants, data collection, and data analysis. Finally, the chapter discussed the trustworthiness of the study and the methods taken to protect the participants from harm.

Purpose Statement

The purpose of this interpretative phenomenological analysis (IPA) study was to understand the lived experiences of Latino students in CTE high schools in Massachusetts. Interpretative phenomenological analysis is a specific hermeneutic approach committed to
exploring how people make sense of experiences in their lives (Smith & Osborn, 2003). In alignment with its phenomenological origins, IPA is committed to formulating an understanding of what an experience is like from the point of view of the participants. However, IPA expands to achieve a description that gets as “close to the participant’s view as is possible” (Larkin, Watts, & Clifton, 2006, p. 104) while acknowledging that the process is ultimately interpretative. Another objective of IPA is to explore the meanings that particular experiences hold for participants. Latino experiences comprised of artifacts such as language and culture are necessary to create an interpretative account of how a participant made sense of his or her experience.

**Positionality Statement**

I acknowledged several personal and socially constructed identifiers from my experience in vocational education and, later, CTE. Through a cultural–historical lens, I came from a family that did not place a great deal of importance on education. My grandparents were tradespersons, as was my father. Many of my beliefs and attitudes that value work ethic over academics were passed down from generation to generation. I considered myself a product of vocational education, or “voc ed,” which was what it was called when I attended before the restructuring of education reform. In 1993, an emphasis was placed on the integration of academic content, which effectively created CTE. During my experience, vocational education typically drew students with poor test scores and was perceived as a dumping ground of comprehensive high schools (Jennings, 1992). Cohen and Besharov (2002) reported that CTE could be marketed better, due to the unfortunate perception that it provided poor quality education for problematic students. There was a general perception among the students in vocational education that we were inferior to comprehensive school students. Upon graduation, I entered the workforce and
eventually built my way up to owning my own business. While working in the field, I simultaneously continued on to higher education because I realized my areas of academic deficiency. I believe that my academic difficulties were a result of having attended a vocational school (e.g., my inability to develop business plans, poor technical writing). I ultimately made a career change and returned to the school and program from which I graduated, teaching career technical education as an instructor for 5 years; I now work as an administrator at the school. I was passionate about CTE and recognize that my deep beliefs and attitudes formed from my experiences and from my family environment. I felt that I have unique insight into what CTE is attempting to achieve: having the ability to either directly enter the workforce with well-rounded skills and/or pursue postsecondary education. I had to achieve these two pieces separately on my own after graduation.

Having been born and lived predominantly in the Greater Boston area throughout my life, I identify as Caucasian. Upon reflection, when I attended my vocational school as a student, it was predominantly Caucasian, with a relatively small number of minority groups. Returning as an educator 20 years later, the student body has changed dramatically to closely mirror society and includes a burgeoning Latino population. Having transitioned from the classroom to an administration, I am a stakeholder and am heavily invested in student success in CTE.

**Qualitative Methods**

One of the researcher’s goals was to reduce assumptions based on racial and/or socioeconomic stereotypes. Hammersley (1992) suggested that goals ultimately shape “descriptions, interpretations, and theories you create in your research” (as cited in Maxwell, 2005, p. 15). Filstead (1979) defined a paradigm as a “set of interrelated assumptions about the social world which provides a philosophical and conceptual framework for the organized study
of that world” (p. 34). This researcher has examined how a subject’s answers to questions based on his or her experience could best inform this current study. Schwandt argued that the central tenant to constructivism is the goal of understanding the “lived experiences” of a subject (as cited in Ponterotto, 2005, p. 129).

Gay, Mills, and Airasian (2006) posited that “qualitative research seeks to probe deeply into the research setting to obtain in-depth understanding about the way things are, why they are that way, and how the participants in the context perceive them” (p. 14). Because this research sought to better understand the lived experiences of Latinos in CTE, a qualitative approach is an appropriate methodology. A qualitative approach was also helpful in giving the researcher the opportunity to delve into how participants understand and experience phenomena (Creswell, 2009; Patton, 2002).

Qualitative research seeks to illuminate the voices of the participants through storytelling and other narratives (Creswell, 2009; Gay et al., 2006). The narrative can often counter the dominant ideology surrounding people of color (Delgado, 1993). With the use of a qualitative methodology, Latinos in this inquiry had the ability to explain their experiences. Therefore, it was extremely important that the researcher provide a thorough and detailed description of the participants’ experiences via in-depth interviews. Each participant’s experiential knowledge of the CTE school environment was needed because these accounts were not found in the research literature. Participants’ unique experiences demand that their perspectives are taken into account and inform the future of CTE.

**Research Tradition: An Interpretive Phenomenological Approach.**

Creswell (2009) defined phenomenological research as “a qualitative strategy in which the researcher identifies the essence of human experiences about a phenomenon as described by
participants in a study” (p. 231). Influenced by Edmund Husserl, phenomenology was used to find the essence of the lived experience (Moustakas, 1994) of Latinos in CTE. Interpretative phenomenological analysis expands upon this approach through inquiry seeking both by exploring in depth how participants understand all aspects of their world and how those experiences had formed particular meaning for the participants. Smith and Osborne (2003) described IPA: “The participants are trying to make sense of their world; the researcher is trying to make sense of the participants trying to make sense of their world” (p. 53). The experiential knowledge of Latino participants who have attended CTE institutions enlightened this researcher’s understanding of the positive and negative aspects of CTE.

**Participants and Access**

This study took place predominantly in the greater Boston area; however, it did extend to the northern and western borders of Massachusetts, as coordinated through participant response. The participants for this study were of Latinos who attended and graduated from CTE schools. The focus was on students that have graduated after 2013. The rationale for that timeframe was to examine students who were part of CTE institutions after the roll out of the promulgated 2006 frameworks that essentially transitioned vocational education to CTE. The goal for this IPA study was to have four to six participants between 18 and 21 years old. Due to the focus of the research question, a criterion sampling strategy was important because the participants must have graduated from a CTE institution in Massachusetts for their experience to inform the study.

All Chapter 74-approved CTE programs in Massachusetts must conduct one-year graduate follow-up reports as mandated by Federal Perkins Grant Funding (Massachusetts Perkins IV Accountability Workbook, 2014). Due to this requirement, all Chapter 74-approved CTE institutions in Massachusetts maintain current databases with graduate data. Utilizing the
established databases, many techniques were employed to attract participants. Recruitment posters (Appendix A) were placed in conspicuous locations throughout the State. The researcher accessed email contact information from the database at the current CTE institution of employment and sent out recruitment emails (Appendix B). In addition, referrals were utilized from colleagues that hold positions similar to the researcher at other Massachusetts CTE schools. Lastly, letters inviting individuals (Appendix C) to participate in the study were distributed. Permission had been granted by the school district to access graduate information for this research. The letter to potential participants explained the scope of the research and invited individuals that qualified for the study to respond to the researcher to express interest.

There were no financial benefits provided to the subjects for participating. The researcher developed a trusting relationship with the participants over the span of the interviews. From this relationship, the researcher established an environment where the participants will felt safe to reflect on their experiences.

**Protection of Human Subjects**

The researcher did not subject any study participants to risk. The study highlighted the lived experiences of Latinos; it did not seek to impose any treatment upon the participants. Involvement in the study was voluntary, and the participants were selected based on strict criteria. They were a Latino student who attended a CTE high school in Massachusetts. Because participants were selected from Massachusetts, it was possible that their identity could have been at risk. Eisner and Peshkin (1990) stated, “The two most important principles for the protection of human subjects are informed consent and anonymity” (p. 260). Due to the personal information that was presented, the identity of the individuals was confidential. The researcher described the CTE institutions and program areas where the experiences occurred to allow for
anonymity. The researcher used pseudonyms to aid anonymity in the data documentation and destroyed the audiotapes after the study. During the member-checking process, the researcher gave participants the opportunity to remove any harmful information from their interview responses.

Participants were informed if they experienced any emotional stress due to the interview, the researcher would have stopped the interview and remind the participant that he or she was free to take a break or stop participating at any point during the study. The participants also had the option to withdraw after the study began. In addition, the researcher checked in with the participants after the interview to make sure that they have not experienced any residual discomfort from participating in the interviews. The study was performed based on the statutes prescribed by the Institutional Review Board of Northeastern University.

**Informed Consent**

The researcher has ensured that the information remained confidential and that each participant signed an informed consent form (Appendix G). Throughout the study, consideration of ethics was accomplished by obtaining informed consent forms from the subjects, disclosing the nature of the study, ensuring that the data remains confidential (Miles & Huberman, 1994), and honoring agreements made with the participants. Informed consent was a process; every effort was given to be clear so that participants understood the process.

**Data Collection**

Upon receiving notification from interested participants, the researcher communicated with the participants via electronic means or telephone and discussed the scope of the study as well as scheduled the location, date, and time of the interview. Depending on each participant’s
preference, they were interviewed at a place and time that was convenient. By allowing each participant to choose the location of the interview, the researcher sought to make the environment as comfortable as possible and allow for complete privacy as participants discuss their experiences. Interview questions for all participants were derived from the literature review.

In addition, the discussion of rights and responsibilities of the researcher and participants, signing the informed consent form, and completion of a survey to profile each participant was part of the dialogue. Research subjects were informed that interviews would adhere to a three-interview structure (Seidman, 2013). All first-round interviews were completed before beginning second-round interviews, and all second-round interviews were finished before advancing to third-round interviews. In addition, data analysis was performed after second-round interviews in preparation for third-round interviews. By allowing each participant to choose the location of the interviews, the researcher wanted to make the environment as comfortable as possible and allow for complete privacy as participants discuss their experiences. This study utilized four participants.

All participants were interviewed three times for periods ranging from 45 minutes to 90 minutes. Generally, the first- and third-round interviews lasted approximately 45-60 minutes, with the second interview taking 60-90 minutes. Seidman (2013) has outlined the interview sequence, with the first interview focusing on participant life history; the second on the details of participant experience in the realm of CTE; and the third interview being a reflection and member check-in on first two interviews. All interviews took place in English, as criteria for study participation is that all participants had achieved a proficient level of English. This was measured by the participant’s passing of the Massachusetts Comprehensive Assessment System (MCAS) English exam, which was a graduation requirement. Another criterion for study
participation was that all participants were high school graduates. These requirements preclude the need to consider accommodations for limited-English-proficient study participants.

Each session was recorded on two audiotapes (in the event of one audiotape malfunction). The decision to employ audio recorders versus digital means is based upon Weiss’ (1994) suggestion to consider if equipment will “deter candor” (p. 60). Having a recording device that has video capability could have been a deterrent to this particular group of subjects. Audio recorders are unobtrusive, as they are small in size, which minimized participant focus on recording and ensured confidentiality, putting respondents at ease. The information gathered permitted a saturation of data and thorough analysis that revealed how the participants had made meaning of their experiences. Rev.com was used to transcribe the data gathered in the interview. An accurate account of the interview was paramount, as the transcript was studied for months after the interview.

Reflective memos were an integral part of the interviewing process, as they served as a tool to document reflective thoughts. This researcher utilized a pen and paper to record reflective memos. Maxwell (2005) described the analytic memo-writing process as “first to engage in serious reflection, analysis, and self-critique, rather than just mechanically recording events and thoughts. The second [function] is to organize your memos in a systematic, retrievable form, so that the observations and insights can easily be accessed for future examination” (p. 13).

Lastly, as the researcher was a former CTE student and CTE educator, he used bracketing techniques and employed a second reader to reduce any bias that potentially influenced how the study was performed and how findings were deduced.
Data Storage

To ensure the anonymity of participants, interview notes (including reflective memos) that were collected were secured in a locked closet only accessible by the researcher. Collected audio recordings were transferred onto a personal password-protected laptop and stored in a secure environment. Transcriptions were typed using pseudonyms to protect confidentiality. Unprocessed data was kept for a minimum of three years, or until any questions concerning the study have been fully addressed. Access to information was restricted to the researcher.

Data Analysis

The researcher utilized the method of Smith, Flowers, and Larkin (2009) to analyze the data from the four participants. The researcher read the entire set of transcripts and utilized the bracketing technique. However, in IPA it is acknowledged that completely bracketing is not an acceptable means to make notes about how to initially interpret the data.

