THE IMPLICATION OF STUDENT VOICE ON CAREER AND TECHNICAL EDUCATION CAREER ACADEMY RETENTION

By

ERIN MICHELLE CONTI

A Dissertation submitted to the

Graduate School-New Brunswick

Rutgers, The State University of New Jersey

in partial fulfillment of the requirements

for the degree of

Doctor of Education

Graduate Program in Education, Culture and Society

written under the direction of

Dr. Sharon Ryan

and approved by

_____
Dr. Sharon Ryan

_____
Dr. James Giarelli

_____
Dr. Constance Walde

New Brunswick, New Jersey

January 2014

Abstract

Career and Technical Education (CTE) contains not only the "traditional" trade programs such as cosmetology, and carpentry, but also career academies, which marry hands on learning with an academically rigorous curriculum that prepares students for a post-secondary education. My district, like many other CTE districts with academies, faces a problem in retaining students. While we have more students applying then slots to be filled, by the end of sophomore year we lose approximately 13% of freshmen and sophomore students back to their home schools. As a teacher in a CTE academy, I see the rigor and import of these types of programs. I also have noticed how students are left out of the dialogue on their education.

The purpose of this qualitative study was to elicit the perspectives students who have attended or chosen to leave an academy. Three research questions guided this study: What are student experiences of CTE academies? What do students say about their education in CTE? What do students' experiences and perceptions suggest for retaining students in the CTE system?

From the population of approximately 485 students enrolled in the OCVTS academies, I interviewed 27 students using focus groups. These transcribed interviews were supplemented with pre-existing documents and student writing samples. Examination of this pre-existing data indicated that students tend to leave in their freshmen and sophomore years. Conversations with students revealed that the academic reasons cited as the benefits are also the reasons students choose to leave. In addition, time spent travelling and attending a CTE academy meant losing out on the social aspects of "the high school experience". Students described their experiences in the academies as having to fit into cultures indicative to each academy; this both empowered some students to achieve and become successful in the program while it constrained others and was their impetus for returning to their home high school.

Interventions need to be implemented at the freshmen and sophomore year to mitigate attrition in OCVTS career academies. Possible interventions include a revised admissions process, the creation of academy-specific programming, and a "point person" responsible for all data management to guide advisement.

Acknowledgements

This dissertation was a labor of love over many changes in my life, most of which would not be possible without some serious dedication from those around me.

First, I want to thank my loving and amazing husband, Eric, for not only dealing with my writing insanity, but also for encouraging me to keep going when I got discouraged or overwhelmed. Without his Daddy-daughter Saturdays, I would never have been able to finish this. I love you and thank you.

I also need to thank my little munchkin, Emmerson, for allowing me the time away from her to complete an important aspect of my life. I started this all before she came along and she made things interesting when she would unplug my computer mid-sentence, but I love her and am doing this, in part, for her. Every moment away from her was agony, but now it's done!

Mom and Dad: many many many thanks for babysitting and supporting me in all the ways you have throughout this process. Your encouragement and support made this project possible and manageable. I would never have made it this far without you both!

Jim: my philosophical psychologist. Without your help, I would, first of all, not even be here, completing this program at Rutgers. But more importantly, I would never have learned so many important lessons infused with humor and creativity throughout the many classes I had with you. Thank you not only for your time, but your un-ending dedication to learning and to your students.

Finally, thank you to Sharon. It's been a tedious and stressful journey to complete this project, but you have put up with my craziness and made me focus to turn out an incredible product. Thank you for all of the (very) early Saturday mornings and countless back-and-forth email edits.

Table of Contents

List of Tables

List of Figures

List of Appendices

Chapter 1: Introduction

Students enter their local high schools without the knowledge that they have a choice to attend a vocational school. Vocational education, more commonly known today as Career and Technical Education, or CTE, is part of the free public school system in the United States. Each of the twenty-one New Jersey counties operates a vocational school district, overseen by a Board of Education in conjunction with the County Board of Chosen Freeholders. The purpose of CTE is to marry academic and technical skills in order for students to gain the skills and knowledge necessary to compete in the global marketplace by either entering into employment or continuing on to post-secondary education (N.J.A.C 6A:19-1.2; New Jersey Council of County Vocational-Technical Schools, 2011).

When vocational education was first formally implemented during the Progressive era, reformers thought that allowing students to have hands-on experience with the material they were learning would allow for more a meaningful education. However, over time, especially after the release of 1983's *A Nation at Risk* (*ANAR*) and the proliferation of school choice, vocational education morphed from necessity into a learning-by-doing choice for students who wished to pursue a technical career after high school. As a result, CTE has most often been publicly associated as the best educational option for students who will not go on to post-secondary education but will more likely pursue skill-based jobs such as electricians, plumbers, and hairdressers.

However, CTE encompasses not only the "traditional" trade programs such as cosmetology, auto technology and carpentry, but also challenges students through career academies. Career academies, often referred to simply as academies, challenge students to excel in careers such as marine sciences and performing and visual arts, usually in smaller class sizes

(New Jersey Council of County Vocational-Technical Schools, 2011) as well as prepare students for careers that require a post-secondary education (Brand, 2009; CCASN Resources). CTE academies were formed more than 40 years ago as a response by business and community leaders to fill the need for a locally skilled workforce (Hyslop, 2009). This partnership allows CTE academy students the opportunity to have both a hands-on education as well as a rigorous academic curriculum. For example, the 21 New Jersey county CTE schools currently offer over 700 state-approved career and technical education programs including agricultural sciences, communications/TV/video, HVAC, law and public safety, and Science, Technology, Engineering and Mathematics (STEM) (New Jersey Council of County Vocational-Technical Schools, 2011). The academies allow students to begin studying towards their post-secondary educational plans by granting them access to real world careers and vocations. It is the relevance of the curriculum that proponents of CTE argue decreases the boredom and disengagement of many high school students (Hyslop, 2009).

Despite having similar purposes as any traditional high school, negative perceptions of the relevance and utility of a CTE education remain. A number of scholarly articles (see Cohen & Besharov, 2002; Gaunt & Palmer, 2005; Gray, 2004; Emeagwaui, 2011; Kidwai, 2011; Park, Pearson, & Sawyer, 2011; Reese, 2001; Reese, 2011; Stone 1993 as cited in Gentry, Peters & Mann, 2007) have documented the dominant perception that only students of a low scholastic ability attend CTEs and that because CTEs cater to this population their primary purpose is preparation for manual and hands-on jobs.

As a teacher in a vocational-technical high school academy—The Marine Academy of Technology and Environmental Science (MATES), part of Ocean County Vocational Technical Schools (OCVTS)—and as a future leader, I have become interested in the benefits of a career

and technical education for all students. I can see firsthand how students have excelled in the vocational setting. As an advocate of CTE, I have watched as academies gain popularity across the state. However, despite the curriculum and our focus on preparing students for professions that require a post secondary education, we face a problem in retaining students within my CTE and the academy setting. For example, during the 2012 – 2013 school year, forty-four students or approximately 9% of the student population left CTE academies in Ocean County. While this overall number may not seem significant, of the 44 students who left the academies to return to their homeschools, approximately 15% were from the freshman class. This is not a problem indicative only to the CTE academies in Ocean County, but a nationally recognized difficulty: The National Research Center for Career and Technical Education (NRCCTE, operated by the U.S. Department of Education) has identified retention as one of its core issues.

One reason for this lack of retention may very well be based on the negative perceptions of CTE. If parents or students participate in the dominant stereotype of CTE as only preparation for hands-on jobs or trades, they will not choose to attend any CTE, even an academy. Unfortunately, the research base on CTEs is not helpful: most of the research is not empirical but anecdotal. Thus, even though there seems to be public agreement that a CTE education is not academically rigorous, there is minimal evidence to support this conclusion. Moreover, most of the empirical research on CTE describes case studies of particular programs and not students' experiences in CTE academies. One of the only studies found on CTE experiences from the students' perspectives was a Michigan-based survey of high school seniors both in CTE and in traditional programs that were eligible to attend this particular CTE center; it was found that students believe CTE to be applicable to for all post-high school endeavors, including college (Gaunt & Palmer, 2005).

Advocates (e.g. Reese, 2001) for CTE argue that allowing people to see what happens inside of these institutions would help challenge the negative perceptions of CTE and that allowing students to demonstrate the efficacy of the programs through their own voices would provide a more complete picture of life in CTE programs. In an effort to address this gap in the literature and to make sense of why students choose to leave Ocean County academies, this qualitative study elicited the perspectives of a group of students who have attended or chosen to leave a vocational academy about their experiences of the curriculum, what they see as the benefits and challenges of participating in a vocational academy, and the factors contributing to their choosing to leave or stay. A qualitative study was the best approach for this topic because I was looking to "the meaning individuals or groups ascribe to a social or human problem" (Creswell, 2007, p. 37); in this instance, students' experiences and choices about staying or leaving a career and technical education academy. Three research questions guided this study:

1. What are student experiences of CTE academies?

     a) Why do students choose CTE?

     b) How do students describe their academic experiences at CTE?

2. What do students say about their career and technical education? How do they evaluate the programs?

     a) What do they cite as benefits of a CTE?

     b) What do they identify as challenges of a CTE?

     c) Why do students say they leave the CTE academy setting?

3. What do students' experiences and perceptions suggest for retaining students in the CTE system?

a.) What do these experiences and perceptions suggest for improving the academic curriculum of CTE?

b.) What do these experiences and perceptions suggest for improving the social environment of CTE?

Academies are interesting to study particularly because they offer both a rigorous academic curriculum along with experiential benefits in a specific field of study, thereby combining two aspects of education that progressive educators have argued is best for many years. Even though there is information about the applicability of career academies, no research to date discusses how to attract and retain students into the academy model. Additionally, all research has been written without input from the students themselves; therefore, it is not possible to know why students choose to leave CTE: a problem that it is seen as a national concern. By understanding what it means to be a student in a CTE academy, I sought to demonstrate its benefits to potential students, parents and policymakers. Additionally, prospective students will be better able to understand what it means to be a CTE student and be better informed about their decision to obtain this distinct type of education. Allowing students to fully understand the daily functions of CTE, and in particular the academies within OCVTS, will allow students to apply to the programs knowing the requirements and thus hopefully attrition rates will decrease.

In what follows, I begin by first reviewing relevant literature on CTE, career academies and high school retention. In Chapter 3, I explain the methodology I used to elicit students' voices about their experiences of CTE academies. After analyzing my findings at length in Chapter 4, I end with the implications of my study for district and school policies and practices.

Chapter 2: Literature Review

The literature is vast on CTE and vocational education, yet it leaves a lot to be discovered because most of the research is anecdotal and not empirical. The National Research Center for Career and Technical Education (NRCCTE) has completed various studies that focus on CTE; however, these studies focus on aspects of CTE such as professional development, measuring CTE effectiveness, transitioning to postsecondary institutions, core skills such as literacy and math, and snapshots of current programs ("The National Research", 2012) but not retaining students in career academies or extracting students' perspectives. Several longitudinal studies are being conducted to evaluate CTE's efficacy as it relates to retention, but data is not yet available this early in the study (*NRCCTE research snapshot*, 2011). In this chapter, I begin by providing a brief history of career and technical education as a way of providing some context for the schools under investigation. The remainder of the literature review concentrates on the empirical research base on CTE, particularly studies that focus on student's experiences.

The History Vocational Education and Transition to CTE

As early as 1909, Ellwood P. Cubberly advocated for vocational education in public schools because of a prediction that "Our city schools will soon be forced to give up the exceedingly democratic idea that all are equal, and that our society is devoid of classes…and begin the specialization of education effort along many new lines in an attempt better to adopt the schools to the needs of these many classes in city life" (Ravitch, 2000, p. 96). Even though John Dewey was a proponent of hands-on, learning-by-doing (Ravitch, 2000), he believed that school was not for work preparation, but rather to promote democracy and thus a "uniform common education for all children" (Gray, 2004, p. 129). The dichotomy of the public school system—traditional education at one end of the spectrum and vocational or career and technical

education, CTE, at the other—was formalized. Wealthy children had attended schools all over the country, based on a classical curriculum that served them well for their advanced studies in college (Gray, 2004). However, with the turn of the century, as more students began to matriculate into the new compulsory education system, this trend began to change and suddenly a classical curriculum was not thought of as the best curriculum for all, or even most, students (Gray, 2004). In 1862, federal funds were allocated for CTE (Moore, 2007).

For the first half of the twentieth century, various legislative actions directly impacted CTE. The Smith-Hughes Act (1917) created the Federal Board of Vocational Education for the "promotion of training in agriculture, trades and industries, commerce, and home economics in secondary schools" (Kantor & Tyack, 1982). Then came The George-Deen Act (1936), which addressed distributive occupations and teacher education; The National Defense Education Act (1958) followed up by providing funds to technical programs, vocational guidance, training programs and training institutes (University of North Texas, 2011). The Vocational Education Act of 1963 allocated funds in support of vocational schools, vocational work-study programs, research, training, and demonstrations in vocational education. This Act was then amended in 1968, 1972 and 1976 in order to address postsecondary education, special programs for disadvantaged students, and community schools and basic skills program (University of North Texas, 2011). It was not until the 1980s that vocational education was re-termed career and technical education (Stern, 2010); it was at this time that traditional vocational education was combined with academic instruction (Stern, 1999).

When *A Nation at Risk* was published in 1983, educators and parents wanted to fight the "shoddiness" in schools in order to retain a "shared vision for America" (*A Nation at Risk*, 1983). When *ANAR* discussed the "Tools" needed to increase the educational repertoire of the country,

vocational education programs were cited as an option (*A Nation at Risk*, 1983). Additional

vocational reforms during the early 20[th-]century "prepared students for entry-level jobs in

occupations that did not require additional education or training beyond high school" (Kidwai,

2011, p. 17). But the transition from those agricultural, clerical and trade industry training to

today's global economic competition forced vocational training to become more career and

technical education oriented in an effort to address the "needs of business and industry" as well

as the "growing demands of the health care field and that of science, technology, engineering and

math" (Kidwai, 2001, p. 17).

The Carl D. Perkins Vocational Education Act (1984) was altered in 1990 and 1998 and

was signed into law as the reauthorized Carl D. Perkins Career and Technical Education Act of

2006 (Public Law 109-270). However, the wording still contained language that made it explicit

that students were being trained for careers that did not require advanced degrees (Stern, 2010).

The 1990 alteration forced schools to include academics in their vocational programs (Stern,

1999). The 2006 Perkins Act aimed to "provide an increased focus on the academic achievement

of career and technical education students, strengthen the connections between secondary and

postsecondary education, and improve state and local accountability" (Ed.gov, 2007). According

to the Association for Career and Technical Education, the "purpose of Perkins is to provide

individuals with the academic and technical skills needed to succeed in a knowledge- and skills-

based economy. Perkins supports career and technical education that prepares its students both

for postsecondary education and the careers of their choice" (ACTE.org, 2012). It was during

this reauthorization that the language was more reflective of CTE as an option for students who

wished to not only pursue skilled trades after high school, but who also wished to attend school

in pursuit of advanced degrees (Stern, 2010).

Current educational reforms stress standardized testing at various points throughout school (Clark, Farmer & Welch, 2010; Ravitch, 2010). Since more students are enrolling and graduating from high school (Tyack & Cuban, 1995), this obviously means that more of these students are entering the work force either immediately after high school or after college. In an attempt to combat standardized-test-driven curricula, vocational schools—while still having to answer to No Child Left Behind—are a place where students can flex their hands-on skills and enhance their self-image, similar to the move towards schools as a place to meet the psychological needs of the student (Clark, Farmer & Welch, 2010; Tyack & Cuban, 1995).

Appointees within the U.S. Department of Education believe that "all teens want to go to college; therefore, high school should be only about teaching English, math and science" in preparation for post-secondary endeavors (Gray, 2004, p. 128). This is not the case: academic-only programs target approximately 50% of the population (Gray, 2004). Thus, programs that implement learning-by-doing in addition to academics should not only appeal to a larger audience, but also allow all students to reap the benefits of the dual system.

Academies

The term "career academy" was first used by Stern, Raby, and Dayton (1992) in reference to the proliferation of academies that started in Pennsylvania and then spread to California, New York and Florida (Stern, Wu, Dayton & Maul, 2005). However, only California defines academy in legislation (Stern, 1999). Today, career academies combine "an occupational course sequence together with the academic coursework expected for college" (Stern, 2010) whereas traditional vocational education did not necessarily prepare students for college (Stern, 2003). There is no official count of the number of academies operating in the United States since there is no one unified or overarching community to which all academies belong; instead,

academies operate within states usually under the model of Philadelphia Academies, Inc., the California model, or the nonprofit National Academy Foundation (NAF) (Stern, 2003).

CTE academies were formed with the intention to marry business with schools "in a model that would engage both the student and the business partner in meaningful ways" (Philadelphia Academies, Inc., 2011). To this end, Charles Bowser, a well-known attorney, started the Academy of Applied Electrical Science in Philadelphia in 1969 with the help of the Philadelphia Electric Company (CCASN Resources; Fender & Stern, 2010; Stern, 2010; Stern, Dayton & Raby, 2005; Stern, Wu, Dayton & Maul, 2005; Philadelphia Academies, Inc.). This academy was housed in Edison High School and enrolled thirty 10th grade students. The model was created to "save [Philadelphia] from the worst of the racial unrest that was so devastating to cities like Chicago and Detroit…they focused on the future—the children."