The general notes helped the researcher to understand how participants in the study experienced the phenomenon. This is known as the process of horizontalization (Moustakas, 1994). Next, the researcher coded and analyzed the important phrases to pinpoint invariant constituents and sub-themes (Moustakas, 1994). In addition, in vivo coding was employed in conjunction with Moustakas’ techniques as a coding tool in an effort to refine coding and analysis of the Latinos’ language. In vivo coding is described by Saldaña (2012) as a first-cycle coding method consisting of “participant-generated words from members of a particular culture [that] honor the participant’s voice” (p. 74).

Focused coding was employed for the second cycle of coding because of the flexibility to link and categorize first-cycle coding and in vivo coding based on thematic parallels. The third cycle focused on prioritizing themes that occurred often and smaller themes subsumed into broad
themes. The invariant constituents were utilized to categorize the shared experiences of the participants in the study and were clustered into categories based on themes.

From these thematic clusters, the researcher created a textual description detailing CTE experiences in Massachusetts and a structural description that provided a better perspective (Creswell, 2007; Moustakas, 1994). Finally, the researcher took those descriptions and created a document that depicted the common experiences of Latinos in the study (Moustakas, 1994).

**Trustworthiness**

Gay et al. (2006) defined validity as “the degree to which qualitative data accurately gauges what the researcher is trying to measure” (p. 603). The quality of a study that uses a phenomenological methodology is dependent upon the steps used to analyze the data, the reflectiveness of the researcher, a clear and defined phenomenon, and the researcher’s ability to present findings that are representative of the participants’ experience while ensuring that those findings adequately describes their overall experience (Creswell, 2007). Additionally, it is also important that researchers are able to authenticate the findings by member-checking (Manning, 1992).

To ensure the credibility and validity of the study, the researcher carefully analyzed the data, to ensure that the analysis included horizontalization, thematic clusters, textural and structural descriptions, and invariant structures (Moustakas, 1994). In addition, the researcher obtained feedback from his Scholar Practitioner Community (SPC) group, advisor, and other scholars. The ability to debrief with others assisted to ensure that the study was clear and concise and that it is properly developed and executed (Guba & Lincoln, 1989).

The researcher also made time to thoroughly journal his personal reactions as he engaged in the participants’ experiences. This journaling helped raise questions or concerns as they
related to data collection. This process allowed the researcher to reflect on the study and bracket his experiences as a former CTE student and educator to ensure that the essence of the participants’ experience was noted correctly. In addition, the researcher utilized a member-checking procedure to ensure that he had accurately recorded the participants’ statements.

**Limitations**

Although measures were taken to ensure the credibility of participant responses, there were some limitations to the study. The first limitation was the selection of the participants and the generalizability of the results. By limiting the selection of participants, it could call into question the generalizability of the results of the study beyond Massachusetts because this study was specific to the curriculum frameworks utilized by the Department of Elementary and Secondary Education in Massachusetts. However, because there is not much work on this subject, specifically in Massachusetts, this study was the starting point from which future work can be done. Because of this limitation, there may be other Latinos that have attended CTE institutions in Massachusetts whose experiences and perspectives were different from the participants selected.

The second limitation of this study was the number participants included were not representative of the CTE school system in Massachusetts. Finally, the researcher’s experience as a CTE student and educator within Massachusetts was both a limitation and benefit to this research. Because the researcher is a CTE alumnus, it was possible that he could have interpreted a participant’s experience differently, as opposed to a researcher who is unfamiliar with CTE. Although steps were taken to reduce the researcher’s bias, the researchers own experiences could affect how he interpreted the participants’ responses.
Chapter 4: Findings

Historical evidence suggests that the U.S. economy is requiring more highly educated and prepared workforce entrants. Many of these future workforce entrants are emerging from the surging Latino population. However, Latinos in the U.S. continue to experience difficulty attending and graduating from high school. Guided by the research question “What are the lived experiences of Latino students in CTE programs in Massachusetts, and how do these students make sense of their experiences in the context of their future aspirations?”, six major codes developed from an analysis of the data. The codes the researcher utilized while reviewing the transcripts include the following: identity, language, socioeconomic status, perceptions of other students, perceptions of teachers and other school personnel, and perceptions of the curriculum and coursework. These codes were found to be the most common across transcripts. The codes enabled the researcher to identify common key words and ideas that were consistent throughout and across the different transcripts. The process found patterns as well as linkages between concepts (Patton, 2002). The coding helped to organize the data for analysis based on the responses from the participants in each of the coding categories and contributed directly to the development of three major themes.

The three themes include the following:

(1) Identity played an important role in student decision-making and future outcomes.

(2) Students were cognizant of the learning environment, curriculum design, and assessments and were able to navigate and negotiate these to their benefit.

(3) Students appreciated and recognized the important role positive teachers and administrators had, which helped them, envision their own future.
The first theme provided insight into the participants’ identities, including language and socioeconomic status as well as race and how they connected these things to their immediate and long-term goals and outcomes. For the second theme, the participants connected the learning environment, design of CTE curriculum, and types of assessments utilized to their immediate and long-term goals and outcomes as well. The third theme reviews the role that instructors and school officials had in contributing to the participants’ lived experiences, specifically how they experienced CTE. How participants experienced their respective CTE schools are touched upon throughout each theme. The three themes speak to the participants’ formation of future aspirations based on their racial and working-class identity, the learning environment, and the influences of faculty. To start, a background of the participants was outlined in an effort to compare and contrast their experiences. This synopsis then leads to an in-depth look at each student’s family life and their educational pathway that ultimately led them to CTE.

General Student Background

The participants that discussed their respective experiences and contributed to these findings are from Mexico, Central America, and South America, respectively. Although from geographically different countries and arriving in Massachusetts at different stages of life, their narratives underscore the impact their Latino culture had in shaping who they are.

Expectations

All of the students began their high school adventure with expectations of what CTE would be like, which included anxiety of fitting in; all participants did not know many people when they first began attending their high schools. Jose had older family members and friends already in the school he was assigned. Cherry had some people she knew that were
upperclassmen. However, all participants shared a common sentiment regarding the transition from a familiar environment, where you knew everybody, to only knowing a few people and that this was worrisome to all participants to varying degrees.

The application process for enrollment into a CTE high school began during the summer after 8th grade. The participants recalled waiting for the acceptance letters with nervous anticipation. Several of the participants commented that they were aware entrance into their district’s CTE school was difficult; although it varies year-to-year, the students knew of waiting lists that had been formed due to the high number of applicants from their city and the believed the trend would continue. Only one out of the four participants, Cherry, was waited listed, but fortunately a spot opened up for her one week before school started in September. Once the students were accepted into a CTE High School, the participants were able to experience career technical education.

**Paco – Learning Differently than Prescribed by the Text & Curriculum**

As referrals were solicited from colleagues of potential subjects that fit the requirements of the study, Paco came highly recommended because of his zest for automotive technology. It had taken several communications with Paco to coordinate an interview and during our meetings, it became evident why it was difficult to connect initially; he is a self-proclaimed “hustler” with multiple jobs at different automotive shops. He explained he does not only repair cars, but is also into the buying and selling of vehicles. After Paco silenced his phone that was constantly receiving messages, our interview began, and Paco intently focused and reflected on his experiences. He was born in Mexico and came to the United States in second grade. He played sports and other activities with friends, but “loved” cars as a child and equally as important he likes to make money or “bank”. He ultimately studied Automotive Technology at a CTE
institution that admitted students from Lawrence, Massachusetts. As long as he could remember, Paco would hang around older kids in his neighborhood that worked on cars and learned a lot from them. During this part of the interview, Paco particularly engaged in deep thought and reflection with the following explanation:

I particularly remember the good feeling of making something work that was broken; the sounds and smells of a revving engine and you know, exhaust. I felt cool having my hands dirty and greasy. As I got older, I really liked people coming to me for help when they had car trouble. I also like to have things of my own. I got tired of everything having to always be shared like clothes or taking the bus to go places.

He envisions himself owning his own shop in the future and using these skills to provide a service for which he will get paid.

**Family life.** The Spanish language was always spoken at home and in his neighborhood; Paco didn’t recall having any White neighbors in his youth in Lawrence, only Latino. As children, they played soccer in the streets with adults sitting on their front steps during the summer; the adults and other children included mothers, fathers, grandmothers, grandfathers and cousins. His entire family spoke Spanish “growing up” and celebrated universal holidays such as Christmas as well as traditional Spanish ones such as his sister’s quinceanera, a birthday party for young women turning 15 years old. Paco described primarily eating traditional Spanish fare such as rice and beans and large extended family dinners after church of Sunday.

His family’s primary reason for coming to the United States was to escape extreme poverty and potentially work hard to earn greater financial opportunities otherwise not available in Mexico. In addition, his parents said they wanted a safer country in which to live. Paco
described his father as extremely hard working and not being around much when he was younger. He further explained his dad managed to work multiple jobs simultaneously to better provide for his family. His mom worked also, but also managed the day-to-day household affairs to include cooking, cleaning, and discipline. He recalled not having much in terms of material things growing up and his apartment was small for the size of his family. It was obvious that he really enjoyed reminiscing about the past and cares greatly for his family.

**Educational path.** As far back as Paco could remember, he was assigned to a classroom with other Latino students because he only spoke Spanish. He stated he did not apply himself early on to learn the English language and resisted learning English up until a certain point. Paco explained that he wasn’t motivated because his friends from his neighborhood and everyone in school did just enough work to get by. He felt that by junior high school (7th grade) that his English was good enough to attend the local comprehensive high school or his district’s CTE school. His decision to attend a CTE school was based on his love of cars and that there was a lot of Latino students at this school as well. Paco concluded that to have the opportunity to work and learn about cars during school was a "no-brainer" as well as having a student body comprised of Latinos. He also reflected upon his experience in a CTE school and believed that it could have been better if the teachers allowed him and other Latinos to perform the work “his way”. When I asked for clarification, Paco explained that White teachers teach you out of a book or as manual; he learned differently and when he would deviate from the instructors established curriculum, he was given low grades although he believed was the most advanced and knowledgeable in the class.
The whole class knew I was the best mechanic in the shop. There is more than one way to do a job, like brakes and the teachers don’t want to hear it. I think they felt like I was showing some sack and they don’t like that.

He concluded that he was a better teacher than his instructors as he helped many of his classmates during the four years of high school.

**Maria - Building Upon Experience Outside the Classroom**

The first time I met Maria she presented as a quiet and shy young lady as her physical appearance is under five feet tall and very petite. However, after establishing a comfort level in the interviews, she is quite the opposite. She is a very direct and poignant and did not respond to the questions with any uncertainty. Maria’s parents are from El Salvador, and she was the first member of her family born in the United States. Maria majored in Early Childhood Education and is currently attending college. She is the first member of her family to attend college.

**Family life.** Maria’s immediate family as well as extended family have all immigrated and settled in or in the vicinity of East Boston, Massachusetts. Her family fled El Salvador due to the violent gang-related culture to which Maria’s parents did not want their children to succumb. Ironically, her older brother did become involved with an El Salvadorian gang in east Boston and was subsequently incarcerated for a brief period. Fortunately, he is doing well and not participating in that lifestyle anymore, but is still viewed as a disappointment to Maria’s family. Maria’s mother used to remind her and her brothers and sisters that bad decisions will lead you to bad places. Maria admits her older brother is a source of motivation “in a way” for her career choice.

Maria and her immediate family are Roman Catholic, and she attends mass most Sundays with her family. Recently, several of her cousins have been attending Assembly of God protestant
churches; she laughed about the continuous invites from her cousins to have her attend services with them. Maria is extremely proud of her heritage and said she has an El Salvadorian flag on her bedroom wall. She is very invested in tradition as she loves to make traditional El Salvadorian meals with her mother and grandmother. She explained the process of making pupusas, but was most emphatic when explaining the history of the dish. Maria delighted in discussing that her grandmother was taught to make pupusas by her grandmother.

In reflecting on her family role and responsibilities, Maria elaborated on how she looked after not only her younger siblings, but younger cousins as well. She did this because her parents as well as her aunts and uncles worked long hours. She did not view taking care of children as an imposition, but as something she enjoyed. Maria rarely received money for watching all the immediate and extended family’s children and didn’t mind. She stated the family was poor and when “you do not have money, you don’t expect it and get used to doing without (money)”.

**Educational path.** Although Maria was born in the United States, she was assigned to an English immersion classroom throughout elementary school because only Spanish was spoken at her home. Maria warmly remembers her elementary school teachers that helped her learn English as patient and encouraging. By the end of 5th grade, she recalled structuring time and creating a type of curriculum at home for her younger siblings and cousins she watched daily. Maria developed and implemented activities on her own in an effort to control the younger kids. She often pretended to be their school teacher and one lesson was helping them with their English.