After the success in Philadelphia, academies traveled to California and New York. In 1980, New York City opened Academies of Finance. In 1981 in California, a Computer Academy opened at Menlo-Atherton High School and an Electronic Academy at Sequoia High School. Due to the success of these programs, California approved ten additional schools that followed this early model. Legislation approved additional academies due to this continued success of these programs (Stern, 1999). In 1982, the National Academy Foundation began organizing academies in New York (Stern, 1999). In the early 1990s, academies spread to Illinois and Maryland.

A career academy is generally defined by three basic criteria: a small learning community that travels as a cohort through at least two years of high school; a college preparatory curriculum with a thematic focus, enabling students to see application between academics and field work; and partnerships with employers, community, and local colleges to "improve student

motivation and achievement" (CCASN Resources; Brand, 2009; Stern, 1999). In order to expose students to a range of career options within a given field, most academies offer internships to junior and senior students (CCASN Resources). Stern, Wu, Dayton and Maul (2005) found that academy students earned "significantly" more course credits than other students (see: Reller, 1984, 1985; Stern et al., 1988, 1989; and Elliot, Hanser & Gilroy, 2000), performed "significantly" better in terms of attendance (see: Stern et al., 1988, 1989; Hayward & Talmadge, 1995; McPortland et al., 1996, 1998; and Elliot, Hanser & Gilroy, 2000) as well as grades (see: Stern et al., 1988, 1989; Hayward & Talmadge, 1995; Maxwell & Rubin, 1997, 2000; and Elliot, Hanser & Gilroy, 2000). The studies also spoke of improvement in school culture (see: McPartland et al., 1996, 1998), increased graduation rates (see: Maxwell & Rubin, 1997, 2000; Synder & McMullan, 1987) and dropout prevention (see: Hayward & Talmadge, 1995; Elliot, Hanser & Gilroy, 2000). It is important to note that these gains are also indicative of schools with small populations of students in general (see: Raywid, 1997/1998 and Wasley & Lear, 2001).

However, it is important to note that since students have to apply to attend an academy, these students may already have better grades or motivation in the first place (Stern, 2010). MDRC—formerly known as the Manpower Demonstration Research Corporation, but now simply MDRC—a nonprofit, nonpartisan education and social policy research organization that specializes in poor populations, conducted a ten year longitudinal study of career academies that operated as schools within schools and served populations of low-income and minority students (Stern, Wu, Dayton & Maul, 2005). The MDRC study randomly assigned students to either career academies or traditional high schools; the results matched the Stern, Wu, Dayton and Maul (2005) review of studies of student achievement and so it was found that academies do not

simply help the students with better grades and higher motivation but all students who study in a career academies (Stern, 2010).

There are a number of articles written that discuss the benefits of the academies from either the perspective of students or teachers, or which show the import of academies on success for at-risk youth, oftentimes in urban environments (see: Kemple, 2008; Maxwell & Rubin, 2000); but, little empirical, data-drive research is available on attrition and retention of students in academies. Mobility is an issue, however, "keeping track of student mobility is difficult, but it may be a crucial part of the story" on how successful academies truly are (Stern, Wu, Dayton & Maul, 2005).

A study conducted by The National Research Center for Career and Technical Education, released in October of 2008, referenced a study by Kemple and Willner (2008) that spoke of the "long-term impact of career academies on educational attainment and transition" (p. 45). This particular study found that academy students were

> (a) more likely to take career-related courses and be exposed to career awareness and career development activities; (b) academy students were more likely to work in jobs that were connected to their school work; (c) and participation in career academies increased the likelihood of staying in school, improved attendance, and increased earned credits. In addition, approximately 80% of academy students earned a high school diploma and approximately 50% earned a postsecondary credential, which was comparable to non-academy students. (Kemple & Willner, 2008, as cited in Lewis & Kosine, with Overman, 2008, p. 45)

Research on CTE

Research on CTE fits into several broad categories: benefits, perceptions of key stakeholders of CTE, and student experiences of CTE. Most studies that I located were anecdotal in nature and simply gave a glimpse into student experiences within CTE as a method of

advocating or advertising its benefits. However, the literature has thus far failed to engage the public and policymakers in an engaging picture of the current, twenty-first century CTE.

The Benefits of CTE.

A number of scholarly articles and a small group of studies identify specific benefits of a career and technical education. In general these benefits have not been studied extensively but seem to fall into two groups: academic benefits and post-high school benefits.

Academic Benefits.

Literature that identifies the academic benefits of CTE describes the learning as rigorous with a hands-on learning component. By allowing students access to contextually relevant information in a rigorous academic setting, students perceive that they retain more information than in their academic classes and teachers believe that they can tailor their lessons to differing learning styles (Predmore, 2005). Additionally, skills are honed that fill the gap in jobs and help to create additional or supplemental jobs (Baxter, 2011).

Jones (2001) believes that vocational education focuses on students that are not college bound (as cited in King, 2009) but CTE has been shown to positively impact curriculum and instruction for students of all ability levels by providing a link to a real-world curriculum (Gentry, Peters & Mann, 2007; Gaunt & Palmer, 2005; Predmore, 2005). Even though the students who enter traditional CTE programs are usually academically behind their traditional school peers, CTE has been shown to narrow this achievement gap upon graduation (Gray, 2004). A survey about perceptions of CTE programs was completed by 451 general education and CTE students from seven school districts; it was discovered that 78% of CTE and 79% of non-CTE students found the curriculum rigorous and applicable for all ability levels (Gentry, Peters & Mann, 2007, p. 375 also Brown, 2003).

Many of the benefits in the aforementioned studies are due to the academic rigor—or the high expectations in conjunction with a sophisticated curriculum—of a CTE program (Brown, 2003; Gentry, Peters & Mann, 2007). In fact, "students who engaged in a CTE program of study enrolled in more rigorous academic coursework and in more high-level math classes than did comparable groups of general education students" (Stone, 2004 as cited in Gentry, Peters & Mann, 2007, p. 374). These students also did better than their traditional counterparts in science,

English, and on the National Assessment of Educational Progress (NAEP) (Gentry, Peters & Mann, 2007). Gentry, Peters & Mann (2007) found that 50% of non-CTE students and 80% of CTE students believed that CTE was an "appropriate" choice for students who wish to attend college (p. 375); Gaunt & Palmer (2005) also found that CTE programs were applicable to students of all ability levels, including those who wished to pursue higher education. The National Research Center for Career and Technical Education (NRCCTE) found that "CTE teachers and programs can make significant, measurable contributions to their students' readiness for college and careers" (Park, Pearson & Sawyer, 2001, p. 22).

Academies are assumed to strengthen academic skills because of their commitment to learning by doing. Growing out of Johann Pestalozzi's theory of object study (Parker, 1919 as cited in Haury & Rillero, 1992), hands-on learning was endorsed by the National Education Association in 1893 when they encouraged science instruction to "be pursued by means of experiments carried on by the pupil" (National Education Association, 1893, p. 118 as cited Haury & Rillero, 1992, p. 4). Continuing into the 1960s and 1970s, hands-on learning was lauded as "an enjoyable and effective form of learning" (Hodson, 1990 as cited in Haury & Rillero, 1992, p. 4) and as a way to "[Imitate] the work of the scientists in investigating the natural world" " (Welch, 1979 as cited Haury & Rillero, 1992, p. 4). According to Lumpe & Oliver (1991, as cited Haury & Rillero, 1992, p. 4)

> Hands-on learning is generally comprised of three different dimensions: the inquiry dimension, the structure dimension, and the experimental dimension. In inquiry learning, the student uses activities to make discoveries. The structure dimension refers to the amount of guidance given to the student. If each step is detailed, this is known as a cookbook style lab. These types of activities do not increase a student's problem solving abilities. The third dimension is the experimental dimension, which involves the aspect of proving a discovery, usually through the use of a controlled experiment.

Implementing hands-on learning strengthens the usually tenuous relationship between CTE programs and traditional academics. Usually CTE trade programs and traditional academics exist in vacuums: separate portions of schools with little-to-no interaction between the departments (Cobb & Preskill, 1983; Predmore, 2005; Tews, 2011). By integrating academic skills such as math and English within students' areas of interest, it is assumed that their retention and understanding of these skills increases (Beltram, 2010; Tews, 2011). Students who graduate with not only technical skills but also strong academic skills become more successful adults (Tews, 2011).

Post-high school benefits.

There are many benefits to a CTE education beyond high school; of those students who do attend college, many change their majors and waste money on degrees that are relatively useless upon graduation (Cohen & Besharov, 2002). In addition, many students spend four years in college, only to graduate and obtain a job they could have had immediately after high school (Cohen & Besharov, 2002; Gray, 2004). CTE can serve as a hands-on bridge to test out programs prior to funneling money into college (Cohen & Besharov, 2002; Gray, 2004). This way, students can know their passions prior to high school graduation and can thus make an informed decision to enter the work force or matriculate into higher education (Gray, 2004). The fact that there are many in-demand jobs that do not require college degrees is often overlooked because of the "college-for-all" mentality (Cohen & Besharov, 2002, p. 14). A benefit of CTE programs is that they help prepare students for the types of jobs that do not necessarily require college degrees such as electricians and plumbers, but they also facilitate the selection of an appropriate level of study after high school.

Many CTE programs also offer articulation programs to high school students (King, 2009; OCVTS, 2011; Reese, 2001). These programs allow students to remain in CTE programs while also obtaining college transfer credit; this ultimately leads to continued education, reduced training time for teachers, reduced tuition and time spent on both superfluous senior classes as well as time given to complete a college degree, while simultaneously allowing for college credit (King, 2009). For example, a study in Australia found that "95% of students who had a comprehensive career curriculum in high school were employed two years after graduation, compared to 45% of students who were not in the program and not college-bound" (Lewis, 2008, p. 156). Additionally, pre-vocational schools in Flemish Belgium send 76% of graduates to the American equivalent of community college (Lewis, 2008).

In summary, the research on the benefits of CTE would suggest CTE is considered "crucial to developing homegrown talent capable of competing in a 21st century economy" (Glenn & Nikirk, 2009, p. 26) because it allows students to learn within "the context of an actual experience, rather than abstractly" (Predmore, 2005, p. 22).

Perceptions of CTE

Costigan (1949) wrote that the "*raison d'etre* of the secondary technical school is still only very vaguely or very imperfectly appreciated" (p. 183). Unfortunately, not much has changed since then; a retired U.S. Department of Education appointee once categorized CTE programs as only "preparing students for careers as shoe repairers" (Gray, 2004). A number of studies and reports document these kind of negative stereotypes and perceptions associated with attending a CTE program. Many stereotypes exist regarding CTE (Cohen & Besharov, 2002; Kidwai, 2011; Park, Pearson, & Sawyer, 2011): CTE is preparation solely for careers upon graduation and not college; mostly male and minority students attend CTE programs; CTE

students are not mentally capable of pursuing anything other than "dead-end jobs" after CTE completion (Gray, 2004, p. 129); and that there is no relevance of CTE for the twenty-first century (Reese, 2012). While perceptions of CTE were historically negative, (e.g., Cohen & Besharov, 2002; Gray, 2004; Park, Pearson, & Sawyer, 2011; Stone 1993 as cited in Gentry, Peters & Mann, 2007 and also Gaunt & Palmer, 2005), Gentry, Peters and Mann (2007) and Gaunt & Palmer (2005), argue that this perception is evolving in a more positive direction. They speculate that this is partially because of an increased matriculation of CTE students into post-secondary studies (Gentry, Peters & Mann, 2007). Surveys have shown that most people support CTE programs for students who do not wish to attend college (Cohen & Besharov, 2002). However, most CTE students now go to college and not directly to the workplace thus CTE is now an alternate track for students to transition into higher education (Gray, 2004). Nearly 80% of CTE students complete adequate math and science credits as their traditionally schooled peers (Gray, 2004). The other percentage of students is usually students with disabilities and thus exempt from federal graduation requirements (Gray, 2004).

CTE is not a "second best" option for students, but a viable alternative to traditional high schools (Emeagwaui, 2011, p. 24 also DeWitt, 2012). Gentry, Peters & Mann (2007) found that 50% of non-CTE students and 80% of CTE students believed that CTE was an "appropriate" choice for students who wish to attend college (p. 375). Many people affiliated with CTE understand the benefits, quality and rigor of CTE, but there are still many people throughout communities that do not (DeWitt, 2012; Kidwai, 2011; Reese, 2001). This is where advocacy becomes integral to the perpetuation of CTE programs (DeWitt, 2012; Kidwai, 2011; Reese, 2011). Students who believe they have benefitted from CTE are advocates who are able to share their experiences with potential students and critics of CTE (Reese, 2011, p. 24 also DeWitt,

2012). For example, a group of students profiled by Reese (2011) from Ohio's Great Oaks Career Campuses is attempting to end the misperceptions about CTE by sharing their experiences and successes on Facebook, blogs and through local marketing campaigns that they have led. Student advocacy is an important part in countering misperceptions and can ultimately allow policymakers to also understand the value of CTE (DeWitt, 2012).

In summary while many articles discuss the negative perceptions of CTE (see Cohen & Besharov, 2002; Gaunt & palmer, 2005; Gray, 2004; Emeagwaui, 2011; Kidwai, 2011; Park, Pearson, & Sawyer, 2011; Reese, 2001; Reese, 2011; Stone 1993 as cited in Gentry, Peters & Mann, 2007), none of the articles address the underlying implications these perceptions have for CTE and the retention of students in CTE programs. One promising line of inquiry appears to be the incorporation of student perspectives in the research base.

Studies of Student Experiences in CTE

The literature on student experiences in CTE is vast but shallow. While there is little empirical information, I examined the few studies about student experiences in academies. As this study is interested in addressing the problem of retaining students in CTE academies I also examine the literature on retention in high school.

What students do in academies.

Most of the literature available contains anecdotal descriptions of particular programs or experiences rather than qualitative or quantitative examinations of what it is that students actually do and learn in CTE. The majority of articles about students' experiences in CTE are located in *Techniques*, a magazine published eight times a year by the Association for Career and Technical Education. These interesting articles do not detail day-to-day experiences of CTE academy students, which is an important part of the process of understanding what goes on in

CTE academies. The only article that mentioned an actual study did so in passing as a means to address the link between core curriculum and the hands-on skills approach of the CTE curriculum (Moore, 2007). The study, led by The National Research Center for Career and Technical Education, took place during the 2003-2004 school year and randomly paired CTE teachers with math teachers to find "creative ways to incorporate math competencies in CTE programs" (Moore, 2007, p. 49). However, no findings were discussed in the article.

One of the articles that gave a glimpse into a particular program, authored by one of the students (Fennessy, 2008), highlighted junior students in the Energy, Power and Transportation Academy of the Applications and Research Lab in Ellicot City, Maryland. These students created an all-terrain wheelchair with the help of their teachers using engineering and shop skills in addition to CAD software (Fennessy, 2008). Another article highlighted the Oracle Academy—a partnership between the Oracle Corporation and high schools to "take CTE to the next level" by providing extensive computer training with the support of Oracle Corporation (Moocbida, 2004). Wes Watkins Technology Center (WWTC) in Wetumka, Oklahoma was discussed because of its dedication to literacy skills in the twenty-first century with state-of-the art computer labs to increase student learning; several other programs and schools were also mentioned, each displaying a niche that it fills in education and CTE (Reese, 2012). Even though these schools and programs are demonstrating the variety of curriculum experiences and skills a student can learn in CTE, none of the articles present the reader with more than a glimpse into a particular project that has taken place at each of these locations. Thus, while they are helpful in clarifying what goes on inside these schools, they do not address issues of retaining students in these programs.

Studies of high school retention.

As the focus of this study is on understanding why students choose to leave CTE academies and how to address the issue of retention, I also looked at research concerning the retention of high school students in general. Most of this research is concerned with retaining at-risk youth in urban areas (see: Butler, et al., 2013) or retaining students in the college setting (see: Mbuva, 2011; Rhonda, 2011; Watt, et al., 2008) but not on retaining high achieving students in choice or magnet schools such as CTE.

Research on retention in high schools shows that one in four high school students fails to graduate in four years (National Center for Education Statistics, 2006 as cited in Cohen & Smerdon, 2009). High school dropout rates have been increasing since the 1970s (Smith, 1997), and cost the United States an estimated $325 billion in lost wages, taxes and productivity (Alliance for Excellent Education, 2006 as cited in Cohen & Smerdon, 2009 and Taş, Selvitopu, Bora, & Demirkaya, 2013). The majority of the dropouts seem to occur during the first years of high school (Cohen & Smerdon, 2009; Smith, 1997). In fact, the Consortium on Chicago School Research indicated that success in ninth grade, or lack thereof, was a primary predictor of high school dropout because students are being pushed hard to learn challenging content (Cohen & Smerdon, 2009).