Maria chose to attend her districts CTE school for three reasons. First, she said the comprehensive high school in her community had a poor reputation and she knows of many friends and family that had subsequently dropped out. In addition, the CTE school in her district offered Early Childhood Education as a major, which resonated with Maria as she explained she
knew as early as junior high school, around 12 or 13 years old, that she wanted to be a teacher. As Maria was already consigned to the fact she would have to attend a higher education institution to obtain her teaching credentials, she evaluated her choices in consultation with her guidance counselor and family and decided to attend a CTE high school. With respect to Maria’s pre-determined decision to attend college after CTE, she is an outlier as compared to the other participants. Her decision is also a departure from many beliefs that students that attend CTE schools aren’t intelligent and do not go to college. Jennings (1992) brought forth that Latino recruitment to CTE schools in Massachusetts were deterred because of the bad reputation the schools had. Latino perceptions of CTE schools were that they were a destination for students with low potential who couldn’t succeed elsewhere.

Maria credits her mother and good teachers for her success throughout elementary and high school. They continually pushed her to commit to her studies and take more challenging courses because of the importance of a diploma.

Cherry- Importance of Real World Experience

From our very first meeting it was clearly evident that Cherry is an outspoken young lady who isn’t afraid to speak her mind. I was actually late to our first interview because I had to travel to the Western part of Massachusetts and underestimated travel time with traffic. Cherry was not shy in telling me how she felt about waiting for me.

An imposing presence that resembles a combination of Oprah Winfrey and Salma Hayek, she is a native of Guatemala and came to the United States in first grade. Cherry graduated from a CTE institution majoring in Business Technology program and currently has three jobs. She attended community college for one year and plans to return to higher education in the future. She is the first female in her family to graduate from high school; however, she was quick to
point out that her experiences in her adolescent years were challenging. She describes teachers that were “put off” by the fact she and others in her classes spoke limited English and to this day is convinced they were treated unfairly because they were Latino. Cherry subsequently earned the reputation as a trouble maker and had a history of disciplinary actions and suspensions.

**Family life.** Upon discussing life history in our interview, it became clear that Cherry does not have a traditional family support system, and she holds a large degree of resentment toward her father. Having lived in Springfield, Massachusetts her entire life, her father left the family when she was 9 years old, which placed a tremendous burden on her mother as the primary caregiver. Her mom passed away “a few years ago” and now Cherry and her older brother are taking care of their younger brother, who has learning disabilities. She further explains she can always go back to college, but right now she has to “step up” or she’d be no better than her father.

Similar to Paco’s and Maria’s family, Cherry’s mom told her they too moved to the United States for a greater economic opportunity. Her mom always reminded her that she used to work for 50 cents a day as a child in Guatemala picking bananas and couldn’t read or write until later on in life. She always posited her kids were better than that and Cherry has taken this to heart and is determined to make her mom proud.

**Educational path.** As we discussed her graduation from Business Tech program and current working situation of holding 3 jobs in that field, she was adamant that she earned her diploma despite her teachers. Cherry further explained:

Most of my teachers don’t know shit. Because I’m Latino that didn’t expect me to do what the White kids did. They pick a few White kids to give their attention to and the rest of us don’t matter. They just want to pass us along and get you out of
school to keep a good graduation rating. The teachers didn’t teach and the kids copied papers and cheated. Most kids didn’t learn shit.

However, Cherry finished by saying she was happy she went to a CTE institution because she learned a trade, which is something students must take loans out to pay for after high school to learn. She expanded on saying she was directed toward her district’s CTE school in 8th grade by the Vice Principal. Cherry believes she was steered in that direction because she had behavioral problems and those type of kids went to the “voke” (a slang term for her district’s vocational school). Ultimately, she viewed CTE as the quickest way to start making money, which was the basis for her decision.

Jose- Learning with Peers

A native of Columbia, Jose came to the United States when he was 8 years old. His family moved to Chelsea, Massachusetts because several other immediate family members immigrated before them and had found success in establishing a business. He studied plumbing and currently works at his family-owned landscaping business. Jose only performs plumbing work on the “side”, but is hopeful to start his own business. He was the second to graduate high school behind his sister and his younger siblings are on track to graduate from the same CTE school that Jose attended as well.

Family life. The extent of the influence and connection to family was greatest in Jose’s family than other participants. His entire family is involved in various realms of his daily life ranging from school to his wedding planning. The involvement stems from the family business, which is comprised of many members of his immediate and extended family. Several members of Jose’s family have dropped out of school and went to work full time at the family landscaping business. In the peak of the summer season, all of his siblings and cousins work long hours with
many relatives seven days a week. He elaborated that once his cousins and family got a taste of working for “real money”, school became less important. He concluded that “no matter how much they worked, they always found time to play football” (American soccer). He is an avid supporter of an international football team, Manchester United, and often wore their football jersey to our interviews.

Jose describes his immediate family as very close knit. His parents always try to have dinner as a family every night and also attend church Saturday or Sunday of every week. Spanish and English are spoken at home with the family and Jose added that they are slowly becoming “Americanized” by their use of cell phones and affinity to following reality programs on television.

They grew up in a three-unit house in which they still live. He said they used to rent from their cousin, but his family now owns the property with relatives living and renting in all three apartments. Jose explained further when they first came to the United States they had very little money. Nine total family members including cousins lived on one floor. He loves his neighborhood that has always consisted Latino people and stores; however, lately there has been an increase in violence between Latino gangs that has spurred his family to look for a house in the neighboring city.

Educational path. Jose found the Chelsea school system extremely supportive of Latinos. He attended immersion classes with many of his cousins and he credits that experience to accelerating his ability to learn English. His cousins came to Chelsea several years before Jose’s family and they helped him learn English because they spoke it anytime they were out of their respective homes. Jose admitted he did struggle in core subject matters despite his efforts. He described his average grades as a “C”, with which he was happy.
Jose decided to attend a CTE school because several friends and family members said it was easier than the comprehensive high school and many of the kids spoke Spanish there. He admits he went into the plumbing shop not because he particularly enjoyed the plumbing trade, but due to the reason many of his friends who were Latino and athletes chose it. He further detailed it was more of a “popularity thing” and admits to being influenced by others. He proudly discussed his achievements on the soccer field during high school from selections to all-star teams to seasons they won their respective division.

**Major Themes**

The first theme provided insight into how the participants’ identity played an important role in student decision-making and future outcomes. For the second theme, the participants were cognizant of the learning environment, curriculum design, and assessments and were able to navigate and negotiate these to their benefit. The third theme reviewed students’ appreciation and recognition of the important role positive teachers and administrators had, which helped them envision their own future. How participants experienced their respective CTE school are touched upon throughout each theme. The three themes speak to the participants’ formation of future aspirations based on their racial and working-class identity, the learning environment, and the influences of faculty.

**How Racial and Class Identities Contributed to Student Decisions and Outcomes**

The four subjects that participated in this study all met the established criteria of being identified as Latino, between 18-21 years old, and graduated from a CTE school in Massachusetts. The participants’ racial and class identities contributed greatly to the decisions that they made as well as their academic, social, and professional outcomes. The participants
commented how their socioeconomic status, language, and race impacted their experiences. Study participants also discussed how and when their identity took shape based on their lived experiences. Although living in different geographic areas of Massachusetts and attending different schools, they shared a common experience of having to navigate through many different Latino cliques within their respective school setting because of established stereotypes ranging from career technical area selection to athletics.

All of the participants operated in spaces with differing expectations from how their Latino-American hybrid identity meshed with their respective school system and the educational systems’ expectations. Specifically, the participants initially wanted to remain close with their Latino peers as well as positively interact with staff. However, the participants’ peers and staff members had different expectations of them. Stated differently, the participants had to negotiate interactions with both peers and teachers. Paco summarized this dynamic as he discussed the automotive shop curriculum and teacher interaction:

I didn’t want to get into it with my teachers [not argue with instruction due to being disinterested in points in the curriculum]. I like Honda’s and making cars go fast and drag racing and stuff. My teachers wanted me to work on old lady cars and understand code lights and computer shit. I knew I couldn’t have fun all the time, but, damn that got old [topics Paco and his peers weren’t interested in].

Similarly, Cherry routinely discussed the camaraderie shared by her peers in the Business Shop:

We fooled around in shop a lot; most of us checked out when the teacher didn’t give us hardly any work to do. I wanted to learn more, but Latino kids would rash [verbally degrade] on other Latinos if they asked a lot of questions and things like
that. I was just careful to ask a certain teacher on the sly [in passing with no students around] about things my job was doin’.

**Socioeconomic Status**

All four participants who self-identified as low-income found themselves in districts with underperforming schools. Thus, their socioeconomic status dictated their access to quality elementary schools in their youth. However, the participants’ application and acceptance process itself to a CTE high school was not contingent on socioeconomic status; Massachusetts public education law mandates every city and town in Massachusetts has to offer access to a CTE school to students that reside in their district free of charge. A common reinforcement of the participants’ identity with respect to socioeconomic status was their enrollment in the free and reduced lunch program. All four participants participated in their schools free and reduced lunch program, which families can qualify for if their individual household income is below a certain threshold. Although it is not public knowledge which students are on the free and reduced lunch program, the participants indicated it becomes common knowledge pretty quick. Paco stated the following:

Everyone knows if you’re poor when the lunch lady swipes your ID card and breakfast or lunch only costs .35 cents. Your picture pops up on the screen and anyone in the line near you can see. It’s no biggie cause I used to buy kids breakfast cause I never eat in the morning anyway.

One-half of the participants did indicate that they chose a CTE school because they viewed CTE as the quickest vehicle to earn a good salary, as college was not going to be an option in the future. One participant considered a CTE diploma a more valuable commodity than a comprehensive high school diploma because she stated that a CTE credential would be a useful
tool to earn extra money while attending college in the future. The participants’ decision to attend a CTE school in their respective districts was based on language and racial as well as economic influences.

Race

Every student that chooses to attend a CTE school in Massachusetts has to leave the safety and comfort of their familiar district. All of the student participants’ institutions that they attended were regional in nature; the CTE school Paco attended was a 40-minute bus ride away from his house and was comprised of multi-ethnic students from as many as 18 different feeder cities and towns. The participants performed what they defined as being Latino to initially fit in with their Latino peers. As freshmen arriving at a new school environment, the Latino student participants discussed how they all initially connected with other Latino students. The common language and heritage provided a commonality to which the formation and ultimate acceptance into a social network was based.

For these students, to be Latino went beyond speaking Spanish in common areas of the school. It was in the form of attitudes and norms in areas such as choosing which CTE program in which to major. For example, at Jose’s school the majority of the students in the Transportation programs, Collision Repair and Refinishing as well as Automotive Technology, were Latino. Similarly, Maria pointed out, in what she calls the “White girl” programs, that the majority of the students in the nursing and dental assisting programs were White females. All participates did conclude that any student is free to choose any career program and that there are Latino students represented in most programs; they were speaking in terms of general attitudes among Latinos.
Also, three out of four participants commented on how they were repeatedly asked to participate in extracurricular activities by staff and/or cultural stereotypes by fellow students. Athletic and physical education staff strongly encouraged Latino participation in sports such as soccer, basketball, or track. Paco, Jose, and Maria recalled that as a new freshman being asked by multiple staff members if “they were fast” as an inquiry regarding their running abilities. The staff was also quick to point out or “sell” how good their soccer teams currently are and their accomplishments, etc. Latino students would also encourage fellow Latino students to participate in sports such as soccer or basketball. In addition, Latinos students also advocated for the wearing of the latest hip-hop fashion and driving of a certain type of customized car. The youth culture was not traditionally Latino, but an interpretation by the students of how Latinos should dress as well as dictating their other interests.

Although the degree of self-segregation and racial delineation varied between CTE schools that the participants attended, race became an easy method of forming friendships and gaining acceptance in a new environment during freshman year. Several participants commented that once they became familiar with the school and selected a career program toward the end of freshman year, race became less of significant as part of their identity. Cherry elaborated further that, as an upperclassman, if one of the students in her program had a problem with another student in the school, all “BT [business tech] would have their back” regardless of race. She viewed her classmates as Business Tech students only. Building-wide students were grouped together after freshman year by their career program and spent the majority of their time there. For example, Paco, Maria, and Jose discussed how the students in their respective programs had shirts made up with their name and program on it. In Jose’s plumbing shop, the shirts had to be worn during shop time as part of their required work uniform. Jose recalled how plumbing
students were easily identifiable because of the shirts they wore when outside shop during the day such as in common areas or on a school bus. He explained some teacher complained to a plumbing teacher that a loud and disruptive student passed their classroom in the hallway going to the cafeteria. When the teacher went into the hallway to address the student, they did not recognize the student, but did see the plumbing shirt. The plumbing teacher called the plumbing students together and “went off on us” by saying they all represent the plumbing shop. Cherry recalls her shop being her second family, complete with kids “getting on her nerves” because they were together so much. She continued:

You got to understand the way shop is set up- every other week we are together all day Monday through Friday. That’s all day, man. If you got a beef [conflict] with a classmate, there is nowhere to go. You may be arguing one minute and chill the next. Cause we spent so much time together, you know, we became a family.

The participants identified strongly with their racial identities. In the context of the CTE, their racial identity of Latino was closely aligned with many positive things within the school, particularly their “shops”.

**Language**

The participants experienced inconsistent policies at their schools with respect to language. Overall, the schools did not have clear policies regarding language or specifically required that only English be spoken. Jose and Paco experienced faculty and staff that permitted students to converse in Spanish. Jose commented during our interview on the topic of soccer in school:

We spoke Spanish on the field when we communicated with our teammates. Our soccer team had only one White kid and he didn’t play much. He didn’t mind that
we spoke Spanish on the field. Our coach was Puerto Rican and he spoke to us in Spanish, too. It wasn’t really an advantage cuz we played lots of teams that did it too. I liked it because it was how we grown up playing and some of the words and expression don’t translate to English that easy.

Within the Career Technical area, Jose’s plumbing program as well as Paco’s automotive shop both permitted students to converse in Spanish. Paco felt it was easier to talk with his classmates in Spanish as the names of tools and car parts were easier to recall and refer to. He was quick to point out that he did try to speak English when he was paired up his white classmates. Paco did also admit language was an occasional source of tension between himself and his instructors who were all white. The acceptance of their native language by their instructor appeared to make these students more comfortable in their programs and this comfort may have been a reason for their success in these programs.

To contrast, Cherry and Maria experienced faculty and staff that demanded English be spoken at all times. Maria told a story of two students of Middle Eastern decent that were reprimanded by a hallway monitor for speaking Arabic. The position of the monitor was that some students complained that the other students were talking about them. Cherry adamantly said her instructors thought the Spanish students were cheating when they conversed in Spanish. As a result, Cherry’s Business Technology shop instructors enforced an English only policy. Cherry stated she and other classmates didn’t agree with it, but didn’t challenge the policy because the teachers “got away with everything” because they were friends with the principal. Cherry concluded by saying that her table at lunch consisted of all Latinas and they spoke Spanish loudly in the cafeteria.
Maria’s Childcare program instructors also insisted English be spoken at all times. The rules were centered on the pre-school program, which consisted of children from the community coming into the school for half and full day scheduling options. Maria stated all her instructors were White as well as the majority of the clients. She also stated she felt the Early Childcare Department Head didn’t like Latino students and special privileges were afforded to white students in the program. Both Maria and Cherry echoed that although their respective programs had English speaking rules in space, they still spoke Spanish with other Latinos in their program. They were selective and careful not to speak too loud or during testing periods. While these participants had different experiences regarding language than the ones who were allowed to speak Spanish, they still bonded with and found support and comfort in being able to speak their native language with their peers in the program outside of the formal class setting.

Participants in the study discussed how their identity took shape as they ultimately made sense of experiences as it related to future aspirations, and the participants linked these to their CTE school experiences. They discussed their interactions with individuals, and they illuminated how peers and school employees influenced the school environment of which they were a part.

Navigating and Negotiating Learning Environments

The second theme of educational awareness was developed after observing that students navigated their educational experiences beginning with their decisions to attend high school outside of their neighborhoods. The participants experienced a stark difference in the facilities and environment between their home districts schools and their CTE institution. Each of the participants who experienced attending elementary and middle school in Massachusetts found that their school was essentially safe and clean, and had very few drugs, weapons, and fights. In attending their respective CTE schools, the study participants had to first make the choice to
leave their familiar environments of their respective cities or towns. Once at their CTE school, the participants also explored in some schools as many as 17 different shop programs, from which they had to ultimately decide on one to major in over the next three years.

Cherry states that her school in her home city was,

\[\text{. . .taken over by Boston ‘cause we underperformed. Next thing you know we have a brand new school. We had some kind of partnership with colleges and we had lots of student teachers helping us. The attention helped me ‘cause my grades improved.}\]

The CTE institutions the participants attended were in moderate to poor condition. The majority of the CTE schools in Massachusetts were built in the 1960’s. Only Paco’s school had since been rebuilt and opened in 2014. Maria stated her Early Childcare shop was clean and maintained; however, she experienced school filled with dirt and grime in the cafeteria, classrooms, and hallways. According to Maria,

\[\text{The halls were just bad, really narrow and lockers that didn’t work with graffiti. It was very dirty and trashy. The café was just plain nasty. Like I can’t believe they let people eat there. The problem was the café was used for multiple purposes…. assemblies and then sports like cheerleading after school. Just smelled nasty.}\]

Cherry and Jose both commented how when there were periods of inclement weather, several barrels and buckets were needed to catch water from the roofs that leaked. However, the common criticism the participants had was not with their CTE school physical building; the main problem centered on not having the latest technology with respect to tools and equipment in the Career Tech programs.
Jose and Paco suggested that their shops were using antiquated tools and equipment. They first realized it when they hung around upperclassmen that were working in car dealerships and union plumbing apprentice programs that had cutting edge technology. Maria stated that when she got a job on cooperative education during 10th grade, her employer did things much differently than how she was trained at school, primarily due to advances in equipment. Cherry echoed Maria in the sense when she started working “in the real world”, she recognized she knew the basics, but was not up to speed on the new accounting software and programs at her job. Cherry proudly said,

I learned my job on my own. When I applied I thought I was all that and was psyched to be making some good doe. I realized I had to bs my way through and learn this stat. My employer was cool with my while I got the hang of it, but it was a place that you have to pull your own weight. If I wasn’t a quick study I would’ve been o-u-t, out.

**CTE Curriculum**

As promulgated by the Career/Vocational Technical Education unit within the Department of Elementary and Secondary Education (DESE), CTE students must satisfy technical frameworks and earn a Certificate of Occupational Proficiency (COPS) as a prerequisite for graduation. Within the frameworks are 6 strands, which contain hundreds of skills referred to as competencies that students must learn and earn proficiency in a respective program. These frameworks are applicable to all CTE schools in Massachusetts. To that end, the same automotive technology material that is being taught to Paco is also being taught to every automotive technology student in any of the 57 CTE schools in Massachusetts (Massachusetts Department of Elementary and Secondary Education, 2008).
Each of the participants perceived the curricula in CTE to be both challenging and unchallenging. For the curriculum to be challenging, the participants believed that it must not only challenge and contribute to their understanding of the material, but also ultimately have the potential to be relevant to their lives and success in the future. For example, Paco believed exposure to the curriculum prepared him for life after CTE. He states,

I just think if you kind of need to have an idea of what you want to do… if you know yourself, for me I’m a fast-paced person and wanted to know as much and as soon as I could. I knew the basics of cars and wanted to know more. I also want my own shop someday so I wanted to know the business side, too. My favorite teacher and I researched shops in my city and how much rent was and stuff like that. He also left me alone a lot and let me do the more challenging stuff other kids couldn’t do because I didn’t need his help. He knew what he was doing.

Other teachers just teach to frameworks and yell at you for not wearing safety glasses. No clue.

Maria was the only student that enrolled in Advanced Placement (AP) courses during her time in high school. Although AP courses are not offered in all CTE schools, many high school CTE programs are partnering with community colleges and developing articulation agreements for student access to advanced certifications after high school. As an admission requirement, students need to have taken AP courses. Maria excelled at English because she liked writing and knew she would need English skills in college. In general, she found her academic classes challenging because in her CTE school, not many students chose AP or advanced academic courses. For many of her assigned English and Math papers, Maria integrated the assignments into her Childhood Education program. Maria discussed an occasion where she had to interview
her elementary school teachers in her hometown community. She found that experience extremely insightful and personally rewarding. Maria concluded by comparing her academic teachers with her shop teachers. The academic teachers took time to explain questions she had whereas her shop teachers dismissed questions by saying repetitively it was “state law” when asked about topics ranging from sanitation to child supervision techniques.

The non-challenging and non-relevant curriculum did not have these characteristics. Cherry also reported that her shop lacked rigor and resources. According to Cherry, “The frameworks we were taught out of a book. The material was old and we were not really challenged. All the teachers wanted to do was check off that we did the competency and move on to the next one because that’s how teachers show they’re doing their job.” She also elaborated on the inordinate amount of down time in her program. If students were caught up on their framework competencies, teachers let students hang out and do their nails and hair in shop. The upper class shop content had minimal relevance to what Cherry refers to as “the real world” and was rationale for her not fully participating in her shop.

Jose really flourished in the house-building segment of the curriculum. As part of his school’s frameworks, students in the construction trade programs at his school participated in a house-building project in the community. Jose described how the students from different trades would discuss the projects’ progress with one another. The nature of the physical building construction requires the different trades work at different phases of the process as well as some trades overlapping. As Jose was in plumbing, his program’s involvement in the construction process would come after carpentry students framed the house, put the walls up and the roof on. From there, plumbing students would install the required water and sewer services and then
followed by electrical students, etc. The students from the different trades would critique students from different trades work, both positively and negatively. Jose explained,

We left the school during shop week and got coffee on the way to the house. We installed plumbing in the house next to the electrical students. Before we got on site, some of the carpentry kids messed up some of the walls so the kids in PL [plumbing] and EL [electrical] would give them shit. It kind of became a competition among the trades to show off your skills. Wearing a tool belt and a hard hat with people walking by was cool. The teachers treated us like adults as long as we were safe with tools and not goofing off. Some teachers did the work themselves and had students stand there and just pass them tools. Kids hated that cause it was cold or hot but more importantly it was mad boring. Kids would sneak out and smoke ecigs [electronic cigarettes] and stuff.

Jose concluded that because of that experience he joined Skills USA, which is a competition among CTE schools. This program holds competitions on the local, state, and national level. Students complete in their respective program areas, with Jose having to read plans and install plumbing pipes in a simulated workstation against other plumbing CTE students. He stated he made it to the “states” his sophomore year, but had to quit because his academic grades were poor. Jose said he didn’t like his academic classes at all. All CTE schools in Massachusetts require students to earn a core number of credits in English, Math, Science and Social Studies as well as physical education in addition to their career program area. Although scheduling varied between participant schools, students spend 50% of their time in academic content areas and 50% in their career technical program area over the course of four years in high school.
The Latino students, who experienced a challenging and relevant curriculum, achieved more and were more engaged than those students who did not have access to a challenging and relevant curriculum. For example, when presented with a challenging curriculum, the participants worked diligently and made good grades as in the case of Jose and Paco in shop and Maria in academics.

The participants presented with a non-challenging curriculum oftentimes underachieved. As Cherry reported, her teachers did not incorporate a challenging curriculum, and did not have “real world” materials due to budget constraints that could have helped her achieve more. She had to ultimately learn on the job.

For Maria, exposure to a challenging curriculum allowed her to believe that she could be successful beyond CTE. According to Maria, “You leave looking forward to college because you are prepared for the next chapter.” Feeling prepared for the next phase of life is a recurrent trend for the participants. For example, Cherry found that the curriculum in her shop to be outdated and weak. She also felt bad for other kids that were graduating from her program with those skills alone because they would be unprepared after high school.

**Assessments.** Study participants predominantly agreed that the assessment system within Massachusetts CTE is fragmented and in need of change. CTE students must satisfy hundreds of specific competencies specific to their program area as well complete the academic criteria and passing scores on state mandated assessments to earn a diploma just as comprehensive high school students do. Specifically, students must earn a proficient rating for all competencies that make up 6 frameworks. Paco stated, 

In the shop I work with my hands, no problemo. I demonstrate I can do what they ask me to do, like a brake job. The teacher checks off the competencies if I do it
right. From start to finish I replace the brakes with the right tools and everything. I can do that easy. We then have what is called related class, which is a class just for the shop in a classroom. A lot of book stuff in that class messes me up and I end up not doing good on tests.