However, the issue I am looking at is more of attrition and not of retention since students are leaving the academies, but not completely dropping out of school. Studies on attrition in CTE academies are sparse, if nonexistent. The only study (Taş, Selvitopu, Bora, & Demirkaya, 2013) that I found focused on students in general vocational education tracks, not career academies, and examined the experiences of students who were completely dropping out of school and not enrolling or re-enrolling in any other school. This Turkish study was comprised of interviews

with 19 students who had left the vocational program without receiving a diploma. Taş,

Selvitopu, Bora, & Demirkaya (2013) found that students dropped out of the program because of

individual factors such as absenteeism, rigor of the curriculum, and "grade repetition" (p. 1563).

These students believed the teachers to have low competence and were "unfair" (Taş, Selvitopu,

Bora, & Demirkaya, 2013, p. 1564). Additionally, they felt as though they did not need to speak

with their guidance counselors prior to leaving the program because they had already made the

decision to leave. The participants were unwilling to continue their education because they found

education "boring" (p. 1564); only a few of them attempted to return to their education, but many

could not because of their families. They stated that they were happy with their decision and did

not regret dropping out (Taş, Selvitopu, Bora, & Demirkaya, 2013). While it was interesting to

read about why these students chose to leave these CTE programs, the study was about students

who completely left school and not students who were simply returning to their home school.

Additionally, it did not address CTE academy students and so it gave little insight into my study

beyond that of a similar location.

In conclusion, the research literature on CTE is inconclusive, lacks empirical rigor and

does not offer a lot of insights to my problem of practice: to clarify what it means to be a CTE

academy student and its implications on retention in the CTE academy high school model in

Ocean County. While DeWitt (2012) states that "hearing a career and technical education (CTE)

student provide a passionate account of his or her education can be a compelling advocacy

experience" (p. 12), there are few studies available that document student experiences and

perceptions of CTE. In order for the public to understand what it means to be a CTE student, it

would be beneficial to understand what happens every day inside these institutions. By listening

to students in my own CTE or those who have left one of the academies, my intent is to use

students' experiences and perceptions to inform the development of retention strategies. In the next chapter, I outline the methodology I used to collect and analyze students' perspectives on their CTE academy education.

Chapter 3: Methodology

This qualitative study elucidates the daily life of a group of students who are enrolled in, have been enrolled in, or graduated from the Ocean County Vocational Technical School District's two academies: The Marine Academy of Technology and Environmental Sciences (MATES) and the Performing Arts Academy (PAA). A qualitative approach enables the researcher to "make the world visible…attempting to make sense of, or interpret, phenomena in terms of the meanings people bring to them" (Denzin & Lincoln, 1194, 2000, 2005 as cited in Creswell, 2007, p. 36). As such this qualitative study allowed me to describe the experience for students in the academies by collecting their varying reports and evaluations of their experience through focus groups, writing samples, and documents analysis. By interviewing these groups of students and examining various reports, this study sought to answer the following research questions:

1. What are student experiences of CTE academies?

    a) Why do students choose CTE?

    b) How do students describe their academic experiences at CTE?

2. What do students say about their career and technical education? How do they evaluate the programs?

    a) What do they cite as benefits of a CTE?

    b) What do they identify as challenges of a CTE?

    c) Why do students say they leave the CTE academy setting?

3. What do students' experiences and perceptions suggest for retaining students in the CTE system?

c.) What do these experiences and perceptions suggest for improving the academic curriculum of CTE?

d.) What do these experiences and perceptions suggest for improving the social environment of CTE?

In what follows, I outline my theory of student voice and the various components of the research design that I employed to elicit students' voices on their education in the academies.

Student Voice

Communication is an integral aspect of any policy change. Students have long been seen as the empty vessels to fill with knowledge—also referred to as *tabula rasa* and banking education—with little to no involvement in their own academic endeavors (Cook-Sather, 2002; Freire, 1993; Jagersma, 2010; Smyth, 2006a). Allowing students to have a voice—the ability to communicate with those who are integral in the decision-making process—enables them to be "authors of their own understanding and assessors of their own learning" and creates an engaged student population (Cook-Sather, 2002, p. 5; Cook-Sather, 2006, p. 365 also Goodman et al., 2011; Mitra, 2006; Smyth, 2006a; Smyth, 2006b). While there are many definitions of student voice (Cook-Sather, 2006), for the purpose of this study "student voice" is defined as "the opportunity to speak one's mind, be heard and counted by others, and, perhaps, to have an influence on outcomes" (Cook-Sather, 2006, p. 363). In order to learn about the insider culture of these academies, it is necessary to find an anthropological informant, or what Saranson (1996) refers to as a "kind of cultural guide" (p. 15), to begin to understand what it is like to be a student in a CTE academy in Ocean County. My "cultural guide" is that of the experiences and perceptions of CTE students.

While the purpose of many current and past legislative actions has been positioned around students' rights, they have in fact not included student voices (Cook-Sather, 2006). Kozol (1991) argues that "'the voices of children…have been missing from the whole discussion' of education and educational reform" (as cited in Cook-Sather, 2002, p. 5). Legislation surrounding race (*Brown V. Board of Education of Topeka, Kansas* in 1954), gender (Title IX), class (Elementary and Secondary Education Act in 1965), ability (The Education for All Handicapped Children Act in 1975), and even closing the achievement gap (No Child Left Behind Act) all address a student's right to education without their voice (Cook-Sather, 2006). Cook-Sather (2006) states that "educational research that does not elicit or respond to students' ideas violates students' rights, and educational reform that does not include students in active roles reinforces the U.S. school as a locus of social control that keeps students captive either to dominant interests, notions, practices or to adults' notions of how to empower students" (p. 372). The "discrepancy" between the role of educational research and reform (learning and achievement) and the "espoused goal of supporting student learning and the reality of ignoring students, points to a profoundly disabling and potentially very dangerous discrepancy between claims behind federal legislation and the policies and practices that result from it" (Cook-Sather 2006, p. 373).

Cruddas and Haddock (2003) note that the current "dominant culture of school 'prevents practitioners from listening to students' own creative ideas about how the system can change and meet their needs'" (p. 6 as cited in Cook-Sather, 2006, p. 376). Educational research has long been conducted "*on* not *with* students" (Cook-Sather, 2006, p. 372 emphasis in original) but has only started to recognize the importance of student voice in the past twelve years (Jagersma, 2010). Freire (1993) stresses the importance of utilizing the marginalized population in the struggle rather than enacting policies on them. The student whose voice is heard has both "rights

and respect"; respect can even been defined as a "basic premised underlying efforts to reposition students in processes of education and in research on schools" (Cook-Sather, 2006, p. 374). Cook-Sather (2006) acknowledges the importance of student voice in educational policy; she goes so far as to articulate that it has the potential to "effect a cultural shift in educational research and reform" (p. 366). Student voice allows for the "cultural shift away from an adult-centric, infantilizing, and disempowering set of attitudes and practices toward a culture that supports students as among those with the right to take their place 'in whatever discourse is essential to action' and the right to have their part matter" (Cook-Sather, 2006, p. 370 also Cook-Sather, 2002). It is not with fleeting attempts to seek students' opinions that grounds student voice, but the actuality that their voices will be heard and they will become more engaged in the system set up to see them succeed (Ferguson, Hanreddy, & Draxton, 2011; Goodman et al., 2011).

By allowing students to take part in—and shape—their education, they can become an influential part of the process "rather than keeping students in the role of recipient or victim of teachers' (and administrators' and policymakers') decision-making process" (Cook-Sather, 2006, p. 366). Utilizing students' voices allows policymakers to "make a difference with, not for students" (Corbett & Wilson, 1995 as cited in Cook-Sather, 2002, p. 5) and allows them to become a "catalyst for change in school policies" (Mitra, 2006, p. 315). By listening to students' voices, teachers, administrators and policymakers are able to "change in response to what we hear" (Cook-Sather, 2006, p. 381) and address problems and constraints of current educational policy (Cook-Sather, 2006).

In keeping with these aims, this study utilized students' voices to illustrate what it means to be a CTE student. In what follows I outline the design I used to collect the voices and

perspectives of current and former students who attend or attended the academies in Ocean County.

Design

As I sought to understand CTE and its implications on retention from the perspectives of high school students, I used a qualitative design. This design included a series of focus groups as well as a collection of writing samples over the course of the Fall 2012 semester. Additionally, I analyzed pre-existing Exit Interviews and Drop Reports with the aim of ascertaining why students have left the program over the past five academic school years.

Over the course of the fall 2012 semester, I conducted seven focus groups with students within both academies, as well as students who chose to leave PAA or MATES for a regular high school, and with two students who have graduated from MATES. Additionally, I was able to communicate with one other former student via email. The current academy students who participated in the focus groups were also asked to answer a writing prompt to allow them to further clarify and explain their daily experiences and perceptions of CTE. I also looked at pre-existing documents in the form of Exit Interviews and Drop Reports.

Research site.

There are six branches of OCVTS: four of these buildings house the traditional "trade" or "shop" programs; the other two buildings are academies. I focused my research on the academies. OCVTS admission literature defines a career academy as

> an integrated approach to learning which lets students develop a career plan and educational pathway which focuses on a specific career major. Students receive a rigorous four-year academic program which fulfills all requirements for high school graduation and admission to competitive colleges and universities. The curriculum is driven by NJ Core Content Curriculum Standards. It provides learning opportunities at affiliated colleges as well as opportunities for externships and mentorships with local companies, businesses, and industry. Students are selected from applications through a competitive process and enter at the ninth grade level.

According to the Ocean County Vocational Technical Schools website, the mission of

MATES is

> to provide an opportunity to students in Ocean County to become critical thinkers and
> problem solvers. Students of this academy will participate in an intimate, integrated, and
> challenging curriculum with a focus on marine and environmental science. MATES will
> empower its students with skills important to post-secondary study and employment in a
> global community" (ocvts.org).

The Performing Arts Academy (PAA) has a curricular focus on dance, vocal music, and

acting, along with a college preparatory academic program. According to the Ocean County

Vocational Technical Schools website, the mission of PAA is

> to provide an academically challenging education for creatively gifted high school
> students. Enhanced performing arts training will empower graduates with the practical
> skills for higher education and/or a professional career in the arts. Our unique teaching
> philosophy strives to incorporate the arts into all educational areas by integrating
> curriculum and by interaction with professionals from the arts industry" (ocvts.org).

Both MATES and PAA offer a low student-to-teacher ratio (see Table 1). There were 258

students enrolled in MATES and 227 students enrolled at PAA during the 2012 – 2013 school

year.

	Total Staff	Total Students
PAA	25	227
MATES	22	258

Table 1. Staff and Student Population for the 2012-2013 School Year

At the start of the 2010-2011 school year, approximately 20% of applicants were

accepted to MATES and approximately 39% of applicants were accepted to PAA (Wallner, N.,

personal communication, July 5, 2012). Each year more students apply to both PAA and

MATES; for the 2012-2013 school year, 353 students applied for 70 open spots at MATES and

200 applied for 75 open spots at PAA. Thus it is not an issue of attracting students to the

program (see Table 2). As seen in Table 2, there are almost three times as many students who

apply to MATES than there are available positions within MATES. Essentially, MATES turns

away almost 79% of interested candidates. Since the 2007 – 2008 school year, interest in

MATES has increased by over 160%. The trend is not as dramatic for PAA, but there are still

approximately 63% of interested applicants who are denied access to PAA. Interest in PAA has

almost doubled since the 2007 – 2008 school year (see Table 2).

Admission Year	MATES Open Spots	MATES Applicants	PAA Open Spots	PAA Applicants
07-08	65	218	60	106
08-09	70	218	60	114
09-10	70	254	65	122
10-11	70	348	70	181
11-12	70	353	75	200
12-13	75	354	75	200

Table 2. MATES and PAA Admission and Enrollment Statistics for the Past 6 Academic School Years

Sample.

My total sample consisted of 27 students: 14 who are currently enrolled in the academies,

11 who have transferred out of the academies, and two who graduated from MATES (See Figure

1).
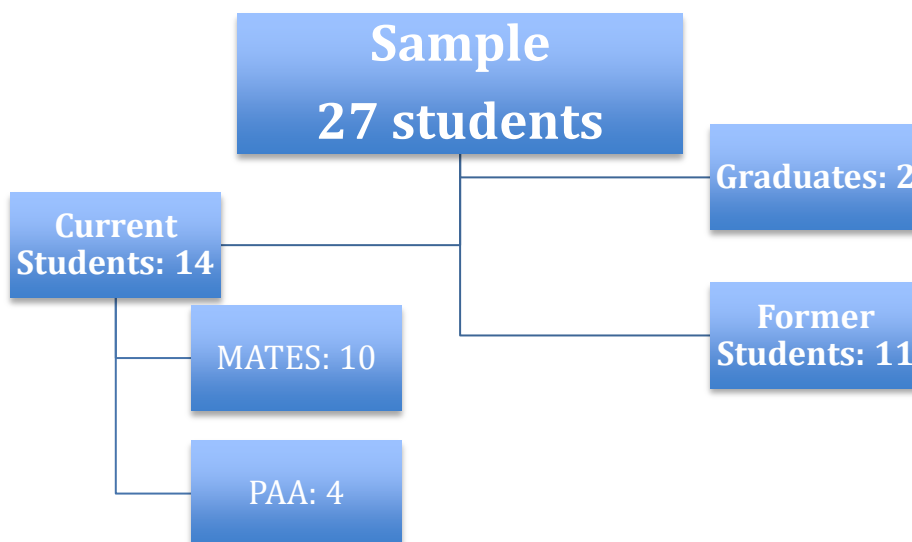
Figure 1. Sample

Each category of students allowed me to address different aspects of my research

questions; however, each group also provided insight for every research question. Talking to

currently enrolled students mainly addressed student experiences (Research Question 1).

Graduates of the academies gave a better understanding of the benefits and challenges of CTE

(Research Question 2), while former academy students who have returned to their home schools

were able to provide recommendations for retaining students (Research Question 3). In what

follows I explain how I recruited each sub sample of students.

Current students.

Prior to the beginning of the 2012-2013 school year, there were 258 students enrolled in

MATES and 227 students enrolled in PAA (see Table 3). From this population of currently

enrolled students, I asked each academy's guidance department to identify students who varied

as to their enjoyment and experiences in school. All attempts were made to ensure maximum

variation within my sample by selecting students of varying backgrounds, interests, ages and

grade levels to diversify the sample (Creswell, 2007). It was important to utilize maximum

variation within my sampling procedures in order to "increase the likelihood that the findings will reflect differences or different perspectives—an ideal in qualitative research" (Creswell, 2007, p. 126). The MATES guidance department identified 12 possible candidates and PAA guidance departments identified 12 candidates. Once I received the list of potential students, I approached students in regards to participating in the study and explained their involvement. They were given consent and assent forms as well as an audiotape addendum during our first interaction in September (see appendices A and C).

Out of 24 students who were identified by each academy's guidance department, 10 students declined to participate or did not bring in appropriately signed consent and assent forms. The final sample of current students in MATES consisted of 10 students (see Table 3.) Three of the MATES Focus Group Participants—Chuck, Ariana and Meg—were all doing very well academically. Four of these students—Zack, Tyler, Stephanie and Jacob—had expressed interest in leaving the program. Two students – Jillian and Colleen – were highly involved in the academy. Only one student, Carl, was in danger of failing any of his classes.

Name	Grade	Sex	Reason Selected
Chuck	12	M	Doing well academically
Ariana	12	F	Doing well academically
Jillian	12	F	High level of involvement
Meg	12	F	Doing well academically
Carl	11	M	May be failing
Colleen	11	F	High level of involvement
Zack	10	M	Expressed interest in leaving
Tyler	10	M	Expressed interest in leaving
Stephanie	10	F	Expressed interest in leaving
Jacob	9	M	Expressed interest in leaving

Table 3. MATES Focus Group Participants

Recruiting students at PAA was more difficult. After the students were identified by their guidance department, I met with them to explain the study and hand out the forms. At the final focus group meeting time, several students showed up without signed parental consent forms and thus were not allowed to participate in the study. The remaining four students, all female, (see Table 4) represented three aspects of the types of students with which I was looking to speak.

Name	Grade	Sex	Reason Selected
Christina	12	F	Expressed interest in leaving
Keri	11	F	Not involved in anything
Patty	10	F	High level of involvement
Dina	10	F	Not involved in anything

Table 4. PAA Focus Group Participants

Christina actually left the program, only to return; she was still questioning her decision to stay at the time of the focus group meeting. Both Keri and Dina were not involved in any programs in school; Patty was highly involved in extracurricular activities aspects outside of the school day.

Former academy students.

As I am interested in why students choose not to stay at CTE, I also interviewed former students. This sample was bounded by location (if they were still close by) and also by age (if they are still in school or if they have graduated). Additionally, this sample was also bounded by the home school districts' willingness to allow me to interview students during the school day, on school property.

Former CTE students were identified first through Exit Interviews, which every student is asked to complete before returning to their home school. From these Exit Interviews, I identified districts that still had former students in attendance. I then reached out to these district high schools' guidance departments. At first, my attention was focused on sending schools with the largest proportion of students who had left the academies; since many schools were unwilling to participate, I expanded my scope to include all of the sending districts.

I contacted all 11 of the sending districts, which was comprised of 14 high schools. Out of these 11 districts, six schools would not respond to me via email and phone communications. One district no longer "qualified" as there were currently no former students in attendance, according to available records. One school district immediately stated that the superintendent would not allow any research on site. Another district seemed promising, but stopped returning my phone calls and emails shortly after stating they would like more information. Finally, two districts did agree and I was able to access the opinions of six former students in this manner. One additional student was still actively in contact with staff members at MATES and so I was able to contact her directly; she was also a former student of mine. This led to the access to additional opinion from yet another sending district.