Maria also echoed the tricky dynamic of different assessments between shop and the classroom. She said in shop, teachers watch you do perform an activity individually. If you miss a step or do a segment incorrectly, you do not earn proficiency in the topic area and have to be assessed again. For most, that assessment is easy because it is hands on and the student has practiced. However, in the classroom you are tested on textbook content. “Open-ended questions were really difficult for me” claimed Maria. She explained that if you didn’t understand the question, you could write an answer that rambled in the wrong direction.

Jose further reinforced the delineated assessment experienced in CTE between the shop and classroom. For example, Jose explained at the house building project he was graded on part of a heating system he built. He had to interpret and understand building plans. The ability to take the dimensions and translate into a physical product was difficult, but he figured it out. From using a torch safely to solder pipes together to using the correct assembly procedure was part of the competencies. However, when he took a test in related class on the same subject matter he received a 65%, which he couldn’t understand. He reviewed the test with his instructor afterschool and determined the vocabulary terms were the basis of his problem. The test used the term “slope”, however in the field the term used to describe the angle was “pitch”. Jose equated the term “slope” as something different. Although he knew the material thoroughly, his ability to navigate the English vocabulary was a struggle at times.
Recognizing the Positive Influences of Teachers, Administrators, and Peers

The third theme reviews students’ appreciation and recognition of the important role positive teachers and administrators as well as their own peers had, which helped them envision their own future. The interactions that resulted in positive influences came from a variety of areas of the participants student life; athletics, career program areas and classrooms.

Positive Relationships with Teachers. This segment touches upon the relationships formed between the participants and the faculty and staff in their CTE schools. The participants experienced some school employees who were neither caring nor passionate about teaching. However, in many cases the participants experienced having positive relationships with teachers, both who were white and teachers of color. Overall, the participants found that these teachers of color had a better understanding of the realities of Latino students related to their socioeconomic status, race, and families. According to Cherry, “They [Latino teachers] kind of understood the struggles that they was going through and stuff like that. We could talk to them and know that they would help us out.” Jose found that the connection between Latino students and his plumbing shop teachers beneficial. These teachers were not only firm with their students, but also took a sincere interest their students’ success. As a result, the participants and their peers felt comfortable to share intimate details about their life with their teachers.

Paco, Maria, Cherry, and Jose all positively experienced teachers who seemed to be committed to the participants based on the genuine interests that they showed in their lives. These teachers focused on the participants’ achievement because they knew the value that education would have in their lives. For instance, Maria’s English teacher took time to form a positive relationship with her and motivate her to get better grades in her other courses. Maria
stated, “She was my favorite teacher. We used to always just talk. I remember her talking to me why I’m not making honor roll and doing as well in shop, stuff like that.”

Paco and Jose experienced both teachers who understood the importance of teaching and equipping Latinos with necessary life and academic skills. These teachers had very high expectations of the students. Paco recalled, “I remember going into certain shops and kids were just hanging out, smoking weed in the morning and doing nothing in shop. Some shops had teachers that just pushed kids through. Although I wish there were more Latino teachers, my auto teacher was diesel.” Jose formed a close bond with his soccer coach, who was from Puerto Rico. He understood my culture. Jose stated he had to miss soccer practice sometimes because his families landscaping business needed him. His coach always understood and he compared him to the football coach’s policy on missing practice. Jose said, “his friends on the football team can’t miss practice or they don’t play in the game, no excuses”.

Although Cherry had an adversarial relationship with her shop teachers, she did state she would stop by the English Language Learners (ELL) room daily to say hello to her two favorite teachers. Cherry spoke about how these two ELL teachers, who were Latino, “understood” her. Most students viewed Cherry as tough as she is outspoken and maintained thick exterior. She said her two favorite teachers knew the “real Cherry” and they told her their door was always open. They were always happy to see her and received Cherry with a big smile and a hug. To contrast, Cherry felt disconnected to many of her white teachers believing they wouldn’t take the time to get to know her.

**Teaching strategies.** In regard to teaching strategies, the participants experienced both effective and non-effective teaching strategies in their CTE school. When participants
experienced effective teaching strategies, they had higher interest when compared to the times in which they had non-effective teaching strategies.

Each of the participants outlined and assessed effective teaching strategies differently. However, there were common themes among the participants in how they viewed effective teaching strategies. The participants reported that teachers who used effective teaching strategies used multiple methods to deliver their instruction, brought in guest speakers, and allowed students to figure it out themselves. With respect to evaluating the quality of teaching strategies, the participants took into account the level that they were challenged and subsequent desire to move on to more advanced and complex activities.

As shown earlier, the participants believed that faculty and staff could promote student success through curriculum as well as affect student success through teaching methods. Each of the Latino students experienced teachers who used effective teaching strategies that led to high achievement and engagement in their schools. Many of the participants noted the significance of having effective instructors. Maria stated that good teaching was “taking the time to explain things.” Jose stated “they treated us like adults”, and Paco enjoyed the freedom to delve into projects on his own without being restrained by lectures. When Paco was asked to expand about the teaching strategies used by “good” teachers, he referenced his auto teacher. “He made you think on your own instead of just teaching. He taught you how to figure it out, ‘oh that is how this works.’ You had to analyze it more.” However, when Jose was asked about what would have made his teachers more effective, he responded, “Group activities.”

Each of the participants also experienced ineffective teaching strategies that led to disengagement and underachievement, which were found in academic and career technical classes. Many of these teachers did not really focus on students’ achievement, and this was
evident in their low expectations for their students in terms of their achievement and experience. “Certain antique teachers, their form of teaching is outdated.” Maria stated, “They just teach to frameworks; they dumb it down to one size fits all. They don’t really want to go beyond the frameworks and just do enough to cover themselves for their evaluation.” According to Cherry, “My senior year accounting class, I didn't learn not one thing. Not one thing. We went in that class and watched shark tank episodes. The teacher has a few years to retire and was absent a lot.” There are serious consequences to having teachers that do the bare minimum. For example, many of these teachers did not prepare students for standardized testing as mandated by the Department of Elementary and Secondary Education. Cherry stated, “As a result of not being prepared for state tests, I had to go after school for help and take a remedial course for skill deficits in order to succeed academically.”

Jose summarizes the participants’ overall experiences of their teachers. He states, “I'd say it's mixed, kind of inconsistent across the board. You have some teachers that really care you understand the material and can actually teach you the subject, and other teachers that don't care to teach you”.

**Peers and Other Students as Influences**

Participants in the study discussed how their peers and school employees helped to shape their experiences in CTE. They discussed their interactions with individuals in both academic and career technical program areas within CTE, and they illuminated how peers and school employees ultimately influenced their future aspirations.

**Student interactions.** In their CTE schools, Paco, Maria, Cherry, and Jose initially had little interaction with students of other races. The vast majority of their interactions were with other Latino students. As a result, during different periods through freshman year, the students
experienced the phenomenon of different race groups choosing to self-segregate themselves from each other. However, at different times during the second and third term, when the participants were assigned to a career tech program was where race became less important. Maria describes her shop and a typical day as,

On shop weeks [her school followed a week on, week off schedule. Shop full time one week, then academics full time] we go to shop Monday through Friday 7:30 am – 1:50 pm. All of us would be tired in the morning and the teachers would be yelling at us to throw out our coffee and drinks. Then, the pre-school kids came in and we all had to step up our game; reading to them, making sure they played together nicely, escorting them to the playground outside on nice days…. it was a lot of work! We spent so much time together we felt connected. Then at the end of the day this one teacher would tell us all what we did wrong.

Maria continued to describe the success she achieved in her AP English and Math class was not only with assistance from her teachers, but her classmates. Her classmates formed a student group, which the students would voluntarily assemble in the library during study periods to prepare for tests. The study group eventually evolved to assist underclassmen that were struggling with their academic classes. This student group was comprised of students from multiple ethnic backgrounds and they all pushed each other to be better.

Paco stated his shop became “tight” during a time of adversity. He described his auto shop that was full of cars with automotive problems being worked on by students. Members of the public owned the vehicles in the shop and they would bring their vehicles to CTE schools for work because they wouldn’t be charged labor costs by law. As a client came at the end of the day to pick up his vehicle, he reported to the instructor that he was missing money from his
glove compartment. Paco recalled that everyone had a good idea of who the culprit was; however, nobody told the instructor which student stole the money. Everyone had to stay after school because of the incident and the auto shop department head promised additional discipline. The next day the entire class was called together and was going to receive significant disciplinary measures. Fortunately for the class, the perpetrator stepped forward and admitted he had taken the money. After that, the entire class knew the class “had each others backs” and they became more than simply just classmates.

Cherry routinely spoke of her admiration for her BT [business tech] sisters. She boasted about how they were known as the loud kids in the halls and cafeteria, always joking and having fun. She describes them as her “second family” that knows her personal hardships and has been there for her in the past and will be there in the future. Some of her “girls” babysit for her younger brother while she has to work. Also, a relative of one of her BT sisters got Cherry the job that she is currently employed at which has provided her phenomenal training opportunities. Cherry is driven to do well not solely for her mother’s memory or younger brother’s need, but for her BT sisters as well.

Jose described himself as “easy going” and “I get along with everyone” during our interviews. He admitted having friends in all of his classes, however the social circle that Jose predominantly identified with was with the soccer team. For example, even during shop weeks when the majority of his fellow plumbing shop classmates would sit a table together, Jose would sit at the soccer team’s table. He also mentioned that when he struggled in plumbing and lost eligibility to participate in Skills USA, upper-class plumbing students on the soccer team rallied around him and took turns tutoring him.
**Influence on Future Aspirations**

While the findings in this section overlapped with the themes that emerged, the researcher will highlight these findings as they directly address the research question. All of the participants held aspirations in various forms that were derived from their respective identities as immigrants and English language learners as well as from within their respective families and peers. These experiences ultimately led the participants through different routes to CTE, but there were certain elements of high school that had a significant impact on all participants’ aspirations.

**Learning environment.** Although they were in different CTE programs with different logistical dynamics, all of the participants’ future aspirations were influenced by their learning environments. Jose, Maria and Cherry were all impacted by their external learning environments that were facilitated through their respective schools.

Cooperative education led to real world learning for Maria and Cherry that assisted in shaping their perspective for future career paths. Cherry, who was uncertain of her future early on in her business tech program placement, disengaged from instruction due to the learning environment in her program. However, she fully embraced her cooperative education position located in the community and began to apply herself as she had not done throughout her classroom coursework. She sought out available training options through her employer to further and deepen her understanding of the business technology field. Similarly, Maria’s external work reinforced her commitment toward higher education to prepare her as a teacher. She gained perspective on what effective teaching looked like from her experience as she compared and contrasted her schooling to her employer. Lastly, although Jose did not participate in his schools’ cooperative education program, he flourished at the house building project. This was more than
just a geographical change going from the school to the house site; he felt empowered from seeing community members walking by seeing him work to being left alone to complete a project.

The CTE learning environment also shaped Paco’s future aspirations as well beyond the instructors influence as mentioned in the previous section. The automotive shop’s group work dynamic solidified his entrepreneurial ability because it enabled him to help other students. The automotive shop's learning environment promoted the opportunity for Paco to be an effective delegator and teacher; students would routinely ask him for assistance because of his advanced ability and that created his leadership role. As Paco visited automotive programs in his community and gauged the demands of owning a business to include managing employees, he emphatically concluded “I can do that!”.