Additionally, the 2012 – 2013 school year provided a unique opportunity: five students at MATES decided to leave in between the Fall and Spring semester of their freshmen year. I was able to interview four of these students in a focus group setting just days prior to their departure. Since these students had filed the necessary paperwork to return to their homeschool, they are referred to as former students. This allowed me to speak with 11 former academy students in total (see Table 5).

Name	Grade	Sex	Former Academy
Sue	9	F	PAA
Lindsay	11	F	PAA
Chelsea	11	F	MATES
Bill	9	M	MATES
Adele	11	F	MATES
James	12	M	MATES
Briana	9	F	MATES
Kaitlyn	9	F	MATES
Violet	12	F	MATES
Patrick	9	M	MATES
Walt	9	M	MATES

Table 5. Former Academy Students Focus Group Participants

The final sample population of former academy students included seven females and 4 males from six different sending districts in Ocean County. This sample represented freshmen, juniors and seniors. Four of these students were interviewed at MATES prior to their departure; one student was interviewed via email. The remaining six students were interviewed at their home schools.

Graduates.

I also interviewed two graduates of MATES in order to understand how their involvement with the program affected their plans after graduation. Graduates' perspectives

round out my study and understanding of the topic of retention as they have been through the process of applying, attending, and graduating from an academy.

To recruit this sample I drew on contacts I had as a teacher of these former students. The graduates were contacted via email to ask for their participation. The two graduates I interviewed (see Table 6) had graduated from MATES in 2009 and 2010. Both graduates were attending the same four-year university and were able to meet with me at this location. One of these graduates still had a younger sibling attending MATES. Both of these graduates were former students of mine: Jake, a 19-year-old male who graduated MATES in 2010 and Michelle, an 18-year-old female who graduated from MATES in 2010. Both Jake and Michelle had been actively involved in extracurricular activities at MATES during their high school careers.

Name	Age	Sex	Graduated
Michelle	18	F	2010
Jake	19	M	2009

Table 6. MATES Graduates

Overall, my total sample of 27 students included 17 females and 10 males from both MATES and PAA (see Table 7). The sample included fourteen current students, eleven former students and two graduates across all four grade levels. Additionally, the current students were further diversified by their level of involvement in the school including students who were actively involved in school-based activities and extracurriculars to students who were not involved in anything in their school outside of academics; they were also representative of students who were doing well academically and students who were in danger of failing (see Appendix H for more information).

Name	Grade	Sex	Academy	Type
Colleen	11	F	MATES	current
Keri	11	F	PAA	current
Chuck	12	M	MATES	current
Ariana	12	F	MATES	current
Christina	12	F	PAA	current
Zack	10	M	MATES	current
Patty	10	F	PAA	current
Stephanie	10	F	MATES	current
Jillian	12	F	MATES	current
Tyler	10	M	MATES	current
Dina	10	F	PAA	current
Meg	12	F	MATES	current
Jacob	9	M	MATES	current
Carl	11	M	MATES	current
Michelle	18	F	MATES GRAD	graduate
Jake	19	M	MATES GRAD	graduate
Sue	9	F	PAA	former
Lindsay	11	F	PAA	former
Chelsea	11	F	MATES	former
Bill	9	M	MATES	former
Adele	11	F	MATES	former
James	12	M	MATES	former
Briana	9	F	MATES	former
Kaitlyn	9	F	MATES	former
Violet	12	F	MATES	former
Patrick	9	M	MATES	former
Walt	9	M	MATES	former

Table 7. Total Sample Population

Data collection.

In order to address my three main research questions involving experiences, perceptions and retention from a student's perspective, I conducted focus groups as well as requested a writing sample from each of the currently enrolled students who participated in the focus groups; I also analyzed pre-existing Exit Interviews and Drop Reports. Each of these data sources is described below.

Focus Groups.

Focus groups are best for "answering questions that seek differing perspectives on an issue and to illuminate some of the factors that may be contributing to these differences" (Ryan & Lobman, 2006). As focus groups are group interviews, this method was also well suited to working with teenagers who might not be as comfortable talking with an adult individually. The focus group methodology allowed me to hear multiple students' perspectives while they both substantiated and elaborated on each other's responses and perceptions (Patton, 2002).

I conducted seven focus groups in total: three focus groups were conducted with current students (2 with students at MATES, 1 with students from PAA), one with both graduates, and the remaining three focus groups were all with former students (see Table 7). Focus group interviews took place between November 2012 and January 2013. Each student participated in one focus group during school hours and on school property during a time that was as least disruptive as possible. Each focus group lasted approximately one to one and a half hours.

In order to obtain the diverse and rich answers that a focus group elicited, I utilized a semi-structured Focus Group Protocol (see appendix D, E and F). Utilizing Patton's (1990) typologies of qualitative questions, I attempted to elicit responses based on experiences/behavior, opinion/values, feelings, knowledge, and background via singular, open-ended questions. The protocol included open-ended questions with prepared probes depending on students' responses (Patton, 1990). In the first section, I began with an introductory component about the study's purposes so that the participants were fully aware of the nature of the project. Even though Patton (1990) suggests interspersing "boring" demographic questions throughout the interview, it was important for students to introduce themselves to the group to become acquainted with each other in the beginning. The second section focused on students' reasons for applying to the

vocational academies. These questions were experiential and addressed how the students became involved with the academy and what initially attracted them to that type of education and then segued into descriptions of daily activities to provide context for further questions (Patton, 1990). The third section of the interview protocol delved into the benefits and challenges of the program. The questioning continued to flow into feelings and perceptions regarding attending the academies and how students' decisions to attend the academies affected their lives inside and outside the classroom. Former students discussed their decision to leave the academy by sharing their feelings about leaving and how it has impacted their education and friendships.

All of the interviews concluded with students offering advice for other students who are trying to decide about attending an academy in Ocean County by participating in a short role-play situation wherein I was an eighth grade student considering enrolling in one of the academies. The role-playing helped provide a context for the student to respond directly as an "expert" on enrolling in CTE academies and thus allows them to "share his or her expertise" (Patton, 1990, p. 319).

While all of the focus groups were asked primarily the same questions, albeit in different ways, there were a few specific questions based on the type of student being interviewed. The former students were asked specifically why they chose to leave. I used these reasons to compare to what they previously stated on their Exit Interviews and Drop Reports. I then compared this data across the pre-existing data to look for trends in reasons why students chose to leave. Current students were asked if they knew any students who left and if they had discussions with these former students prior to their departure. Graduates were asked how their current university peers responded when they stated they attended a CTE academy for high school.

Through the use of open-ended questions, I was able to "access the perspective of the person being interviewed" (Patton, 1990, p. 278). By capturing the participants of the CTE academy setting, I facilitated understanding of what it means to be a CTE academy student and why some students choose not to remain in this setting (Patton, 1990). By using an interview guide, I ensured that I was asking the same questions to the same types of students (current academy students, former academy students or graduates) in order to obtain a greater variety of perspectives on the same topics as well as to best utilize the time available (Patton, 1990).

As the facilitator of the focus group, it was equally as important for me to notice the non-verbal cues of the participants as well as listen to what they were saying (Ryan & Lobman, 2006). To this end, each focus group was audio recorded and I also took notes in order to better understand what was occurring during the discussion, especially students' nonverbal behaviors which could not be captured on the audio recording. I also took notes regarding the context and setting of each focus group meeting and possible connects to other focus groups. Each audio recording was transcribed and then labeled by school name, type of student, date and a number, if more than one group met at that school. All transcripts are stored on a computer via a password-protected file. All audio recordings and printouts are kept in a locked desk drawer.

Documents.

Existing documents in the form of Exit Interviews and Drop Reports "contain clues, even startling insights, into the phenomenon under study" (Merriam, 1998, p. 119). Logically, when looking into why students decide to stay or leave academy programs in Ocean County, I was led to pre-existing data that would allow me to evaluate trends in the data on students leaving the programs and additional data that was already on record in the district (Merriam, 1998). In addition to this pre-existing data, I instructed the students to participate in a writing sample,

which I collected for further analysis. These three forms of documentary evidence were supplemental to my focus group data and are described below.

Student writing samples. As I used student voice to understand CTE perceptions, I wanted to allow students an additional opportunity to voice their daily experiences. To this end, I requested writing samples from each of the 14 currently enrolled students who participated in the focus groups. Each student was given the writing prompt at the completion of the focus group interview and was requested to return it electronically within 48 hours. The writing prompt (see Appendix G) stated

> *Imagine that an alien has landed in the parking lot of your school. It wanders into your building and is rooted to the floor with fascination. What has it seen? Write with as much detail as possible what goes on during your school day. Please start when you step out your door in the morning. Be as descriptive and informative as possible. Maybe this alien wants to open up its very own [PAA/MATES]*

I emailed a reminder to each student one week after the focus group in an attempt to receive every writing sample; however, only six students followed through and returned theirs. While only six students submitted the requested sample, these documents helped me to understand what happens each day in each of these students' programs. Once I received the samples, I uploaded them to Dedoose ready for analysis labeled with the student's initials and focus group.

Exit Interviews. A second kind of documentary evidence was the Exit Interviews. When each student decides to leave either PAA or MATES, it is suggested that he or she meet with his or her guidance counselor. However, it is at the student's discretion if he or she wishes to speak to the guidance counselor. There have been times when students have left the building and had his or her parents call to inform the school that he or she would not be returning, such as over the summer. In these situations, the guidance department does not interview the student.

The Exit Interview is a collection of data compiled from a discussion a student has with his or her guidance counselor; the guidance counselor speaks to the exiting student as to why he or she is leaving the academy and enters the information into the electronic, district-provided form. In order to provide further information for Research Question 2, I evaluated these exit interviews to identify common factors as to why these students choose to leave PAA and MATES. I looked at the past six years of these Exit Interviews (starting with the 2007-2008 school year and ending with the 2012-2013 school year) in accordance with the six years I tracked student attrition.

Both MATES and PAA differ in their strategies for conducting and recording the Exit Interview information. MATES had a more comprehensive collection of this data, printed directly from computers after the interview was conducted. These were then sorted into a binder, which I was able to access. At PAA, these physical documents were non-existent. I was, however, able to procure this data from the Board of Education central office in the form of a spreadsheet.

Drop reports. The final type of documentary evidence collected was Drop Reports, which were obtained via the school attendance software monitoring program. The Drop Reports list every student who has been removed from each of the academy's attendance roster for any reason, according to the state-regulated coding system. The Drop Reports allowed me to match students' reasons for leaving and overall attrition over the past six academic school years adding another validity check in my study. Once the Drop Reports were sent to me electronically, I compared the data with that of my Exit Interviews and focus group responses by creating spreadsheets in Excel.

Timeline.

Data collection took place from September 2012 through to January 2013 (see Table 8). My proposed timeline was altered drastically due to two unforeseen circumstances that affected my school. The first of these was the death of one of my students. Not only was this death hard on me personally, but since it was the first death of a MATES student, the student body was emotionally shocked. Before students were able to come to terms with the death of a peer, Hurricane Sandy ravaged the county. Many students were without permanent housing and school was closed for two full weeks. Due to these circumstances, my own classes did not resume a normal schedule for approximately a month. It was not until after this time when things were attempting to conform back to normal behaviors and routines that I was able to begin to reach out to students for my focus groups.

Students were recruited and consent and assent forms were distributed to MATES students in September. These forms were collected during the months of September and October. The first focus group of MATES students and Graduate focus group took place in November. The second MATES focus group took place during December. The only group of PAA students who I could recruit was interviewed in a focus group setting in January. Former students from outside districts were interviewed in a focus group setting in December. A unique situation arose in which several freshmen decided to leave between semesters. I was able to interview these students, prior to their exit from the program, in January. Since they had already filed their paperwork, I refer to these students as former students as well. Additionally, I was able to correspond via email with another former student in January.

September	October	November	December	January
• Obtain student names • Recruit participants	• Student death • Hurricane Sandy	• MATES focus group 1 • Graduate focus group	• MATES focus group 2 • 2 former student focus groups	• PAA focus group • Former student focus group at MATES • Email from former student

Table 8. Data Collection Timeline

Data analysis.

After the data was collected via focus groups, writing samples, and pre-existing documents, it was organized according to the type of student: students currently in the program, students who have left the program and students who have graduated from the program. Each focus group was fully transcribed and organized by group (see Figure 1) in a computer file that contained all information for that particular group of students. Each transcript and writing sample was then uploaded into Dedoose for further analysis. Both the Drop Reports and Exit Interviews were analyzed via comparing documents in an Excel spreadsheet.

Focus groups.

Since I focused primarily on focus group data, I began by describing this data set in relation to each of the three research questions for each subsample of students. The data was

coded in two stages. First, the focus group data for each subsample (current, students who have left and graduates) was looked at as its own entity. I created files that contained all information that was relevant to each research question for each participant group. To do this, I coded all interviews using the broad categories of experiences (Research Question 1), benefits and challenges (Research Question 2), and recommendations for retaining students (Research Question 3). So, I had a file that contained current students' relevant data regarding their experiences (Research Question 1). I also had two additional files for the current students that addressed the benefits and challenges of CTE (Research Question 2) as well as recommendations for retaining students (Research Question 3). Similarly, I had files for former students and graduates, organized in the same manner. In this way all of the information for each of my three research questions was organized into files based on the type of student who was interviewed and the research question that was addressed.

Once I had sorted the information for each of the groups, I looked at the data by research question for each group. This involved looking at all the data for Research Question 1 by student type and doing some inductive coding (such as "culture" and "voice") and deductive coding (such as "reason for leaving" and "average day") using Dedoose. Similarly, I looked at all the data organized under question 2 and question 3 by student type. As I conducted these comparisons I wrote memos addressing some of the patterns by student group in order to address thematic frameworks prior to moving on with my comparison (Rabiee, 2004).

Once I had coded the information for each of the groups, I looked across my sample to see if there were any commonalities for the same research question. So, for example, I looked at responses from students currently in the program, students who have left the program and students who have graduated from the program based upon experiences of CTE academies

(Research Question 1) and coded both inductively and deductively. I then repeated this for all groups of students for the remaining two research question topics: students' thoughts about their CTE education (Research Question 2) and suggestions for retaining students (Research Question 3). These comparisons by code and student type gave me insight into shared experiences for my students and began to demonstrate that there were shared cultures of students, based on which academy the student attended.

Once I compared all of the focus group data, I looked for relationships among codes and student groups in relation to each of the research questions. These interpretations were written up as themes in response to research questions, highlighting similarities and differences among different groups of students. For research question 1, I utilized focus group data. Research question 2 involved analyzing the focus group data in combination with documentary evidence in the form of Drop Reports and Exit Interviews.

Documents.

As mentioned previously, three types of documents were collected: 6 writing samples from current students, as well as 60 Exit Interviews and 221 Drop Reports. The pre-existing documents in the form of Drop Reports and Exit Interviews gave evidence about why students choose to leave, while the student writing samples gave me insight into research question 1: student experiences of CTE academies. My analysis of documents began by looking at student writing samples.

Writing samples were analyzed by applying the same process I did with the interview transcripts. First, I looked at how students described their average day to someone who did not know anything about their program. I did this by coding the writing samples in Dedoose using the pre-existing codes from my transcript analysis. Once I had analyzed each individual writing

sample, I looked across the samples to see if there were similarities of differences. Looking at this data allowed me to deepen my descriptions of students' daily experiences in CTE academies (Merriam, 1998).

Exit Interview and Drop Reports from both MATES and PAA were collected to provide insights about my second research question regarding why students leave. The pre-existing data in the form of the Exit Interviews and Drop Reports did not have matching data. That is, for some students there were both exit interviews and drop reports and for others there were not. Therefore, both Exit Interviews and Drop Reports were evaluated separately and then looked at together for additional patterns. To this end, I began by looking at the Exit Interviews since they contain a lot of information about each student including the grade, age, homeschool, date the interview took place, and a narrative of his or her reason for leaving. Each narrative reason for leaving was coded based on the pre-existing coding scheme created from the focus group data. Additional categories were created if a student relocated out of district or if the student was withdrawn for medical purposes. I then created an Excel spreadsheet that listed each of these data points in order to have the ability to sort by academy, grade, homeschool and reason for leaving. To this end, I was able to look across the data by specific points (e.g.: reason for leaving, homeschool, or gender to name a few) and also to sort the data by these specific parameters in order to better understand why some students leave the program. This allowed me to look across the data easily to see if there were emergent patterns or themes in my research.

The Drop Reports are the electronically recorded records of when students are withdrawn from the OCVTS school district. The evaluation process for the Drop Reports involved making another Excel spreadsheet of all the available data listed on these reports. These spreadsheets allowed me to analyze the data in order to graphically represent populations of students who

choose to leave the program. These reports include students who were taking classes abroad and homeschooled for medical purposes. This meant that I had to look at the data carefully and omit students from my analysis who were listed on medical or homebound instruction as well as students who studied abroad as these students did not technically leave the academies. I have not included students who studied aboard, were on medical leave, or were homeschooled in my analysis, as they were never officially transferred out of the school district, but just changed in status on the computer for state attendance purposes. Many students either did not respond or were recorded as "other" as a reason for leaving on these reports; therefore, these Drop Reports were not taken into consideration and only the concrete, descriptive reasons stated were evaluated.