**Instructors.** Although all the participants easily identified with instructors of color, it was instructors that had taken a genuine interest in the students well-being had a significant impact on their future aspirations. Paco often discussed how his confidence and ultimate commitment to his career choice was bolstered after his instructor’s assignment required him to visit established automotive shops in his community. The assignment was specific to Paco; an instructor that knew him well realized this assignment would provide clarity to him with respect to his future career choice. To contrast, Cherry was essentially disconnected from her shop instructor and as a result she disengaged from her curriculum. The Business Tech instructors lack of interest in the program students manifested in an inordinate amount of down time with students doing unchallenging and minimal work. She stated the instructor only “cared about teaching the frameworks” and in her perception did not learn anything of value.
Summary of Findings

Chapter Four presents three themes that emerged from this study. The research question guiding the study was: What are the lived experiences of Latino students in CTE in Massachusetts and how they ultimately made sense of those experiences as it related to future aspirations? The themes emerged from semi-structured interviews and were supported by the participants’ statements. The first theme speaks to how identity played an important role in student decision-making and future outcomes. The second theme connects to students being cognizant of the learning environment, curriculum design, and assessments and their ability to navigate and negotiate these to their benefit. The third theme reviews students’ appreciation and recognition of the important role positive teachers and administrators had, which helped them envision their own future. A discussion of the research findings and implications for research and practice follows.
Chapter 5: Discussion

Summary of the Study

This study used an Interpretive Phenomenological Analysis approach to understand the lived experiences of four Latino students that attended a CTE school in Massachusetts and how these students made sense of their experiences in the context of their future aspirations. Individual 45 to 90 minute semi-structured interviews were conducted as Seidman (2013) recommended a three-interview sequence. Smith, Flowers, and Larkin’s (2009) method of data analysis was utilized to collect and provide specific knowledge concerning the lived experiences of participants. In particular, the researcher sought to understand how students made sense of their overall educational experience and how their future aspirations were affected. The data gained is particularly relevant given Latinos are now the largest minority group in the U.S. and in many individual states, including Massachusetts (U.S. Census Bureau, 2012). This study sought to understand the lived experiences of Latinos in CTE. Four recent CTE high school graduates were interviewed about their personal experiences as a student in CTE. The information processed from these interviews helped to illustrate how Latinos experienced CTE in Massachusetts.

Social Constructivist Theory was used as a theoretical framework to better understand the lived experiences of Latino students in CTE. This theoretical framework was essential to the study because it takes into account the social artifacts in the experiences of Latino students. Social Constructivist Theory also served as an appropriate framework because the findings opposed the conventional educational environment and too frequently used methods of repetition and memorization (Dewey, 1938).
This chapter initially discussed the research findings in context to academic literature and theoretical framework. From these findings, the researcher offers two broad conclusions about the lived experiences of Latino students within CTE in Massachusetts. Arising from these conclusions, the sections following examine a number of different implications and recommendations for policy and practice as they relate to CTE educational stakeholders and Latino CTE students in Massachusetts. Finally, this section presents a discussion about the potential importance of this study and its findings and ends with a review of areas for future research.

Discussion of the Research Findings in Context to Academic Literature

To date, there has been little to no studies that have specifically focused on the lived experiences of Latino students in CTE in Massachusetts. Business, industry and educational stakeholders who seek to better understand and improve the CTE experiences of Latino students should begin to examine their practices and policies in order to provide targeted support for these students (Arbona, 1990; Carnevale, 2005). This study offers stakeholders’ future considerations that are grounded in research that could increase achievement and improve the overall experience for Latinos students within CTE programs in Massachusetts and nationwide. As titled on the Massachusetts Department of Elementary and Secondary Education’s (DESE) CTE webpage, “CTE is leading positive change in secondary, postsecondary and adult education, with innovative programs that are making a difference nationwide. CTE in Massachusetts continues to be an active part of this change” (2015).

This researcher presents two significant findings about the lived experiences of Latino students in CTE in Massachusetts and how these students made sense of their experiences in the context of their future aspirations and from them draw a number of different conclusions. The
goal of these conclusions is to best prepare Latino students that choose CTE with 21st Century employability skills and move instruction to drive students toward a process of positive decision making. Decisions can materialize in the form of dropping out of school, behavioral issues, decreased school engagement, and ultimately unpreparedness for industry, trade school, or college. Therefore, the study as a whole serves to both add to the existing body of literature about lived experiences of students in the CTE setting in general, and to offer potential strategies for CTE educators and districts toward changes. Two major findings drawn from this study are as follows:

1.) All students will benefit from experiential learning environments and,

2.) Social Constructivist classrooms promote the development of positive peer and instructor relationships that result in better student engagement.

**Learning environment consideration.** While the Latino school drop out rate and overall difficulties in education in the United States has been documented for years (Gandara & Contreras, 2009; Santiago, 2011; Maldonado & Farmer, 2014; Singley, 2011), the literature that explores the educational and vocational transitions of Latino students is limited (Ladany, Melincoff, Constantine, & Love, 1997). This study is the first to examine the lived experiences of Latino students in CTE in Massachusetts and how these students make sense of their experiences in the context of their future aspirations. It adds to the existing research on experiences of Latinos in CTE in secondary education level by describing common themes and specific cases the participant’s future aspirations were influenced.

**Student Critiques and Suggestions**

The two findings drawn from the study were supported by participant interview responses. Specific to the participants’ CTE learning environment, three quarters stated their
respective schools were old and in disrepair; however, the physical condition of the building was less of an obstacle than the program areas not being equipped with the latest tools, equipment and technology. It is noteworthy to point out the participants were realistic in terms of school and program funding and that every program could not keep up with every state-of-the-art tool, equipment, or technological advancement developed. In some cases, the students had tools, manuals, and software programs over 10 years old. With these specific cases, there is a disconnect with CTE’s mission of student preparation. Gordon (2014) argues that federal funds allocated to CTE schools through the Carl D. Perkins Career and Technical Education Act, has changed the emphasis from primarily expanding CTE programs to program improvement. As discussed in Chapter 1, the Perkins Act focused on supporting vocational education by channeling federal monies to programs that collaboratively combine academic and vocational education.

All participants experienced in their respective programs either tools, equipment, and/or curriculum that were not relevant to real world applications. Jose and Paco both realized as upperclassmen that the tools and equipment used in their programs lagged behind what was currently being utilized and applied in the trade. They were made aware of diagnostic tools, equipment, and training differences from older students that worked at car dealerships and who were union apprentices. Cherry did not apply herself in her program area after learning that what was being taught in school was not relevant to her employment outside of school, which was in the same field. Cherry became aware of the disparity while working through cooperative education, which is touched upon in the next section. As a result, the students lost interest in their particular program area, which previous researchers have stated to be the primary cause of disengagement from school and dropping out entirely (Cohen & Beharov, 2002; Plank, 2001;
Plank et al., 2005). In addition, Kujipers, Meijers, and Gundy (2011) examined influential factors within the CTE experience and suggested a positive benefit of CTE within this context was a learning environment that includes experiential learning from real-life.

A vigorous learning environment that enables students to connect school curriculum frameworks to real-life experiences assists in their ability to see themselves in a future position in that career field. Diemer and Blustein (2007) refer to that ability as “vocational hope” (p. 8), which is a feeling students develop when they believe that a career in their program of study is obtainable. The findings in this study add credence to that position as Jose flourished in the learning environment of the hands-on house-building project as well as how Cherry and Maria were excited about how much new information they were exposed to in their external employment assignments. These students discussed how they believed these environments helped them evaluate their potential future career paths. Jose enjoyed many aspects of the house building project from being seen working in the community to the independent work dynamic. In addition, after he completed a plumbing task at the house, his instructor would tell him how much money that a home-owner would have paid him if he was contracted to perform the work in the real world. Cherry discussed how her school program was limited in terms of current technology, but her cooperative education employer provided her access to numerous cutting-edge training opportunities. As Cherry learned advanced career-related skills through her employer, the direction of her career path became clear to her. Maria built upon what she learned in school at her cooperative education assignment for personal growth in her field. Where her teachers in her career program didn’t provide clarity to her regarding applicable mandated policy and procedural questions, her cooperative education assignment employer presented her with
multiple models of how state legislation is translated to work practices. This provided clarity to María to understand certain college courses that will benefit her in this realm in the future.

**Cooperative Education**

One-half of the participants that took part in their schools’ cooperative education (Co-op) program felt unprepared upon receiving work assignments at an external employer. Co-op programs varied at the participant’s schools from eligibility to school-to-work dynamic, but the two participants essentially gained employment at companies in their communities and would report to work in lieu of going to school during their program time. The students would have to continue to come to school to attend academic classes only. As a condition of the co-op program, the school would provide the employer a list of competencies that the student was expected to know and subsequently be graded by the employer based upon the students’ performance. Lynch (2000) posits “the effectiveness of blended classroom- and work-based activities draws strength from the psychological and pedagogical principles underlying constructivism and contextual learning” (p.19). In addition to Co-op, the blended classroom and work-based learning principles could be extended to José’s success on his schools’ house building program as it closely mirrored a Co-op environment.

Both Cherry and María realized early on they were not prepared for their assigned Co-op position, as the tasks they were assigned were foreign to them. Lynch (2000) further states CTE students in work-based learning environments “need to be able to make sense of the workplace and its context within that person’s life” to enable an understanding of all aspects of the industry or the broader picture of the field (p.11). Both students reported they were fortunate to have friends from within the companies that afforded them greatly needed assistance. Their friends
assisted them to learn on-the-job to aid in expediting the students’ ability to comprehend work assignments and obtain advanced skills they were not provided in school.

The symbiotic relationship between the school and the employers is the student earns money, minimum wage or higher, working in his or her program field and the employer receives a part-time employee in the form of a student that has an industry-specific skills set that requires minimal training. Co-op is additionally beneficial for the employer as a vetting tool; student’s work part-time for a company and the employer can evaluate the student’s employability skills. If the employer determines the student is a good fit for their organization, the student can be hired full-time during summer or upon graduation. The employer also has the option of not retaining the student after the co-op term ends with no penalty or unemployment claim that may result in a traditional hiring process. The Co-op program is designed to be a pipeline of trained workers from CTE to industry. Other past variations include tech prep or school-to-work, but all follow a similar criteria established by federal guidelines. Employers must provide workers compensation insurance, pay at least minimum wage, and abide by established child labor laws. The CTE institution must be accredited and have a signed agreement with the employer specifying the type of work the student can perform. In Massachusetts, the state curriculum frameworks accompany this agreement.

“The positive feedback from participants about their coop experiences demonstrates that some students desire and benefit from hands-on and experiential learning, especially at the high school level and within CTE programs. Jones (1995) reinforces the importance of cooperative education specifically toward minority students as “the opportunity to combine academic performance coupled with practical experience in a monitored environment becomes a critical ingredient to the successful minority’s entrance into the marketplace,” (p. 78). Cherry had been
hired by her Co-op employer upon graduation and ultimately was promoted and continues to advance her skill set.

**Insufficient and Outdated Materials**

Three quarters of the participants’ CTE institutions did not have current technology or equipment that simulated current industry practices. Without the assistance of cooperative education and experiential opportunities, the students would not have been successful, as an employer requires employees with a particular skill set to perform the work. Candidates already possessing the required skills and/or experience necessary for the position would have replaced the students. Along these lines, Doolittle and Camp (1999) offers a CTE example in that a student employee must learn the language and skills necessary within the domain of their occupation for the purpose of functioning in that context. To prepare students with the necessary language and skills that are derived from current technology and equipment, CTE advisory committees are the focus of the next section.

**Advisory Committees**

As the participants previously mentioned, their school CTE programs are lacking current technology, tools, and equipment that are currently being used in industry. This realm goes beyond a district budget, but speaks to the advisory committee process at each school. If district budgets are not able to provide adequate annual funding for tool, equipment or technological upgrades, business and industry need to be involved. For example, business and industry can communicate any specific skills or anticipated skills that their particular employees need presently or in the future. In doing so, CTE can incorporate the training that would address these needs into the curriculum and employers and industry would receive a continuous pool of trained
employees, which would reduce training costs normally incurred by an employer. Even with the costs of annual upgrades required by CTE, Gandara (2006) stated that if Latino students were to receive support necessary for improving Latino graduation rates, it would likely cost twice the amount that is paid nationally for each student already. Because this is not likely possible, a more feasible strategy for providing the future Latino workforce with 21st Century employability skills is CTE.

**Partnering with Communities for Experiential Learning.**

Conversely, schools are connecting students to the appropriate organizations as their job placements when the students have little to no directly relevant experience. Cherry and Maria both had to learn required skills on-the-job, that they were expected to already possess for an entry-level position. If CTE schools are not partnering with the communities or have a bad reputation, the symbiotic relationship will cease.

**Discussion of Findings in Relationship to the Theoretical Framework**

The findings from this study suggest that Social Constructivist Theory can be used to better understand how Latino students experience CTE in Massachusetts and how do they make sense of their experiences in the context of their future aspirations (Vygotsky, 1978, 1997; Cummins, 1986; Doolittle, 1999). The use of Social Constructivist Theory also illuminates how it appears to benefit a wider range of students, to include Latinos, as compared to classrooms still functioning under behaviorist perspectives. Recognizing this, Gray’s (2002) and Grabinger’s (1996) description seems to summarize the various ways in which classes that are taught without Social Constructivist principles generally only appeal to a small fraction of learners who are intellectual achievers. Behaviorist classrooms can therefore create a disadvantage and promote a
learning gap for all those students who are not this type of learner. A greater range of students potentially would learn the content had it been presented in a realistic context.