Once I had analyzed both sets of documents, I then looked at them together to see if reasons cited in Exit Interviews matched up with reasons in the Drop Reports by student, since both of these documents contain both students' names and their identification numbers. This was accomplished by physically matching up each Exit Interview with the coordinating Drop Report and then going line-by-line to match up data fields. While my analysis of these particular documents is only as accurate as these records allowed, at the conclusion of my coding of both exit interviews and drop reports I had a way of triangulating reasons for leaving between documents and focus group data to deepen my analysis of research question 2.

Looking across documents and focus group data.

In order to answer research question 2 (why students leave CTE academies), data was compiled across formats, when possible, matching student name and identification number to attempt a more complete picture of the attrition rates and students' reasons for leaving since the 2007 – 2008 school year. This meant that I would look at Exit Interviews, Drop Reports, and

Focus Group data across sources by a specific student. In this way, I was able to compile a more complete picture of students who leave the district by comparing this data, as some of the reasons for leaving or homeschool district were available in one format, but not another. For example, I looked at the available data I had on a former student who was also involved in my focus group and compare data across focus group responses, Exit Interview and Drop Report. I paid particular attention to how the student responded to the reason for leaving in each format to see if there were variances in responses. For students who were not in my focus groups, I was able to determine a more complete background of the student if there was both a Drop Report as well as a detailed Exit Interview for that particular student.

At the conclusion of this analytic process, I had analyzed focus group data from different subpopulations of students to be able to describe their experiences and perceptions of CTE in their voices. Analysis across documentary evidence and focus group data provided insights into why students leave academies.

Validity.

Validity in qualitative research is "an attempt to assess the 'accuracy' of the findings, as best described by the researcher and the participants" (Creswell, 2007, p. 207). In keeping with Creswell (2007), I utilized 3 strategies to ensure validity of my findings: peer review or debriefing, self-reflective memoing, and triangulation. Peer review debriefing was conducted during periodic meetings of the Rutgers Education Doctorate 2010 cohort dissertation meetings. This external check in the form of the cohort "keeps the researcher honest; asks hard questions about methods, meanings and interpretations; and provides the researcher with the opportunity for catharsis by sympathetically listening to the researcher's feelings" (Creswell, 2007, p. 208). My dissertation colleagues helped me to refine my coding scheme and read sections of analysis.

The peer review allowed for outside input from someone who was not associated and/or advocating for CTE education and thus ensured my findings were credible.

Self-reflective memoing, in essence, is "understanding one's own understanding of the topic" and then documenting these throughout the analytic process (Creswell, 2007, p. 206). As a teacher at MATES, it was especially important to clarify my role including my current perceptions and involvement with this research (Creswell, 2007). I believe strongly in Career and Technical Education as a viable and useful mode of reaching diverse student populations. Additionally, I have worked at MATES since 2008 and know the majority of the students enrolled in the school; I am also the school's yearbook advisor. In order to address my biases, I crosschecked my analysis both theoretically and via self-reflective memoing of assumptions in Dedoose. I then used these memos during peer reviews and debriefings. For example, I asked for my peers' input in checking my coding scheme to ensure that I was not projecting any personal bias onto my findings.

Additionally, I triangulated across student groups and within student groupings. Triangulation involves looking across different sources in order to substantiate findings (Creswell, 2007). I triangulated my information by checking focus group responses with those of Exit Interviews and Drop Reports; both of the documentary data was also checked with each other for consistency. In what follows, I present the findings of my analyses.

Chapter 4: Findings

I step out of my home at 5:58 AM to catch the mini-bus to Brick Township Memorial High School at 6:14 AM. From there, I take another bus to the Marine Academy of Technology and Environmental Science (MATES) in Manahawkin, New Jersey. I usually spend my forty-five minute bus ride studying for quizzes and/or tests in Spanish, Oceanography, and Computer Science; however, if I do not have any exams that day, I usually take a nap to catch up on much needed sleep. Once the bus arrives at MATES at 7:25 AM, my brother, sitting in the two-seater across from my three-seater, gently kicks my winter boots to wake me up.

I head off to the main office to do the MATES morning announcements on Mondays, Wednesdays, and Fridays. Then, I go to my first class of the day: OCC English 152. The class sits in a circle to analyze and discuss the readings from the previous night. Some days are peer editing days—I enjoy editing papers, so these are my favorite days. After English, I go to Oceanography. Every Friday, the class is divided into four groups and each group is responsible for maintaining the water quality in each of the four classroom tanks—they are filled with all sorts of fish and marine organisms. Thursdays are field days, and lately the class has been observing the effects of Hurricane Sandy on the beach. Last Thursday, we conducted a vertical profile of the beach to compare current data from that of previous years. Then, it is time for lunch—the freshmen race to the cafeteria. After lunch, activity period begins—the most hectic part of my day. Since I am involved in many clubs at MATES, meeting days often conflict with one another. Should I attend the Spanish Club or Math League meeting on Tuesday? Should I attend the Human Rights meeting or make posters for the Winter Semi-formal on Friday? Do I need to talk to the guidance counselors about my college or scholarship applications? It is 11:00 AM already!

The second half of my day begins; it is time to go to Spanish IV To wrap up the school day, I go to computer science; I cannot believe that I am actually writing Java programs on the computer. I created a program that randomly generated a number and the user was instructed to guess the number until he or she was correct; after an hour of tedious coding, my code was complete. The school day ends at 1:43 PM, and I head to my locker to gather my homework for the night. It is time to go to the bus. As I sit in my seat on the bus, the race to finish my homework before midnight begins.

At 2:30 PM, I arrive back to Brick Township Memorial High School, where I wait until 2:50 PM to catch the late bus. I get home around 3:00 PM and eat lunch. After I eat my lunch, I finish the homework that I started on the bus ride home. Sometimes, I take a nap around 4:00 PM or 5:00 PM to give me the energy I need to start my list of English readings. I usually end up using half a pad of sticky notes per night! On the bright side, the pages look colorful from all the different colored sticky notes. By the time I am done reading, it is time for me to dedicate an hour or two to my club activities. A couple of days ago, I stayed up until 2:30 AM to finish making a Christmas tree with construction paper, glitter, and ribbon for the Spanish Club bulletin board—it took me an hour and a half to sew the ribbon to the construction paper! At that point, I am exhausted, and it is time for some well-deserved sleep. My day starts all over at 4:45 AM, and I would not have it any other way!

-Meg, MATES Senior

Like many high school students, Meg is grappling with the challenge of balancing all of her academic requirements along with her social obligations and interests; but what makes Meg's story unusual is that unlike other students who attend their local high school, Meg is one of approximately 485 students attending a career and technical education (CTE) academy in Ocean County, New Jersey.

Career and technical education (CTE), formerly referred to as vocational education, was created to provide an outlet for all types of students and their interests under compulsory education. It then grew to address "growing demands of the health care field and that of science, technology, engineering and math" (Kidwai, 2001, p. 17). Beginning in Philadelphia in 1969 (Orr, Bailey, Hughes, Karp, & Kienzl, 2004), career academies are a segment of CTE that focus on pairing the hands-on nature of CTE with rigorous, academic coursework. This is what makes the academies distinct from the both the traditional high school setting and standard or traditional CTE/vocational-technical programs (Hyslop, 2009). Academies are both academically rigorous and thematically focused with an emphasis on hands-on learning.

Meg speaks about the benefits she perceives from her hands-on training and the high academic rigor of her classes at one of these academies, but for every Meg there are other students who have dissimilar and often negative experiences. These experiences lead students to leave the academy setting and return to their home schools during their high school careers. The matriculation numbers at the CTE academies in Ocean County for example have lowered throughout the school years. While sixty-five to seventy-five students are accepted each year, approximately 43 to 59 graduate 4 years later. This issue of student retention is not a problem indicative only to my school but a nationally recognized difficulty: The National Research

Center for Career and Technical Education (NRCCTE, operated by the U.S. Department of

Education) has identified retention as one of its core issues.

    The purpose of this chapter is to understand the experiences and perceptions of students

who choose to stay or leave the CTE academy within Ocean County. Using the voices of

students themselves, an under-utilized construct where students "have the opportunity to actively

participate in school decisions that will shape their lives and the lives of their peers" (Fielding,

2001; Goodwillie, 1993; Levin, 2000 as cited in Mitra, 2004), this chapter examines the factors

that contribute to retention and attrition in the Ocean County CTE academies. This chapter

begins with an examination of students' experiences both within and outside their daily classes.

The second section of this chapter looks into graduates', current students' and former students'

evaluations of these CTE programs and factors they say contribute to their staying or leaving the

academies. In keeping with the conceptual framework of student voice, students' actual words

will be used to describe their experiences within the academies of OCVTS. These voices give

insight into what it means to be a student in a career and technical education academy in Ocean

County, filling a long-standing void in the research literature while also offering insights into

how we might address student retention in the academies.

What Are Student Experiences of CTE Academies?

    Each of New Jersey's 21 counties operates a county vocational-technical school as part of

the free public school system. In fact, "under state law, any student may apply to a county

vocational-technical school in his or her county of residence. If accepted, the home school

district must permit the student to attend. There is no cost to the student, or to his or her family"

(New Jersey Council of County Vocational–Technical Schools). Each vocational school district

is operated "independently, and is governed by a Board of Education with support from the

County Board of Chosen Freeholders" (New Jersey Council of County Vocational–Technical

Schools). Career academies operate within these 21 vocational districts; even though each county

has its own vocational district, each vocational district does not necessarily have an academy.

A career academy is generally defined by three basic criteria: a small learning community

that travels as a cohort through at least two years of high school; a college preparatory

curriculum with a thematic focus, enabling students to see application between academics and

field work; and partnerships with employers, community, and local colleges to "improve student

motivation and achievement" (CCASN Resources; Brand, 2009). In order to expose students to a

range of career options within a given field, most academies offer internships to junior and senior

students (CCASN Resources). In the next section, I outline how students become part of the

academy setting by first learning about the schools and then by choosing to apply to the

academies.

Choosing to attend a CTE academy.

Unlike attending one's home town high school, the academies operating within each

vocational school district have additional admission procedures in order to attract and retain

students based on the foci of each of the academies: marine sciences and performing arts. Since

these academies operate as part of a choice school district, students first have to learn about the

option to attend an academy rather than their assigned district homeschools. Students spoke of

becoming part of the CTE system in two ways: **how** they learned about the academy and **why**

they chose to apply to and attend the academy.

Learning about the academies.

> ...Because of my cousin. He went there and he was always talking about how wonderful it was with the science and the math and things like that. Also, my parents were also very into it. It trickled down where he was always talking about how great it was, my parents were talking about how great it was, so I looked into it. Then when they came to our school to present and stuff I was like wow, that looks really cool, oh I can be out in the field every week and things like that. Plus, I like math and science.
>
> <div align="right">-Jake, MATES Graduate</div>

Jake, like other Ocean County students, identifies the three main ways by which students tend to hear about the opportunity to attend CTE academies in Ocean County: through a friend, through a relative, or during one of the formal or in-school information sessions.

The CTE district or academies engage in two types of recruitment events. The first of these are information sessions offered in the middle schools of districts that comprise Ocean County; the second type of recruitment event are the information sessions held on-site at the academies themselves. Almost half of the students, eleven in total, recall seeing a presentation at their school from an admissions representative. These presentations were, for most students, the first time they had heard about the academies and the first time they were learning that they had different options instead of attending their home schools. "I saw a presentation or something that they brought in about PAA and MATES in seventh or eighth grade," recalled Ariana, a MATES senior. "I was like, 'Oh, that looks cool…I might as well try this out." Dina, a PAA sophomore, recollected "they came to my school and I wanted to act…. they showed us a video and stuff and then they gave us pamphlets and stuff."

The student termed "information sessions" are presentations put on by an OCVTS Admissions representative to seventh and eighth grade students in one of the 17 sending high schools in Ocean County. During this 35-minute presentation, held in either September or October, the representative shows an illustrative video of the academies and explains the

admissions process. The 17-minute narrated video presentation, which is also available on YouTube (see http://youtu.be/fwrErE_570c and http://youtu.be/MOsGhN73Dgc), covers the small class sizes, partnerships with the community, hands-on atmosphere, curriculum and everyday activities of both academies interspersed with some students' opinions on the program (OCVTS, 2010). The presentation also includes several community partners—such as Jenkinson's Aquarium, local guest artists, and the NJ Fish and Wildlife—and their comments on the benefits of attending one of the specialized academies. The videos highlight the hands-on nature of the programs by displaying examples of what it means for students to go "into the field" at MATES and execute elaborate performances at PAA. The promotional video uses the exact phrase "hands-on" at least four times. By addressing the well-researched benefit of hands-on learning for CTE students, OCVTS is making it clear that MATES students are finding a way to "[Imitate] the work of the scientists in investigating the natural world" (Welch, 1979 as cited Haury & Rillero, 1992, p. 4).

Additionally, the videos touch on the fact that students attending one of the academies also have the opportunity to participate in clubs and sports in their homeschools, although students explained via focus groups that they found this to be a challenging aspect of both academies. Students remembered the hands-on nature of the information sessions best and spoke of "touching penguins" and "going out into the field" as highlights of the video they were shown because it looked "new and exciting".

The information session typically closes with a question and answer session, driven by prospective students. Interested students are then given a postcard with dates for the formal information sessions at the academies. According to an Admissions Representative, most students have heard of the academies but do not really know much about them until after the

presentation. They mainly ask about the admissions process including what the grade requirements are for application and admittance as well as how they can participate in after school activities and sports. The students often ask if they still have to take a physical education class if they attend one of the academies (Wallner, N., personal communication, August 19, 2013).

What the students refer to as the "information sessions" are not the same as the official information sessions that are presented at each of the two academies. The OCVTS official information sessions are a "first-hand look at each of the schools" (OCVTS Admission Brochure). During these sessions, students tour the building, meet the administration and faculty and "receive an in-depth overview of academy learning" (OCVTS Admission Brochure). Parents are encouraged to attend these sessions in order to "allow families to make an informed decision in the best interest of the student" (OCVTS Admission Brochure). Since OCVTS does not mail admission materials, all students who are interested in attending either academy are encouraged to attend an information session in order to procure the necessary admission information and literature. Interestingly, none of the participants in this study referred to the official on-site information sessions when discussing why they chose to attend an academy.

In addition to these information sessions, many students also hear about the schools through other avenues such as middle school staff, neighbors, and family members. Some of these staff, neighbors and family members had attended one of the academies, but most seemed to have heard of the academies through someone else and then passed along the information to the student for myriad reasons. Bill, a freshman and former MATES student, heard about the academy from his sister's boyfriend, who had graduated from the program. Bill explained that this friend "loved it and he suggested for me to go there because he knew what I liked and he

said I would love it." Similarly, Lindsay, a former PAA student, heard about the program from her neighbor who had previously attended PAA "and she convinced me to go."

Out of the 26 students who participated in my focus groups, only two students, Adele and Hannah, said that they heard about the OCVTS academies from their teachers. Hannah, a junior, and former MATES student, explains, "I was recommended by my 8th grade science teacher and I never thought I would want to go but she's like, "Oh, just apply," so I decided to.

Like Jake, who opened this section, a quarter of students heard about the academies from multiple sources. Most of these students heard about the program from a friend or family member in conjunction with the informational video presentation in their middle school as Adele, a sophomore and former PAA student stated, "My parents. My teachers. Everyone that knew I was interested in acting recommended it."

Applying to the academies.

After students hear about the academies, they then have to make a decision, either begin the application process to see if they will be given the opportunity to matriculate into one of the academies or continue on to their local high school. The application process is multi-faceted and detailed. First, and as mentioned previously, students and their families must attend an on-site information session in October where they pick up admission materials. Aside from basic contact information and identification of the academy a student wishes to attend, the written application requires students to compose an essay explaining why they wish to attend the school. PAA applicants write an additional, brief essay detailing any experience they have in their preferred discipline of study. These students also have to identify their intended program of study as acting, vocal music or dance.

Students submit their parent-signed application to their current eighth grade guidance counselor to be completed and signed off on by a school official. The guidance counselor fills in information regarding course work, course rigor, remediation or compensatory education, and standardized testing results. The signed application, seventh grade transcripts, first portion of eighth grade transcripts and standardized test reports must be postmarked or hand-delivered to the central office of the OCVTS district by a pre-determined date in December. In short, choosing to apply to a CTE academy is a complex undertaking.

After all application materials are submitted to the OCVTS district, students receive information on the academic entrance exams for both MATES and PAA, which are usually held in January. MATES students are tested on three subjects in a multiple-choice format: mathematics, science and language arts literacy. PAA students are tested on mathematics and language arts literacy using a multiple-choice format. PAA applicants also receive audition dates for late spring and typically find out about their acceptance to the academy after their auditions, usually in April. MATES students on, the other hand, usually find out if they have been accepted in late February or March.

Acceptance to either academy is based on an objective numeric scoring rubric across a number of measures. MATES applicants are ranked according to their admissions exam results and their transcript score, which consists of seventh and eighth grade academic grades and most recent standardized test results (see Table 9). PAA applicants are ranked according to their admissions exam results, audition and their transcript score, which consists of seventh and eighth grade academic grades and most recent standardized test results (see Table 9). PAA students' score is averaged with their audition score: the audition score is based on the average of three judges scores out of 60 points and converted to a 100-point scale. GPA ratings and standardized

test score values are calculated by predetermined point values. To gain admission to the

academies, students are scored according to the tables and then ranked. The top applicant from

each sending district in Ocean County will be admitted to his or her program of choice as long as

he or she meets the minimum requirements to allow representation of all sending districts at each

of the two academies. Students are then selected from across the county based on their scores.

Additionally, students who wish to enter the academies as sophomores, juniors and seniors are

admitted based on availability and referred to as transfer students. Most students who are

admitted as transfer students are admitted during their sophomore year, as the rigorous schedule

does not allow for students to transfer in past this point.

Criteria	MATES Maximum Rating	PAA Maximum Rating
GPA: 7th Grade (final)	10	10
GPA: 8th grade (1st quarter)	10	10
Standardized/Statewide Test Scores	20	20
District Admission Exam	60	60
Total Possible Score	100	100
Minimum Score for Admission	75	70

Table 9. MATES and PAA Acceptance Criteria

In general, students cited two related reasons why they chose to undergo this complicated application process and ultimately start at either MATES or PAA. The first of these reasons was the perception that their home school was negative in some way. These students discussed how the social atmosphere was not conducive to their learning and thus they chose to attend MATES or PAA. Chuck, a senior, explains how he decided to apply MATES:

> I didn't want to do marine biology but then in eighth grade once I started looking more at the [local] high school and kind of seeing how [my] high school has a horrible, horrible reputation for just being full of kids that gave up years ago and has got really bad drug problems just in terms of there's a lot of marijuana dealing and just binge drinking and all that. I just wanted to get away from it.

Tyler, a MATES sophomore concurred:

> As I started maturing and getting into an intermediate school and high school, I started to realize people around me weren't on the same level as I was…. a lot of people didn't care about [learning]. They curled their hair in math class. There were just a lot of things at [my] High School and intermediate school that I didn't want to be affiliated with. MATES would not only give me a better learning environment, it would give me more challenging work at a faster pace.

Most students reported choosing to apply to an academy because of the perceived academic advantages they offered. The general perception was that they would "learn at a higher level" and get "more" out of an academy because it was hands-on, and "superior" to their homeschools. Kaitlyn, a freshman and former MATES student, stated that

> I wanted to be a neurologist or some other thing in the medical field. Since Ocean [County] kinda' didn't have anything like a medicine vocational school, there was one for marine biology and it was biology related. It was a pretty good school. I figured everybody here was smart to we could learn more in the classes and the classes would go on faster. So I thought it was a good decision to go here.

Like Kaitlyn, these students believed that MATES and PAA would be advantageous either for their career aspirations or in their chances of attending a more prestigious, "superior" or "better" college after high school. Stephanie, a MATES sophomore, said her parents wanted her to go to "the best high school that I could go to" so that she would "just have open options

when I finish high school." Jacob, a MATES freshman, said that "older people" recognize the future benefits of a MATES education because when he tells them he goes there they say "You made a really good option because MATES is one of the top schools and that really helps in resumes and job applications." Chelsea believed that she was attracted to the academy because "it would look good for me in the future when applying to college."

In making the decision to apply to an academy, students as early as seventh and eighth grade were already weighing their post high school options and looking for the most advantageous route to attain their desired future goals. Students spoke of the college admission process and how attending an academy is a benefit; they also spoke of receiving college credit during their high school career at a CTE academy and realized it was not only a responsible financial choice, but that it was an additional benefit because you could "end up getting a couple years worth of college classes and credits down" prior to graduation. Zack, a sophomore at MATES elaborates, "Not only are you getting college credits, but you're also looked at more favorably. We were actually just talking in chemistry today about how all our classes are considered [advanced] and that colleges see that and they acknowledge that."

Woven throughout their discussion of choosing to attend the academies were other references to the future – students sometimes overtly saying that they attended because of their "future" and other times like Zack above referencing the college admission process or other perceived benefits of the academies that students could utilize as stepping stones on the pathway to colleges and universities.

Echoing the perceived links between an academy education and college, students who chose to leave an academy early in their academic careers lamented that by leaving they may not have the same academic advantages. Walt, a freshman and former MATES student, stated that,

"Once you're applying for colleges and stuff, colleges you could've gotten into [by staying in the academy]…you're not going to get into anymore." Similarly, Violet a senior and former MATES student reflected. "Sometimes I wish I were still at MATES when I think of my friends there and the great education I knew I was receiving."

How Do Students Describe Their Learning Experiences in CTE?

While the concept of CTE is to facilitate learning via hands-on activities, career academies take this even further to link the hands on skills with rigorous academics (Hyslop, 2009, p. 33). These academically-driven schools "provide college preparatory curricular that integrate academic and CTE courses—engaging students in applied learning in a setting that requires a cohort group of students and staff working together as a team" (Hyslop, 2009, p. 33). As academies are structured around a specific theme, this theme is then applied across the curriculum (Hyslop, 2009) requiring students to make links between the performing arts or marine science to assignments in more traditional areas like English.

When describing what they did at school, students spoke in terms of the culture of the school and whether they felt as though they did or did not fit in. The culture of a school is the shared values and norms created by both the school's structure and enacted by those who inhabit the school, including students; it is socially constructed (Nieto, 2008). The culture of a school is the "right, natural, and proper" way things are done (Saranson, 1996, p. 28).

Thompson (1993) brings together various anthropological and sociological definitions of school culture to identify three levels of a school's culture. The first level involves the "visible and audible behavior patterns", which are not always clear to others (Thompson, 1993). The second level includes the consensual values attributable to the school; these "values are the enshrined solutions to organizational and human problems that arose in the past and were solved"

(Thompson, 1993). These solutions become espoused as "You ought to do it this way. This is the right way to do it" (Thompson, 1993). Thompson (1993) cautions that you miss integral portions of culture by looking at these superficial characteristics of the top two layers. The third and most obscure level is the "natural order of things" or "the way we do things around here" (Thompson, 1993); Sarason (1996) says that it is s "distinct structure or pattern that…governs roles and interrelationships within that setting" (p. 26).

Students at PAA and MATES described the culture of their respective academy differently, but for all students the culture of each academy was at times both empowering and constraining. To make sense of each academy's culture, I begin by describing MATES academy gleaned from a review of relevant school documents and my observations of each building as well the students' perceptions of the MATES culture. I then follow with the PAA culture.

MATES: The Marine Academy of Technology and Environmental Science.

MATES opened in September 2001 and is set far off the bustling shore pipeline of Route 9. The MATES building is tucked behind Southern Regional School District's transportation depot and next to the Ocean County College Southern Education Center. From the outside, the American and New Jersey flags demonstrate that this is a public building, but it is not entirely clear that it is indeed a school. When you walk into the building, you see a bright, sun-lit, two-story atrium adorned with myriad first-place trophies and awards for state and national academic events such as Robotics/ROV, SkillsUSA, ShoreBowl and Envirothon. Directly across from this display of awards is a list of every student who graduated in the past year and the universities and colleges that they are attending this year. Next to this illustrious list are posters reminding students of upcoming SAT testing dates and various colleges and universities that will be visiting MATES to introduce students to the admission process of their particular school. It is clear that academic excellence is valued in this building.

The marine science and technology focus of the school is evident in the way the space is organized. The hallways are painted yellow, blue and green, colors chosen specifically to remind students of the school's focus on the natural sciences by metaphorically representing the sun, water and land. In keeping with the marine sciences theme of the school, the first floor houses the various science labs: biology, biotechnology, chemistry, physics and oceanography. Inside each classroom, laptops line the black lab tables and complex equipment and specimens line the walls. Instead of antiquated chalkboards, every classroom is equipped with at least one dry erase white board; most rooms also have additional technology in the form of projectors, iPads, and smart boards.

The first of the two science rooms downstairs have entire walls of windows so visitors, faculty, staff and students can look in and see students hard at work maintaining and analyzing fish and other marine life in the many fish tanks. These tanks are used not only to study fish and ecosystems, but also to grow basil, which is ceremoniously made into pesto for a pasta party at the end of the class. The open nature of these classrooms allows for the hands-on work to be showcased and observed, much like fish in a fishbowl. Anyone who walks by these rooms can see the students diligently working on titrations or analyzing results and specimens collected from a recent trip to the Barnegat Bay.

Upstairs, the main hallway is home to the math and humanities departments. Once again, skylights allow natural light to illuminate the student work that bedecks the hallways from start to finish. Some of this work includes Spanish posters encouraging students to stop bullying while others are recreated snapshots of historical moments in United States history. Additional work shows elaborate posters students have worked on with their science, math and English teachers to present their research at local competitions. Two of these posters are prominent to anyone who walks upstairs: "Variations in Microclimatic Wind Patterns Along the NJ Coast" and "Chemical Denitrification – Design and Analysis Methods to Improve Quality of Barnegat Bay, New Jersey". In keeping with the focus on academics, the upstairs floor houses two lecture halls, similar to what one would expect to find on a college campus.

The way in which the physical space of MATES celebrated academic achievement, so did the students in the way they discussed their experiences at MATES. For students at MATES, the high academic expectations were reinforced through the school structure and the way their day at the school was organized. Their interactions in and through this organization contributed

to a shared set of values about academic achievement and the expectation that all students at

MATES would go onto college and beyond.

   School organization.

   Institutions like schools are organized in ways that facilitate certain ways of acting that

are normalized and organized through the daily operations of the school. It is this "distinct

structure or pattern that…governs roles and interrelationships within that setting" (Sarason, 1996,

p. 26) and both contributes to and substantiates the culture of high academic expectations at

MATES. MATES, with its emphasis on natural sciences through weekly field trips and hands-on

learning, required a particular kind of organization. For example, the curriculum is deliberately

organized to ensure that students engage in natural sciences. Similarly, the school schedule is

structured so that students take a math and science course each semester at MATES. To ensure

that students have time to engage in various extra curricula activities an activity period is made

available in the middle of the day to facilitate multiple club meetings and planning. Aspects of

the organizational structure of the school that students talked about were both the small size of

the school and their classes as well as the 80-minute block-scheduling format. These aspects of

the school culture allowed for trips into the field at least weekly, and according to the students

contributed to the development of an academically-driven community at MATES.

   Small size. MATES enrolled 258 students during the 2012 – 2013 school year. Research

shows that small schools, with student populations around 200 but no more than 400 (Wasley &

Lear, 2001), can increase student attendance (Wasley & Lear, 2001), decrease dropout rates

(Raywid, 1997/1998; Pittman & Haughwout, 1987 as cited in Raywid, 1997/1998; Wasley &

Lear, 2001), improve reading scores (Wasley & Lear, 2001), increase student achievement

(Raywid, 1997/1998; Wasley & Lear, 2001), foster an environment that feels safer (Toby

1993/1994 as cited in Raywid, 1997/1998; Wasley & Lear, 2001), and create closer connections between students and teachers (Downey, 1978; Walberg & Walberg, 1994, Marian & MciIntire, 1992, Bensman, 1994, 1995; Bush, 1993 all cited in Raywid, 1997/1998; Wasley & Lear, 2001). Throughout the literature on small schools, researchers agree that there are no detrimental effects and only measurable and quantifiable benefits for both students and teachers (Cotton, 1996 as cited in Raywid, 1997/1998; Raywid, 1997/1998; Wasley & Lear, 2001). All of the benefits affect students from all backgrounds, but are shown to be even more beneficial for disadvantaged students including low-income or poorly-educated families (Raywid, 1997/1998). Further, there appears be less stratification of students along lines of socioeconomic status in small schools (Raywid, 1997/1998). There is evidence to suggest that these small schools encourage college enrollment and attendance (Downey, 1987; Walberg & Walberg, 1994; Marian and McIntire, 1992 all cited in Raywid, 1997/1998).

Fewer students translates into smaller class sizes. While there is still debate on the overall effect of class size (Allen, 2002; Biddle & Berliner, 2002; Vander Ark, 2002), smaller classes – generally thought of to be less than 20 students in one class (Biddle & Berliner, 2002) – usually translate to more one-on-one attention for students and better classroom management capabilities (Handley, 2002), both of which has been shown to positively effect students' academics and connection to school (Biddle & Berliner, 2002; Vander Ark, 2002). Even though class size is only one of many factors of an effective school (Vander Ark, 2002), the research suggests that students do better academically when their teachers know them personally in a setting with fewer students.

Several students echoed this research when they commented on how their smaller classes at MATES meant they were able to access and gain assistance from their teachers more readily.

Zack, a MATES sophomore, appreciated the small classes "because I feel like the teachers get to know you a lot better. They can also help you on a smaller scale like if one person doesn't understand a concept they have enough time where they can explain in detail." Michelle, a MATES graduate, stated that she navigated a very difficult college-level Calculus course her senior year successfully because she felt very comfortable asking the teacher myriad questions— during lunch, before and after school, as well as in class and the teacher made "sure [she] got it before she left" class—and thus she had a solid foundation for Calculus II and beyond at her competitive college. Students such as Chuck, Ariana, Zack and Michelle believed the intimate classroom settings benefitted them because it allowed more one-on-one time in the classroom, which was important due to the rigor of the coursework.

Research has found that "attachment to teachers encompasses students' interpersonal relationships and connections with school…Students' attachment to their teachers is measured by students' feelings that their teachers are interested in them, provide good teaching, and praise and support them" (Bryan et al., 2012, p. 468). In other words, a student's connection to his or her teachers is beneficial to his or her academic success in high school. The smallness of the school and the small number of students per class meant that students could get to know their teachers and in turn, their teachers could individualize for them (Downey, 1978; Walberg & Walberg, 1994, Marian & MciIntire, 1992, Bensman, 1994, 1995; Bush, 1993 all cited in Raywid, 1997/1998; Wasley & Lear, 2001). Tyler, a sophomore, explains:

> teachers do not have a set-in-stone teaching plan. They have the ability to adapt their material to the needs of the individual like if you're going for extra help they will not just regurgitate what they said in class. If you're more of a kinesthetic learner and they mainly teach a visual class, they will do what they can to put things in a way you can see it better.

Most of the MATES students believed the teachers were available for extra help when necessary, varied and adapted their lesson plans according to student interests and trouble, had

high expectations for students, were clear in communicating their guidelines, were experienced and knowledgeable of their subject manner, respected their students, and were available and willing to provide extra help if needed. Tyler, a MATES sophomore encapsulated how many students feel about their MATES teachers:

> It's not admiration of teachers to their students. It's more of a mutual respect between teachers and their students. It's like [the teachers] acknowledge that [the students] are advanced and [the teachers] will treat you as such and give you more responsibilities. I think it's that mutual respect that gives us the ability to get along so well with our teachers and to learn so much from them.

While for most of the students like Ariana "one of the redeeming qualities about MATES is that it is so small" (Ariana, MATES senior), the small size of the faculty had different implications for some students. As Chuck eloquently stated, if you "burn bridges freshmen year and you are regretting it even to this day." Some students commented that if they did not "like a teacher [or] their teaching style", it was a "strange" to have them multiple times.

Block scheduling. Block scheduling at MATES means students take four classes each semester; since there are two semesters, students take eight total classes each year. Given that there are fewer students and fewer faculty, students are assigned classes each semester. Each class lasts 80 minutes; with a lunch and activity period break is in the middle of the day.

Students overall enjoyed the structure of the curriculum and the block schedule because they felt as though they could get a lot accomplished in an 80-minute window during half of their school year as opposed to the more traditional 40-minute per class schedule and classes taught over an entire academic year. Jacob, a MATES freshman, explained, "It's so much easier to remember things that you've learned in half a year than trying to remember things you learned in September, in June when you haven't even gone over them again, and it's nice to get a change in the middle of the year."

He then elaborated that

> with 80 minutes per period unlike some high schools where there's 40, with 80 minutes you can actually get an entire lab done in one day for biology; you could actually go through a bunch of peer edits. You can get back to the person who edited your paper and they can do another edit on what you've said.

The structure of the curriculum and the smallness of the school also facilitated the implementation of hands-on learning opportunities within classes. Chuck, a MATES senior, spoke favorably about this type of education: "I like [field work] because it forces you think a lot more practically than you would in a normal high school where you're doing a lab and would be a dissection rather than trying to solve a problem."

Chuck explains how, just as Pestalozzi theorized (Guzack, 2002) and Haury and Rillero (1992) detail, learning was more enjoyable when he was able to physically touch and manipulate the data in his studies. Additionally, Chuck spoke about how he was able to understand more concepts because he was applying them, and not just learning about them in a theoretical sense. Learning through application is what hands-on learning is all about (Haury and Rillero, 1992).

Hands-on learning is a teaching approach where students interact with the curriculum and are not simply observing or taking notes; it has the undergirding principle that students will become innately inquisitive about the topic of study by this direct interaction (Haury & Rillero, 1992). At MATES, the hands-on learning is referred to most often as "going into the field" or "doing field work". In keeping with the marine science focus of the school, fieldwork means that students physically leave the MATES building, usually on a bus, and travel somewhere to collect samples, analyze wind or tide patterns, or perform additional scientific tasks in the environment instead of studying it in a textbook. Other times, they are performing elaborate procedures in labs within the building engaging in processes such as "doing DNA splicing and…testing fruit fly genetics." Across all three groups, students spoke about these hands-on experiences.