As Grabinger (1996) points out, “knowledge learned but not explicitly related to relevant problem solving situations remains mostly inert, meaning the learner is unable to use it for anything practical when the opportunity arises and thus such knowledge quickly disappears.” Guided by these descriptions, the participants’ lived experiences within CTE in Massachusetts and how the students make sense of their experiences in the context of their future aspirations can be explained using three tenants of Social Constructivist Theory.

Current CTE instruction and assessments methods as described by study participants may be best understood through the first tenet of Social Constructivist Theory: Knowledge is Not Passively Accumulated as explained by Von Glasersfeld, (1996). The assessment system that study participants described assisted the researcher to understand how instruction and assessments that are supplemented by Social Constructivist practices may enhance student knowledge. Many of the participants described different situations in how they were assessed and the accuracy and inaccuracy of the assessments as a measurement of their learned content. Jose lost eligibility to participate in Skills USA due to poor grades, which he ultimately corrected through tutoring help from upper-class Latino students. According to Merriam & Cafferella (1999), knowledge is “constructed when individuals engage socially in talk and activity about shared problems or tasks” (p. 262). Further meaning can be made through conversation between those with shared experiences (Merriam & Cafferella, 1999; Vygotsky, 1978). Paco’s interview revealed how he flourished in the career program shop environment by working with other students and being assessed by observation of time. Conversely, he did not perform well on traditional individual textbook based quizzes and tests. Social constructivism is a theory that
states that learning is achieved through collaboration, and it is the social interaction that fosters this collaboration from which knowledge is gained (Dewey, 1966; Vygotsky, 1978).

Wells (1999) posits that active learning is required for knowledge to be owned by the learner. As detailed in Chapter 4, Paco discussed his success in the Auto shop being derived from having to think on his own instead of framework completion alone as well as being assessed over time. He admittedly did not perform well on traditional quizzes and tests at the end of a week or lesson. Similarly, Jose excelled through active participation during the house-building project at his school. He stated that not only himself, but his classmates as well did not like it when the instructors performed the work themselves and treated the students as helpers. Several students lost interest and disengaged from the day’s lesson at the house project altogether. Jose enjoyed working as part of a team with his classmates on the house with minimal instructor involvement. As a result, his craftsmanship became a source of pride for him. He was assessed at the end of the house-building project term and received top marks for his performance. Au (1998) suggests educators with constructivist viewpoints advocate for alternative methods of assessment. Assessments of students with diverse backgrounds will improve when “educators use forms of assessment that eliminate or reduce sources of bias such as prior knowledge, language and question type” (p. 313).

CTE curriculum delivery methods can be adjusted to incorporate elements of Tenet Two: Cognition is an Adaptive Process. Constructivist learning occurs as a social or collaborative process (Hung, 2001; Brown, Collins, and Duguid, 1989). Specifically, applied within a constructivist approach, CTE educators must take to understanding the learning process and maximizing knowledge construction. The participants reported that teachers who used effective teaching strategies used multiple methods to deliver their instruction, brought in guest speakers,
and allowed students to collaborate to solve problems themselves with minimal assistance from instructors. With respect to evaluating the quality of teaching strategies, the participants took into account the level that they were challenged and subsequent desire to move on to more advanced and complex activities. For Maria, exposure to a challenging curriculum allowed her to believe that she could be successful beyond CTE. Maria stated that good teaching was going beyond the curriculum frameworks and “taking the time to explain things”. Cherry found that the curriculum in her shop to be outdated and weak. She also felt bad for other kids that were graduating from her program with those skills alone because they would be unprepared after high school. Jose was asked about what would have made his teachers more effective, he responded, “Group activities.” He also stated “they treated us like adults” in reference to being able to work on their own without constantly being monitored by instructors. Paco enjoyed the freedom to delve into projects on his own without being restrained by lectures. Cummins (1986) offers that constructivist oriented educators acknowledge that students learn productively when collaborating with peers as well as teacher led classrooms. In a constructivist classroom, the teacher assumes the role of guide and the student goes from a spectator to a participant. In addition, within Vygotsky’s social zone of proximal development, learning occurs when activities in which experienced adults or capable peers guide students from incompetence to competence (Little & Quinlan, 1998; Werstch, 2000).

The third tenet of Social Constructivism spotlights the role of cognition in experience. The role of cognition is that of an organizer and performs the sorting-out process of a learner’s experience. Paco provided the example of his experience of performing a brake repair on an automobile. He would demonstrate the beginning steps to his instructor until he mastered them. He would then move on to the next steps. He eventually performed the entire process from start
to finish with no assistance from his instructor and earned an excellent grade. From a social constructivist perspective, scaffolding transitions student learning to one of assistance from others to relative independent learning and is essential to build from previous lessons relative to the learner’s ability level (Mercer & Fisher, 1992; Murphy, 1997). Both Cherry and Jose’s classmates assisted them when they were in need of help. The upperclassmen in Jose’s program assisted him in elevating his grades when he struggled during sophomore year with terminology. The other Latino students framed the material in a way that Jose connected with and ultimately raised his grades in the plumbing program.

**Redefining Themselves as Scholars**

This subtheme takes into consideration the role of the participants in their lived experiences in CTE in Massachusetts and how they made sense of those experiences as it related to future aspirations. During the interviews, the participants provided insight into the personal decisions that they made to improve their chances at succeeding in school and in life. This theme consists of only one component: how and why these Latino students came to their personal realization and decision to succeed. The findings revealed the basis of the decision-making process was generated from a variety of sources. Flores-González (2002) offers perspectives on Latino student high school engagement theories that include characteristics of schools and their subsequent links to student achievement. In general terms, students that found an area of acceptance, whether through curricular or extracurricular means, made a difference in the students’ lives.

The participants reported becoming more proactive in school after evaluating their lives. Three of the participants took into account their race, their family, economic realities, and the promises of their hopes and dreams. However, Paco rejected the stereotypes and outlook for
Latinos. Each participant chose a path, from their perspective, that would lead to their success in life despite challenges that they faced during their educational and life experiences. Although each participant made their decision to not take part in negative, illegal or harmful behavior at different points in their educational experience, it is noteworthy that except for Maria, the majority of the participants’ decision to succeed occurred while they attended a CTE school.

In this subtheme, one is able to understand the participants’ realization and decision to succeed while in school. Each participant’s decision not only occurred at different times in their school career, but they also attributed their inspiration to many different sources. This realization was very valuable for the participants, how it drove them, and how it supported their success in school and in the workplace placement. At a time when Cherry’s family demanded her constant attention, education became secondary. Conversely, Paco and Maria already knew what career path they wanted to take prior to CTE. Paco had an inherent love of automobiles at a young age. His ability to grow and channel his passion into an entrepreneur came from his automotive instructor, who realized his potential. Paco would most likely have made a decent living working as a mechanic had he not attended a CTE school; however, he may not have realized his potential and subsequent opportunities available to him without his instructors advocacy. His instructor connected real world applications to the automotive industry through field trips, guest speakers and assignments that sent Paco into businesses in his community. The more Paco connected the automotive classroom environment to his life outside of the classroom, authentic learning occurred. As Dewey (1966) posited, students should be able to make a connection between their lived experiences and the classroom content.

Similar to Paco, Maria had external motivators that contributed to her developing a predetermined career area she wanted to pursue prior to attending her CTE school. Maria’s close
knit family played a significant role in her career choices. Acting as a caregiver to many of her younger extended members provided a teaching foundation in her life. The church has also contributed to the formation of wanting an occupation where she can reach and help others. The violence in El Salvador and in her own neighborhood to include her brother’s incarceration reinforced her career path of wanting to teach and helping students. An interesting element to Maria’s cooperative education placement was that was the forum where she realized the differences between real world employment and the training she received in her career program. The real world experience assisted Maria in conceptualizing what good teaching consisted of. The rigor of her AP teachers and classmates drove her focus while her career program teachers fell short in her perspective.

**Implications for Policy and Practice**

The following policy implications and recommendations are centered on responsibility and action. Generally, the acceptance of responsibility by educators and students alike invariably leads to action toward creating a positive environment for Latinos in CTE in Massachusetts. Specifically, the researcher recommends active advisory committees involvement and mentoring programs to expand the network of responsible Latino adults in students’ lives. Additionally, the researcher recommends the implementation of intergroup dialogues into the curriculum to both expand and improve students’ social networks throughout high school.

**Active advisory committee involvement.** Advisory committees are intended to bridge the school programs to industry to guide the purchasing of vital tools, equipment, or technology. In addition, advisory committees are partners with industry in the community and assist in the allocation of donations to contributions and direct them to improve the programs. CTE faculty
and staff can cultivate and maintain a symbiotic relationship with business and industry through continuous dialogue to ultimately assist in the training of students. Through communication, CTE institutions can be flexible to react to business and industry’s training and manpower needs. In turn, business and industry can support CTE’s updated equipment and funding needs, which ultimately will improve a program’s ability to provide students with 21st Century employability skills. A CTE instructor can benefit directly from active advisory involvement in several ways ranging from having a continuous source of modern equipment and technology to supplement their curriculum to access to real world experiential applications. As business and industry provides CTE institutions with modern materials for relevant training, CTE instructors can build on to and enhance their curriculum and replace or reduce outdated content. In addition, instructors can more broadly facilitate or guide instruction toward connecting students to a conceptual understanding to real-world problems or situations.

The goal of CTE in Massachusetts is to provide students with 21st century employability skills. As part of that campaign, the DESE has mandated that external advisory committees must advise CTE institutions as promulgated by Massachusetts Law Ch.74. As listed on the DESE website, advisory committees provide guidance to CTE programs on a range of topics ranging “to workforce and job development demands or job market trends, technological developments, and other factors affecting the quality of the programs” (DESE, 2015). Although the complexity of an advisory committee in a CTE setting differs from traditional committees, they are ultimately in place for the same function. The design is to provide guidance in concert with the curriculum frameworks into the specific program area based on their respective expertise. Advisory committees are comprised of industry professionals, vendors and others with current knowledge of the program area. For example, a plumbing program at Jose’s school has advisory
committee members comprised of union plumbers, Home Depot representatives, and small business owners. Advisory committees are intended to provide insight into current hiring trends, data and obstacles facing the respective craft area. These committees subsequently supplement the course of instruction to enable the CTE programs to better prepare future workers to meet these identified needs. Recommendations may lead to accentuating certain areas of the curriculum versus other areas.

With that said, there is an obvious disconnect with the participants’ schools keeping up with current industry trends. An area of concern that needs to be addressed is the function of school’s not effectively connecting with their communities. Only Jose’s school had a house-building program, in which the school actually builds a house in the community and does not charge for labor, only building materials as it is technically an extension of the school and a learning environment. The house-building project is a highly visible tool to reflect the school in a positive light.

**Mentoring programs.** The findings of this study demonstrate that many Latinos in CTE encounter situations in which they have to negotiate their actions in order to be successful. Study participants, in regard to their efforts towards selecting a CTE program to major in, describe this reality. Unfortunately, the ability to explore different career programs as a freshman and then select a program area to study for the remainder of high school is difficult and requires deep reflection about personal interests. The ability to reflect or think deeply is not often associated with high school students. Of the study participants, only Paco and Maria had predetermined ideas of what their career interests were. To aid in the ability to think more meaningfully about careers in CTE, the researcher recommends that Latino students have mentors. The mentor, theoretically, would have a positive impact on Latino CTE students in Massachusetts assuming
that the mentor can demonstrate the type of positive behavior students can emulate. Career Technical Education instructors and programs would benefit substantially from having students inherently interested in a program area. By reducing the amount of students that select a program area of study for reasons other than genuine interest such as friends or the perception of being unchallenging, instructors will spend less time attempting to engage unmotivated students or addressing subsequent behavioral issues as a result from non-participation. In view of this, administrators should develop mentoring programs for Latino students. Particularly beneficial would be mentoring programs that connect Latino students with older Latino role models that are in industry as well as entrepreneurs, college or trade school graduates. Such mentoring programs would allow Latino CTE students to have an opportunity to learn about the ways in which they may have to negotiate their actions to achieve academically and career wise from someone who has experience in their area.

**Intergroup dialogues.** This study points to many instances with both students and teachers that shaped the participants’ lived experiences within CTE in Massachusetts. As a result of these interactions during freshman year, students failed to create trusting and caring relationships with other students, as well as teachers of other backgrounds. Primarily after students were assigned to their career programs at the end of freshman year, instances of positive interactions with individuals of different backgrounds led to valuable connections that benefited study participants’ achievement, and overall experience. Participants did better in school when they have formed positive relationships, which did not occur intrinsically until late in freshman year. Educator’s building-wide would directly benefit from having students develop positive relationships early in their high school experience. Students would be presented with a wider perspective that would be applicable to academic and CTE course selection and participation.
Therefore, educators should begin intergroup dialogues to cultivate understanding and appreciation for the differences among classmates as well as teachers. For example, schools could hold student assemblies during school hours. In these assemblies, both students and school employees could discuss their concerns and ask questions to understand the perspectives of other groups. Students could also use visual aids or perform skits in their own words to promote cultural awareness. Additionally, schools could create specific times on the school calendar in which various groups are celebrated.

**Suggestions for Future Research**

This study was able to spotlight and contextualize the lived experiences of four Latino students in CTE in Massachusetts. Given the study’s limited sample size, more research is needed to understand such experiences and give Latino CTE students the opportunity to fulfill their potential. Through focus groups, researchers should study the lived experiences of Latino student in CTE nationally in states with high Latino populations. Not only would such research render more information related to their lived experiences, but it would expose specific policies and practices as to their true impact on Latino students and their future aspirations.

Researchers should also conduct a longitudinal study of the lived experiences of Latinos in districts nationally with large Latino populations. This study only explored the participants’ lived experience in Massachusetts CTE institutions. However, by studying the experiences of students at different stages of their CTE careers, future studies could allow researchers to map how students’ understanding of content changes over time. This longitudinal study could also reveal the various internal and external influences on this understanding and how it ultimately relates to CTE success and career or college preparedness.
Regarding the research methods for such studies, based on the researcher’s experience during the data collection process in this study, future researchers should recognize that study participants might not have a full understanding of the magnitude of the decision to select a CTE major. For example, a participant may select a program area of study based on other factors instead of interest. If students select a program area on factors such as racial composition of program participants, then the potential for a student to disengage over their sophomore, junior and senior year is a reality as their interest in the content diminishes. As such, interview or survey questions should be designed with this in mind. Additionally, while this study was conducted using a qualitative approach, researchers should not shy away from a quantitative approach, provided a statistically viable sample size is utilized. For example, researchers could analyze preferred modes of learning and learning styles to determine the level of a participants’ compatibility with a CTE program of study.

**Conclusion**

This study is important because it captures the lived experiences of Latino students in CTE in Massachusetts and how these students make sense of their experiences in the context of their future aspirations for the first time. In their experiences, one begins not only to see the strengths and weakness of the individual, but also CTE as an organization. Specifically, the study provides insight into how Latinos perceive and respond in the CTE school system on the individual and institution level.

The phenomenological approach, within the framework of social constructivist theory, revealed study participants to be driven, resilient, and intelligent human beings willing to take one life’s challenges and persevere and thrive in certain educational environments. Participants were simultaneously negotiating immigration, acculturation, learning English, family
responsibilities and part-time jobs. While everyone may not share or empathize with their experiences, we can understand their fears, hopes, and dreams. To that end, if we can nurture the Latino educational environment and enable them to reach their full potential, we can then provide the US economy with workers with 21st Century employability skills.

Aspects of social constructivist theory promoted participant learning. The students connected with learning and then doing in collaborative real world applications. The CTE environment provided the opportunity for students to connect their experiences outside the classroom to inside the classroom. However, if some of these participants were tracked into an academic college prep track, they would have done great as well.

Preparing students to become knowledgeable members of society has been identified as a purpose of education throughout U. S. history from Jefferson to Dewey and beyond. Therefore, due to sweeping economic changes, today's world mandates students have a skill set to meet 21st Century employability skills. It is imperative that we create an environment in which everyone can reach his or her full potential. Although it might be difficult for some educators to slightly modify their classroom and provided the educational outcomes for Latinos, this discussion must take place, and appropriate actions taken. This study aims to arouse these conversations.
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APPENDICES

APPENDIX A

LATINO STUDENTS WHO GRADUATED FROM CAREER TECHNICAL EDUCATION (CTE) (FORMERLY KNOWN AS VOCATIONAL) SCHOOLS IN MASSACHUSETTS ARE NEEDED FOR A RESEARCH STUDY.

If you have received your High School Diploma, I want to know what your educational experience was!

Requirements are you must have:
Attended a CTE institution in Massachusetts
Graduated between 2013-2015
Be Latino
Be between the ages of 18-21

CONTACT ME @ 781-592-0521
or
lilley.r@husky.neu.edu

This research is conducted under the direction of Dr. Kelly Corn, College of Professional Studies, Education Department and has been reviewed and approved by the Northeastern University Institutional Review Board.

APPROVED
NU IRB# N000731
VALID THROUGH 5-28-15

Northeastern University - Human Subject Research Protection
APPENDIX B
SAMPLE RECRUITMENT EMAIL

Dear ______________________*,

Hello, my name is Robert Lilley and I am a doctoral student working with Dr. Kelly Conn at Northeastern University. We are conducting a research study about Latino students and Career and Technical Education (CTE). I am emailing to ask if you or anyone you know would like to participate in the study. Participants in this study must have graduated from a CTE high school in Massachusetts between the years of 2013-2015, be Latino and be between the ages of 18-21. The purpose of this study is to examine the lived experiences of Latinos in CTE to better understand students’ experiences through their own voices. Feedback and findings from this study will be shared with CTE stakeholders and could potentially be used to improve the educational experiences of current and future CTE students. Participation is entirely voluntary.

If you would be interested in participating in the study, please feel free to contact me at (781) 592-0521 or by email at lilley.r@husky.neu.edu to discuss your participation.

Thank you for your assistance.

Robert Lilley, Doctoral Student
College of Professional Studies, Department of Education
Northeastern University
(781) 592-0521
lilley.r@husky.neu.edu

[Signature]

[Stamp: APPROVED]
APPENDIX C

SAMPLE REFERRAL LETTER

June 2, 2015

Dear ____________________,

Hello, my name is Robert Lilley. I am a doctoral student working with Dr. Kelly Conn at Northeastern University. We are conducting a research study about Latinos in Career Technical Education (CTE) in Massachusetts. I am writing to ask if in your capacity of Vocational Coordinator in a Massachusetts CTE school, if you could refer anyone that would like to participate in the study. Participants in this study must have attended a CTE school in Massachusetts and have graduated between 2013-2015. Also, participants must be Latino (male or female), and be between the ages of 18-21. The purpose of this research is to explore the lived experiences of Latinos in CTE and to better understand students’ experiences by looking at how the experiences influence student outcomes. Feedback and findings from this study will be shared with CTE stakeholders and could potentially be used to improve the educational experiences of current and future CTE students. Your participation is entirely voluntary.

If you can refer anyone that would be interested in participating in the study, please feel free to contact me at (781) 592-0521 or by email at lilley.r@husky.neu.edu to discuss your participation.

Thank you for your help.

Robert Lilley, Doctoral Student
College of Professional Studies, Department of Education
Northeastern University
(781) 592-0521
lilley.r@husky.neu.edu
APPENDIX D
SAMPLE RECRUITMENT SCRIPT

On the Phone:

“Hello, my name is Robert Lilley. I am a doctoral student working on my doctoral thesis at Northeastern University. I am conducting a research study about your experience as a Latino in Career Technical Education in Massachusetts. I am calling to ask if you would be willing to participate in the study or suggest someone to who you think would be willing to participate in the study. If you are interested in participating in this study, we can set up a time to go over the consent process, the scope of research, and the requirements for participation.”

If interested, the researcher will set up a meeting and will provide the potential participant with researcher’s contact information. “I have you scheduled for an initial meeting on _____. If you have questions, I can be reached at (781) 592-0521 or lilley.r@husky.neu.edu. Thank you for your interest.”

If the participant is not interested, the researcher will end the call: “Thank you for your consideration.”
### APPENDIX E

**INFORMED CONSENT STATEMENT**

<table>
<thead>
<tr>
<th>Name of Investigator(s):</th>
<th>Dr. Kelly Conn, Principal Investigator, Robert Lilley, Student Researcher</th>
</tr>
</thead>
<tbody>
<tr>
<td>Title of Project:</td>
<td>What are the lived experiences of Latino students in career technical education in Massachusetts and how do they make sense of the experiences as it relates to future aspirations?</td>
</tr>
</tbody>
</table>

**Informed Consent to Participate in a Research Study**

We are inviting you to take part in a research study. This form will tell you about the study, but the researcher will explain it to you first. You may ask this person any questions that you have. When you are ready to make a decision, you may tell the researcher if you want to participate or not. You do not have to participate if you do not want to. If you decide to participate, the researcher will ask you to sign this statement and will give you a copy to keep.

**Why am I being asked to take part in this research study?**

To participate in this study you must identify as a Latino, and have graduated from a Career and Technical high school in Massachusetts between the years of 2013-2015.

**Why is this research study being done?**

The purpose of this research is to explore your lived experience to better understand the CTE environment.

**What will I be asked to do?**

If you decide to take part in this study, I will ask you to participate in up to three interviews. In addition, I may contact you by phone or email if I have any supplemental questions regarding your educational experience. I will record the interview and have the data transcribed. The goal of the interview is to explore in detail how you experienced CTE during your time in high school. I expect these interviews will take place during spring 2015.

**Where will this take place and how much of my time will it take?**

You can choose where the interview will be conducted; you may be interviewed in your home, Northeast Metropolitan Regional Vocational High School in Wakefield, MA or at a time and place that is convenient for you. I will ask you to participate in three up to 90-minute semi-constructed interview.

**APPROVED**

Northeastern University - Human Subject Research Protection
What will happen if I suffer any harm from this research?

It is very unlikely that you will suffer from psychological harm discussing your educational experiences given your ability to graduate. However, should you experience any emotional stress due to the content of the questions asked, I will allow you to take a break from the interview upon your request to do so. If needed, I will then ask a different question to move the discussion in a new direction. If you choose to leave the study due to emotional distress you are encouraged to seek help from the National Alliance of Mental Illness (NAMI) (617) 580-8541, or the Statewide Emergency Services Program toll free 877-382-1609.

Can I stop my participation in this study?

Your participation in this research is completely voluntary. You do not have to participate if you do not want to. Even if you begin the study, you may quit at any time. If you do not participate or if you decide to quit, you will not lose any rights, benefits, or services that you would otherwise have as a student or employee of the university.

Who can I contact about my rights as a participant?

If you have any questions about your rights in this research, you may contact Nan C. Regina, Director, Human Subject Research Protection, 960 Renaissance Park, Northeastern University, Boston, MA 02115. Tel: 617.373.4588, Email: n.regina@neu.edu.

Who can I contact if I have questions or problems?

Please let me know if you have any questions or concerns about participating in this research. You may contact Dr. Kelly Conn, the Principal Investigator at k.conn@neu.edu. You can also contact me at lilley.r@husky.neu.edu or 781-592-0521.

Will I be paid for my participation?

You will receive a $15 ITUNES card your participation in this research.

Will it cost me anything to participate?

There will be no cost to the participant.

Will there be any risk or discomfort to me?

Because you are from the Massachusetts, it is possible that your identity could be at risk. Due to this possibility, the identity of the participants will be kept confidential, and I will take additional steps to ensure that your identity remains confidential. I will describe the places and the institutions where the

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[Signature]

[Date]

Northeastern University - Human Subject Research Protection
experiences occurred by the number of students, the region, and demographic information to allow for anonymity. I will use pseudonyms and numbers for confidentiality in the data documentation, and destroy the audio tapes three years after the study. In addition, I will also use validation techniques that will allow you to remove any information that you feel may be harmful to your wellbeing.

**Will I benefit by being in this research?**

Participants will be given a $15 ITUNES card for their time in the study. In addition, the information learned from this study may help policymakers, school personnel, and educational researchers understand issues related to Latinos and their experiences within CTE.

**Who will see the information about me?**

Your part in this study will be confidential and only researcher’s working on this study will view the information about you. No reports or publications will use information that can identify you in any way. In rare instances, authorized people may request to see research information about you and other people in this study. This is done only to be sure that the research is done properly. Permission in those instances will only occur to persons authorized by organizations such as Northeastern University to see this information.

**I agree to take part in this research.**

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