Chuck, a MATES senior, explains the process of going into the field:

> For lab sciences, which is really what sets MATES apart, if you're doing life science which will be in environmental science classes, you're going out into the field once or twice a week doing a lot of research consistently throughout the course of the class and just learning a lot of research collection methods and then sometimes you do projects that are more long-term, which I enjoy because you kind of see something more going on.

> Jake, a MATES graduate recalled "I went out [of the school for field word] like every

other day. I remember there was one week we only had one day in a classroom." Chuck, a

MATES senior, explained a memorable oceanography assignment involving meiofauna—tiny

animals living in aquatic sediment: "we tested several different sample sites on different days

and different tidal patterns to see if we can find them and develop a method of collecting and

sampling these organisms."

Using this inquiry-based learning, students were able to apply what they had learned to

labs without simply following steps presented to them to complete the lab. As Tyler, a MATES

sophomore explains

> You're given what you need to know and it's more or less independent, where you're allowed to do your own plan in the lab. You do what you think is best. You get your results and then you decide whether or not what you did was right. It places more responsibility on the person to plan and think as opposed to just saying, "Teacher's going to tell me what to do. I don't need to think about this."

Students recognized the import of their hands-on experiences, excitedly explaining that you are

not simply learning about something, but actually doing the things you are learning. Meg, a

MATES senior, explains that

> There's more of a hands on experience by the time you're in senior year. The thing is that in classes like computer science you actually use the computer to write your own code, in classes like college English you're actually having discussions like you're actually in a college class.

Even though Meg was not describing the hands-on nature of her science classes, she demonstrates that the hands-on learning at MATES goes well beyond science to the other classes and engages students beyond simple note-taking or passive learning.

One of the foundational elements of all CTE is that of hands-on learning (Haury & Rillero, 1992). Hands-on learning can both increase learning and achievement as well as subject-matter interest, especially in science programs (Haury & Rillero, 1992). The graduates of the program noticed differences in the amount of hands-on learning they received between their CTE academy experience as opposed to their college peers who attended other CTE academies in the state. The graduates were especially reminiscent and favorably recalled the benefits to the hands-on curriculum offered at MATES. Jake, a MATES graduate, stated "the thing I realized is [other CTE academy students in NJ who he is in college with] didn't really have an experience like we did either though because they weren't going out in the field. They had more intensive classes and specialized classes and things like that, but that's wonderful but did you get to apply it and stuff?".

A Culture of high academic expectations.

The MATES culture revolves around projects, academics and an arguably healthy level of competition among peers (students were arguing about whether this intrinsic competitive nature was good or not). This was an expectation students had of themselves, grown out of the culture of the school. Anthropologically, culture is a "system of ordinary, taken-for-granted meanings and symbols with both explicit and implicit content that is, deliberately and non-deliberately, learned and shared among members of a naturally bounded social group" (Erickson, 1987, p. 12). Thompson (1993) argues that there are three layers of school culture, borrowed in part from social psychologist, Edgar Shein. The first and most noticeable level includes the

"visible and audible behavior patterns" that are not always clear to an observer (Thompson, 1993). The second level includes values or "enshrined solutions to organizational and human problems that arose in the past and were solved"; these values are held by the group as a whole and "become beliefs and prescriptions: 'You ought to do it this way. This is the right way to do it'" (Thompson, 1993). The third layer is described as aspects that "operate unconsciously, and that define in a basic 'taken-for-granted' fashion an organization's view of itself and its environment" (Thompson, 1993). This is what some people would describe as "the way things are" (Thompson, 1993). In essence, culture is "the way we do things around here" (Thompson, 1993). This layered approach to culture can be applied to MATES.

At Thompson's (1993) first level of school culture, the "visible" patterns, you can see the various awards and trophies that are displayed as soon as you enter the school. The second level of values is present from not only the poster proclaiming the 100% of student attendance to 4-year colleges and universities, but also in the purposeful layout of the school: all of the advanced laboratory classrooms are on the first floor. The conscious decision to place all of the science classrooms as the most visible and easily accessibly classrooms in the school reinforces both the academic, thematic focus of the school as well as the culture of high expectations in the academy. Two of these rooms are walled in windows so that anyone who enters can see what is going on. The third level, "the way we do things around here" (Thompson, 1993) or a "distinct structure or pattern that…governs roles and interrelationships within that setting" (Sarason, 1996, p. 26) is noticeable to almost everyone, but even more apparent when you talk to the students. You can tell that academics are valued here, and that the "right, natural, and proper" way things are done (Saranson, 1996, p. 28) at MATES involved meeting these high academic expectations. At MATES, there is that notion that you will succeed and you will go to college.

MATES students spoke about the academic expectations that were put on them by the program; students both lamented and appreciated the rigor and amount of classwork, projects and homework assigned to them. "Working lunches" were celebrated as one of many cultural norms because students eat while at club meetings. An outsider who entered the building during lunch and activity period would see students engaged in these working lunches like in the business world – students would be both working on homework, and studying or organizing an upcoming event during their lunchtime. In fact, the lunch period was extended several years ago to allow students the additional time to eat and **then** time to go to meetings; instead students took it upon themselves to combine these times into longer meetings during the day and eat their lunch as before, during these meetings. Similarly, students like Meg, who spoke at the beginning of this chapter, highlight the importance of using every moment to learn. In Meg's case it meant utilizing downtime on the bus in order to study for tests and prepare for the arduous day ahead of her. Thus, even supposed down time was often used by students at MATES for academic work.

The academic expectations that were embedded within the culture of the school were reinforced externally by the rigor of the coursework, teacher expectations of students, as well as by students' intrinsic motivations to do well. Students spoke about the level of stress they encountered in the school as part of this culture of doing well. Chelsea, a junior and former MATES student, spoke about her average day at MATES:

> You wake up, you go to class. You're all worried. You do homework in lunch because you have too much to do. You study, study, study, more homework. You take math, which is really hard. You take difficult classes and you take a bunch of tests. You stress yourself out. You drink Five Hour Energies. You go to sleep for a couple of hours and you repeat.

Chuck, a MATES senior, stated that the teachers treat students "almost like we're college students trying to prepare for a profession." He elaborated that

because everything is taught at such a high level…the expectations teachers have of us are a lot greater than I know that the people at [my homeschool] have and a lot of other schools. I feel like a lot of times they don't treat us as those kids. It's almost like we're college students trying to prepare for a profession. They've got a very high set of expectations for us. Most of my teachers are very open and clear with what they want of us but still sometimes you feel little pressure with what they want out of you. I think it's a challenge.

Echoing Chuck's views, several students commented on the style of teaching at MATES as different because teachers emphasized academic advancement and expected more of students. In Tyler's words,

It's more of a mutual respect between teachers and their students. It's like [the teachers] acknowledge that [the students] are advanced and [the teachers] will treat you as such and give you more responsibilities. It's a way of teaching that I'm not used to at my home school. This is a class where input is expected and encouraged. It's not input that holds anyone back. It's input that builds upon. It's constructive.

The high academic expectations of the teachers also translated into an advanced curriculum that students described as "learning at a higher level." Students who chose to leave MATES said that they missed the high academic expectations. Violet, a former MATES student, realized that she lacked the academic rigor of MATES when she returned to her home school. She stated that "I also miss feeling challenged and mentally stimulated every day because I often don't feel that at my current school." Similarly, James, another former student recalled that at MATES you were "learning at a higher level than you would here [at his home school]. In particular, I learned things outside of the classroom, particularly technology-wise, that I don't think I would have ever bothered to try to look into had I stayed at [my home school]."

The value placed on academics at MATES for some students also contributed to a culture of competition. Carl, a MATES junior explained, "MATES is just competitive by nature, just being the top students [from the county] really and how everyone really wants to do the best, so they feel like they have to be **the** best instead of just doing their best." Zack, a MATES

sophomore, clarified that students are "going to see how they did compared to everyone else… it

hasn't been a competitive thing. It's just like a comparative thing." The competitive, academic

culture according to Jillian, a senior places a lot of demands on students:

> There's no happy medium, it's completely like two opposite ends, two poles. You either are at a time where you love it or a time where you hate it. I think that's because it does require a lot from you so it's going to be something polarizing just because of the demands it has on you.

MATES students spoke about polarizing views of the academics where sometimes you "love"

the program you are in and other times you question why you are in the program. Colleen, a

MATES junior, said that loving or hating MATES is an indication that you are "working hard":

> I think that the person who's never at the two poles of feeling it, in between the whole time is somebody who just comes here and then goes home. Doesn't really apply themselves to their homework, just quickly goes through it, doesn't really study, does their homework on the bus most of the time quickly. So I guess it's a good thing that you get to those poles because it means you're applying yourself, you're working hard and it's going to lead to good things.

Stephanie, a MATES sophomore had similar sentiments about the polarizing effects of MATES

academics:

> "Why do I even go here? This isn't what I want my life to be." But then there are times when you're having a great time, even if it's chemistry and you're doing a lab and then you actually realize, "Wow, this is actually really fun and I understand this. And this is hard stuff." So you feel really smart. So it's a good balance between stuff, you know?

Entering MATES culture.

> My younger sister is a freshman [at MATES] and seeing her going through the same exact thing that I did with adjusting and everything, I feel like adjusting and really having to manage your time and get sleep in and do all your homework is kind of like a rite of passage here. Once you go through that, you know that it's going to lead you to success down the road so you just have to suffer through it.
>
> -Colleen, MATES junior

As Colleen explains, the academic culture of MATES requires time and dedication from

students. Being able to navigate these demands and working towards success at MATES is a rite

of passage that every freshman must make. Rites of passage are "powerful social events that help guide and affirm a transition from one status in life to another" (Scheer & Gavazzi, 2007). According to van Gennep (1960), this process is a three-step process: separation, margin or limitability, and reincorporation.

These three steps can be used to trace a MATES student's transition from middle school into that of a fully-entrenched MATES cultural inhabitant. van Gennep (1960) describes the first part of the process as separation from a "previous status" (as cited in Scheer & Gavazzi, 2007). The obvious first step of separation is from middle school into a completely new structural system of high school, away from most of the student's friends from his or her original home school. This separation is an even more marked split because these students are entering a completely new school and most times in a new town. Stephanie, a MATES sophomore, commented "sadly I haven't seen my friends from my home school or from my old school as much." As a sophomore, she was already embedded in the culture of MATES and had started to separate herself from her friends in order to concentrate on her new school and the activities it entailed. Ariana, a senior, progressed through this step rather quickly. Before even entering the program, she had started the process of separating herself from her former friends in her home school. She stated "I hate everyone around me so you know what I might as well try this [going to MATES] out."

The period of margin or limitability, or a state of "betwixt and between", is marked by stress and anxiety (van Gennep, 1960); it is best exemplified when students begin to experience the stress of learning how to organize themselves to meet the challenges of the curriculum, while also juggling extracurricular activities. Jillian realized, upon reflecting on her freshmen year as a

senior, that she was caught "betwixt and between" and was stressed upon acculturating herself

into MATES. Jillian comments on the adjustment she had to make:

> Freshman year, I was like, "What is going on?" and I thought it was just me, I was the only person having trouble adjusting, at first I thought I was in over my head but I realized, just from talking to people now, even though freshman year was a few years ago that there was other people in the same situation who were feeling the same way.

The final reincorporation step includes an integration of "new attitudes, values, and/or

behaviors that connoted a new status": MATES student (van Gennep, 1960, as cited in Scheer &

Gavazzi, 2007). Students described this reincorporation in terms of successfully navigating

particular situations or events in which they felt they made the transition from high school

student to academy student or the acquirement of particular skillsets. For Meg it was a chemistry

sequence: "I think that once you get through Chem 1 and Chem 2, you've achieved success!"

Most of the students talked about this process in terms of learning how to navigate the demands

of the curriculum, which required some kind of behavioral change on their part. This is best seen

when students realize their hard work and believe that it was "worth it" in the end.

Because learning and doing well academically "always came so easy," for some students

attending MATES meant learning how to study. As Jillian, a senior, stated:

> I didn't know how to study before I came to MATES, it was never something I had to do so I just didn't know how to do it. I didn't have to study for my classes at [my homeschool], I just showed up and I got a one hundred.

Additionally, many current and former MATES students spoke of the academic demands

and the toll it has taken on their sleep schedule, which necessitated learning how to either live

with less sleep or to take opportunities where they can to catch up on sleep. The students did not

express negativity towards their lack of sleep, but rather stated it as a fact of attending MATES.

Meg, a MATES senior, said "I usually spend my forty-five minute bus ride studying for quizzes

and/or tests in Spanish, Oceanography, and Computer Science; however, if I do not have any exams that day, I usually take a nap to catch up on much needed sleep."

Jillian, a MATES senior, attributed her lack of sleep to making some unwise choices:

> I don't really ever sleep…I think it is a MATES thing but I think the degree to which I experience that is mostly my own fault because I decided I was going to join like every single club ever. I think that coming to MATES, you have to learn that you can do a lot of things but you can't do everything.

Many students I interviewed also have brothers and sisters who attended, are attending or who have attended one of the same programs. These students offer an interesting perspective on this rite of passage required to move from middle school to become a fully functioning member of MATES. Colleen, a MATES junior, recalled seeing her sister go through the process and commented that "Once you go through that, you know that it's going to lead you to success down the road so you just have to suffer toughen through it." Becoming a MATES student is not a passive process; just as any rite of passage, students need to have both "cognitive interpretation and integration" in order to successfully transition (Scheer & Gavazzi, 2007).

Summary.

The culture of MATES as spoken by these students was that in order to succeed at MATES, you need to work hard and for long hours to meet the high academic expectations of teachers and to navigate the challenging curriculum. As James, a former student put it, "There are three options when you go to MATES: You can either sleep, have friends, or you can get good grades. You're only allowed to pick two of those."

This culture is probably best illustrated by a t-shirt design created by MATES students. On the back of the shirt is a list of the demands attending MATES places on students such as lack of sleep and lots of homework (see Figure 2) while the front of the shirt illustrates the competitive nature of the classes, as displayed by a shark attacking a flying seagull.
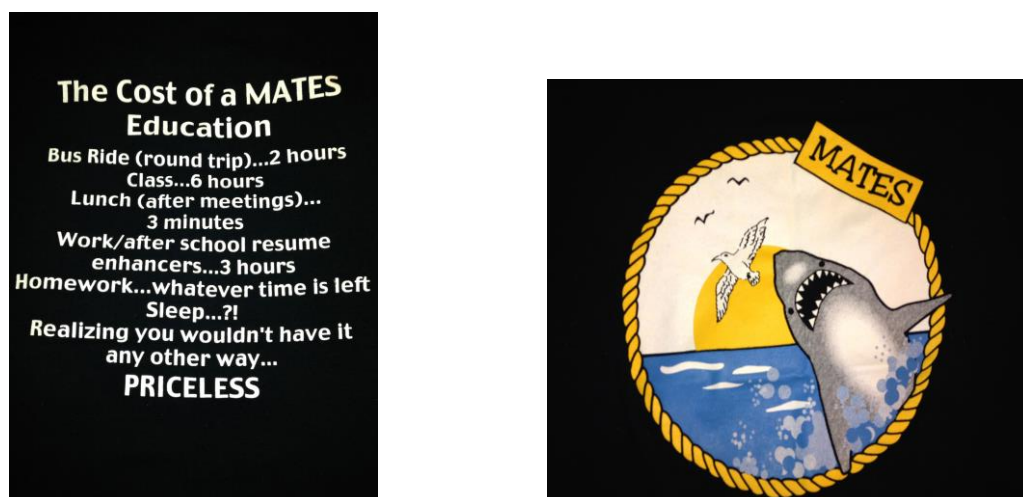
Figure 2. Back and front of student-designed MATES t-shirt.

Goodenow (1993) asserts that students may not engage in a school to which they do not feel they "belong". Fitting into the academic, competitive culture of MATES was not for everyone. The students who left the academies did not find their place in the culture of the school or for some reason perceived that they did not "fit" this culture. Similarly, former MATES students reported feeling a disconnect between themselves and the other students at MATES. Bill, a freshman stated that he "didn't really feel comfortable around the people [at MATES]. They didn't seem like people I would make friends with and I didn't really like that." James said "as I went to MATES, I kind of realized that one, I grew socially, I grew far beyond socially than what other kids had there. I couldn't really deal with the culture that developed there."

Overall, students who successfully navigated the rites of passage for MATES remained in the program; it appears as though students who were either in opposition to these cultural rites or did not experience them were not "successful" at MATES and chose to leave the program to return to their home schools.

PAA: The Performing Arts Academy.

PAA is housed on the Joint Base McGuire-Dix-Lakehurst (JBMDL), and as it is a military base, anyone who enters, including high school students and OCVTS faculty and staff, must first check in with an armed guard at the front gate. If you are a visitor, you must present your state identification in addition to a pre-approved guest pass; anyone who enters is subject to search by an armed guard, including a K9 unit. Entering onto the base is an anxiety-inducing process: the first thing you see is not a glitzy school like in *High School Musical* or *Fame*, but the stoic face of a uniformed military guard, holding a weapon with an aggressive-looking dog standing by his side.

Then, after driving through a short zig-zag of barricades, you make a sharp left into an airplane hangar: an immensely large but non-descript building. Ironically, this particular hangar is the same space that once stored dirigibles, including the ill-fated Hindenburg. Or, as one current student described it, "we're in a metal box". Upon closer inspection, you can see a small awning that proudly displays the old OCVTS seal over a small double-door entrance to the building. This is the Performing Arts Academy. Keri, a senior lamented the process of getting on to campus every day: "going on a Navy base every day, and forgetting your pass and, like sitting in the Visitor's Center, and they you wait an hour for them to get you, and it smells in there. You know, it's just not ideal. It's totally not."

Most people would assume the school to be a flurry of activity, with dancers and performers pirouetting down the halls like a scene from "Glee". This is not the case. Since PAA is housed in a hangar, the hallways are very long without anything other than a few lockers aligning the walls. Student work from art class such as play bills from Shakespearean plays is hung where there are bulletin boards, but these boards are not in abundance. It seems to take a

long time to get from one classroom to another as not only are the hallways long, but there is also little, if any, natural light to guide the way. Most of the classrooms look out on to the JBMDL so there is little to see beyond that of the daily operations of the military. However, one particularly long hallway looks out into a large portion of the hangar where the sets are built and assembled for performances giving some indication that this is a school that focuses on the performing arts. But, even then, the smudged windows look out at the back of sets, illuminated above from fluorescent lighting giving little sense of the kinds of artistic work that takes place in this academy.

While PAA is also engaging on hands-on activities in their "majors" of acting, dancing and vocal, many students did not speak about the hands-on nature of their program. They only mentioned their programs in relation to the drama and musical productions that are staged throughout the school year, and even then it was only in passing as a descriptive means to explain a challenge to their program.

A handful of students did talk about the academic rigor of the academy settings and the way the schedule was set up to facilitate academic achievement. Sue, a freshman at PAA, described the class at PAA in terms of their relation to college:

> I would say PAA is like college classes. They are 80 minute classes…you work to the bell. I always worked right up to the bell, and if you're not ready for college prep classes, then I wouldn't go. I didn't know that at the time, so I was, "Oh, yeah, I'm going to have everything done. Blah. Blah." No, it was I come in there and I'm sitting there and they're like, "Okay. You have 80 minute classes." I'm just like, "What?" My classes were always so short, then that was a big adjustment for me.

Similarly, Keri, a PAA junior, mentioned the academic curriculum and the adjustment it required:

It's annoying now, but I know that it's going to help me so much in college. All the big huge research papers, like in [other districts] even, they're going to….Senior year they're going to be like, oh, yeah, four page research paper. We have to write ten pages of a research paper, which is a lot, but you know, if you go to college and you want to be something, they're going to make you write a huge research paper, bigger than ten pages.

The only other remarks about the organizational or academic structure of the school were in regards to the size and setup of PAA. Keri, a junior stated that "the class itself, like math, the work is typical [of high school work] but I can learn so much better in one of these classes because there's so much less people and there's less distractions." Lindsay, a junior and former student, stated that "It was easier for me to focus on one thing at a time, and since you only have four classes, it was like, "Okay, well I can focus on this today. I can work through this and get it.""

Aside from these comments, however, PAA students spoke of the culture of the school as that of a family or families and that in order to succeed one had to become a member of this family.

Culture of familial bonding.

 In stark opposition to the bleak walls and non-descript building in which the students learned was the concept of this culture of family bonding. This family-like setting or individual "families" you got "in with" provided the cultural context for the school. Although I only spoke to a few PAA students, they all spoke of the school atmosphere and culture of a family-like setting. One current student referred to PAA as a "family" 3 times; two former PAA students referred to it as a family, too, but usually with a negative connotation. One of the former students referred to the sophomore class as the "sophomore family" when speaking about them. Noddings (2000) has noted that "the desire to be cared for is almost certainly a universal human characteristic. Not everyone wants to be cuddled or fussed over. But everyone wants to be received, to elicit a response that is congruent with an underlying need or desire" (p. 249).

Families care for one another and PAA's culture, according to the students, cared for them by providing a level of "comfort" and sense of belonging, as well as a shared set of moral values.

Family signifies home, a place where people feel comfortable to be who they truly are. When students were speaking about the PAA family, they described it as a level of "comfort" that the school provided (Morrison, 2001; Cusiak, 1973 both cited in Adderley, Kennedy & Berz, 2003). As Keri stated, "everyone's kind of like a family, so no one cares at all what anyone thinks. Because it's just like, you know, it's stupid to care [what people think of you]. Christina, a senior agreed and stated that "you feel more comfortable to ask questions or do whatever… because even the students here, are just so close and happy, all the time. I don't know. I just don't feel dumb if I need to ask a question in class and, you know, I really don't care what anyone thinks here."

I was able to speak with a student who had left PAA, only to choose to once again return to the school because of the level of comfort she felt at PAA. She realized that there was something "different" about the academy and yearned to be part of that academic and social setting once again. She stated that

> I actually left this school in the beginning of the year for a month and I went to another school and then I came back because I realized that I wanted to be here more than any other school. Because, it's just different. It's like you feel more comfortable to ask questions ...I guess, because even the students here, are just so close and happy, all the time…I just don't feel dumb if I need to ask a question in class and, you know, I really don't care what anyone thinks here. (Christina, PAA senior)

Christina was not the only student to speak of the level of comfort at PAA. Patty, a PAA sophomore, mentioned that

> You feel a lot more comfortable here. It's like, I walk through my home school every morning. And, it's a very different environment compared to here. This school is just very open and there's not many of us so we can just be ourselves and not be afraid to be ourselves. Like, at home school, people are quiet and it's all about gossip and other stuff. Here, it's like you have stuff in common with everyone in your class.

Adding to the feeling of being part of the same family, students at PAA recalled sharing

the same morals as their peers. They discussed how their school was different in terms of staying

away from drugs and alcohol and kids not "trying to be older than they are". Christina, a PAA

senior, and Keri, a PAA junior discussed this:

> Christina: That kind of stuff [drugs, drinking] isn't really here. I mean, I'm sure
> people do it outside of school. You hear things about that person drank
> over the weekend but, it's really it's not like you find pot in someone's
> locker. It's not like that at all.
> Keri: All of us are kids, basically. No one's trying to be older than they are.
> Christina: Everyone at my home school is trying to outdo each other and the cool
> thing to do is to do drugs, it seems like anyway. Or smoke or something.
> Like here, it's the cool thing to do is be able to sing the highest note, you
> know, do a split.

However, not all students felt this level of comfort in the family of PAA as Dina, a

sophomore explains:

> Sometimes I feel uncomfortable because, last year, I was kind of, not made fun of…I said
> something that my home school would say [and at PAA they would say] something
> totally different. Then people were laughing and I'm like, that's not really funny to me
> because that's how we act and that's how we talk.

Making the transition to PAA meant becoming part of the "family" of the school. Sue, a

freshman and former PAA student explained that "They're like one big family and coming in as

freshmen, it was a little weird to get into, because they're such a family, so you have to work

your way in there." Lindsay, a former PAA junior, recalled the feelings of having to find the

"right family" in order to get in with the right crowd at PAA:

If you don't get in with the right people, you're just not friends with them, and the whole

family just won't accept you if you're not with the right people. Since Lindsay did not personally

feel as though the situation and context of the school welcomed her, or was a good fit for her, she

ultimately chose to return to a place where she did feel as though she belonged. Most of the

former students spoke about not fitting into the family-like setting that was present at PAA. If you did not find your place in the "appropriate" family at PAA, you were setting yourself up for failure, according to these students.

The comfort of the family at PAA that former students describe could be due, in part, to the high percentage of girls present in the school. Studies suggest that women tend to be more relational and emphasize nurturing and caring interactions (Gilligan, 1982; Orenstein, 1994; Pipher,1994; and Belenky, Clinchy, Goldberg & Tarule, 1997). During the 2011 – 2012 school year, there were 31 males and 167 females attending PAA. Since females are frequently drawn to the performing arts (Martin, Anderson, & Adams, 2012), it may be this gender dynamic that further accentuates the feeling of a family and the need to belong to a family at PAA.

A family consists typically of adults and children; in schools these adults are the teaching and administrative staff. While the current PAA students spoke mostly in positive ways about the family culture, their feelings of comfort and belonging were not ascribed to their relationships with teachers. The majority of the discussion about teachers was negative for both current and former PAA students.

Many students believed the teachers were "not doing their job right" and in fact one PAA student stated "the only reason why I'd want to leave the school is because of some of the teachers." Christina, a senior at PAA, expounded that "I feel like all the teachers here have a completely different method of teaching, and it confuses the crap out of me." A former student went so far as to call the teachers "pushovers" because "[a particular group of students] would annoy the teachers to the extent of the teacher literally just giving up and sitting down and quitting on the class." Two former students stated that they struggled with the math teacher at PAA and were still feeling the repercussions back at their homeschools. When prompted to

clarify, the students said that the teachers dismissed their questions without fully explaining them. Lindsay, a junior and former PAA student explained that, "They didn't care about you on the end of the learning."

Not all the talk about teachers was negative, though. One student did clarify, albeit with the qualifier of a "good" teacher: "the teachers do push you, the good ones. They actually want you to do good in school and inspire you to do good."

In general, the PAA students did not seem to, as a former student explained, "connect" with any of their teachers; in fact, one student did not feel as though the teacher took the time to learn her name before she left PAA for her local high school. A former PAA student mentioned in passing that "I didn't have a great relationship with [my teachers]. I never really connected with any of my teachers so it wasn't a huge deal with them [when I left]."

These comments about teachers may be skewed, as all of the current students spoke of a negative situation concerning a teacher at length. However, given that former students did not report connections to their teachers, it appears that the family of PAA is not necessarily a happy one for all students.

Different academies, different cultures.

Regardless of academy, students referred to the block scheduling, smallness of the school and classes, as well as academic expectations as part of the culture of their experiences of CTE. Students at both MATES and PAA had many shared experiences where they had similar academically-driven incidents (such as classes or positive/negative interactions with teachers). Students were eager to point out that there was hard work involved in both of the academies, although they did not seem to suggest this was a challenge, but just an expectation of the program.

Students experiences in the academies were not only about learning how to negotiate the new organizational structure of block schedules and small classes, but also involved gaining admittance to the specific culture of the programs. At MATES, this was a rite of passage into the academically-driven culture whereas at PAA it was becoming a part of or being accepted by a family. In talking with PAA students, they rarely spoke about their experiences in the academies in terms of experiential learning or integrated curriculum as espoused in the literature about CTE and academies. This was quite the opposite at MATES where "going in the field" and other forms of hands-on learning are celebrated and encouraged as part of the process of becoming a MATES cultural inhabitant.

It is important that a student feels a connection to the school (Catalano, Haggerty, Oesterle, Fleming, & Hawkins, 2004). The Social Development Model (Catalano, Haggerty, Oesterle, Fleming, & Hawkins, 2004) suggests that bonding is essential to learning the social environment. This bonding happens not only between people, but also between students and the school (Bryan, et al., 2012; Catalano, Haggerty, Oesterle, Fleming, & Hawkins, 2004). Bryan et al. (2012) found that "when students feel connected to or have strong bonds to their schools, they are more likely to experience academic success. They stay in school longer and attend school regularly"; (Bryan et al, 2012, p. 467). The more the student feels connected to the school, the more likely the student is to remain within that school.

When the students were speaking about their academy's culture, their comments were layered with commentary on the social atmosphere of the school and not simply the academics. Fitting in or not fitting in with the culture of each academy also gives some insight into why students choose to leave these illustrious programs. In the next section, I go more deeply into students' evaluations of the two OCVTS academies in order to explain further why some

students stay and persevere and yet others choose to leave the district and return to their home schools.

Student Evaluations of Their Career and Technical Education

In keeping with my theoretical framework of student voice, I asked students to evaluate their programs in order to address the problem of retention in the academies. Regardless of whether they stayed or left, students spoke of the benefits of an academy education. Despite these benefits, however, students ultimately still decide to leave the programs. In our conversations together, students were quick to illustrate the many challenges they face in the programs. In this section, I begin by very briefly outlining the benefits they cited. I then turn to the issue of retention by providing a portrait of who stays and leaves the academies in Ocean County. Finally, I present students' stated reasons for leaving CTE academies.

Benefits.

When speaking about the benefits of the CTE programs; students talked about the size of the classes (Biddle & Berliner, 2002; Handley, 2002; Vander Ark, 2002; Wasley, 2002), the type of hands-on education (Haury & Rillero, 1992) and the opportunities which arose from attending the academies as beneficial mostly because they felt that would have a better start on their post-secondary futures.

> …the small class size. I know my English class, I'm doing fantastic because there's only seven of us. And, when there's only like, just a small class, you have to talk. Because then, if you don't, it's really awkward and quiet. So, it's like easier to like get a point across or like have an idea or ask a question.
>
> -Patty, PAA sophomore

The size of the school and the enrolled student population were both perceived as beneficial by students. It was because of these small class sizes that students believed they

succeeded in academically challenging classes both in high school and after they graduated.

They also believed that the small size allowed for a unique culture in the school wherein there

was little to no bullying whereas if you went to one of the home schools "and you did some of

these unique things, then you would probably have someone beating the crap out of you." Small

schools tend to have less discipline issues than larger schools (Holloway, 2002).

> The intimate environment, small classes, and the personal attention from teachers were definitely benefits of MATES. I miss MATES all the time. I miss the closeness of the school and having the feeling of being friends with everyone. I also miss feeling challenged and mentally stimulated every day because I often don't feel that at my current school.
>
> -Violet, senior, former MATES student

Working with teachers one-on-one or in small groups is crucial to increasing

understanding (Holloway, 2002) and also helps to reinforce the importance of relationships in

schools and how small schools do this best (Vander Ark, 2002). Since students test or audition to

attend one of the academies, students felt like there was more of a level of academic expectation

that allowed for teachers, as Jacob, a freshman at MATES stated, "focus more on individual

students instead of having to teach to a broader range of I guess, aptitudes in that subject." This

facilitated their understanding of the subject and provided students with a solid foundation upon

which to build with more complex and involved classes and skills.

The students also believed they received additional academic background or exposure to

assignments that could help them in college. Tyler clarified that "MATES specifically will give

you college level work as little more than a sophomore. That sounds intimidating but that does a

lot for you." Meg remembers how the workload may have lessened as she has not only become

accustomed to the work, but also more efficient during her work: "going on Facebook and seeing

statuses like, 'MATES helped me in lab report under three hours'. How awesome is that? It used

to take like six hours to write a good lab report". Other students spoke of how they are putting in the work now, so that they can "play with the big leagues" in college. Jacob, a MATES freshman explains

> I've heard horror stories about people not being prepared in terms of time management for the workload of college courses. I feel like even now as a freshman I can see how well the load of MATES's work is going to help me with time management instead of making it such a critical condition in college where you are not in practice anymore, essentially. You are playing with the big leagues and you have to know what you are doing.

Chuck, a MATES senior, recalled how all of the work he is putting in now, will help him in the future:

> I've had so many opportunities that I would never have had in my home school and I've still covered all the same subjects that I would have gotten to there. I know college time I'm applying to schools that I would not have had an honest chance at if I went [my home school]. I've gotten into programs that I would not have gotten into had I gone to [my home school] because I've gotten all these amazing opportunities from MATES.

> Students saw their time in the academies as valuable towards their future in some way or thought that their matriculation in one of the programs provided "opportunities way above your homeschool." One of these opportunities included applying to various colleges; Walt, a former MATES student and freshman commented that "Obviously, once you leave you have choice of colleges. It's a new experience. You can't get this at your old school." Additionally, they believed that they would not have thought of applying to some colleges or programs without first attending one of the programs. Chuck, a MATES senior explains

> my life's going to be going in completely different trajectory than I would have at [my home school] and I'm incredibly grateful for it. I feel like I owe this school a huge debt. I think a lot of kids ignore the fact that this school has offered you so many things. They don't force you to take them up on the offer, but if you do, it just puts you in so many different places. It's amazing.

Thus, whether they stay or leave, it seems students are aware of the academic benefits of the CTE academies. Despite recognizing the benefits this kind of education may have for their college aspirations, students still tend to leave. I now examine the problem of why they leave.

Reasons for leaving.

To understand why students leave, I begin by providing a portrait of the students who have left PAA and MATES over the past six school years, gleaned from Exit Interviews, Drop Reports and focus groups. I then turn to the voices of students themselves.

Portrait of students who left.

The only reason that I had to stay [for the entire year] was because of the way they did block scheduling. I had too much math and science and not enough history and English...That was really difficult having to wait the whole year and be in a school that I wasn't happy in. Once the time came that I could leave, I was really happy.
-Chelsea, junior, former MATES student

The most accurate indicator of the numbers of students who leave the academies is in the OCVTS Drop Reports. Looking at the Drop Reports over a six-year period, it is possible to see how pervasive the issue of attrition and retention is at both PAA and MATES. As can be seen in Figure 3, two hundred and eighteen students have left the two OCVTS academies since the 2007 – 2008 school year. Although the numbers decreased in the 2009-2010 academic year, the numbers of students transferring out of the OCVTS academies has been increasing since the 2010 – 2011 academic school year.
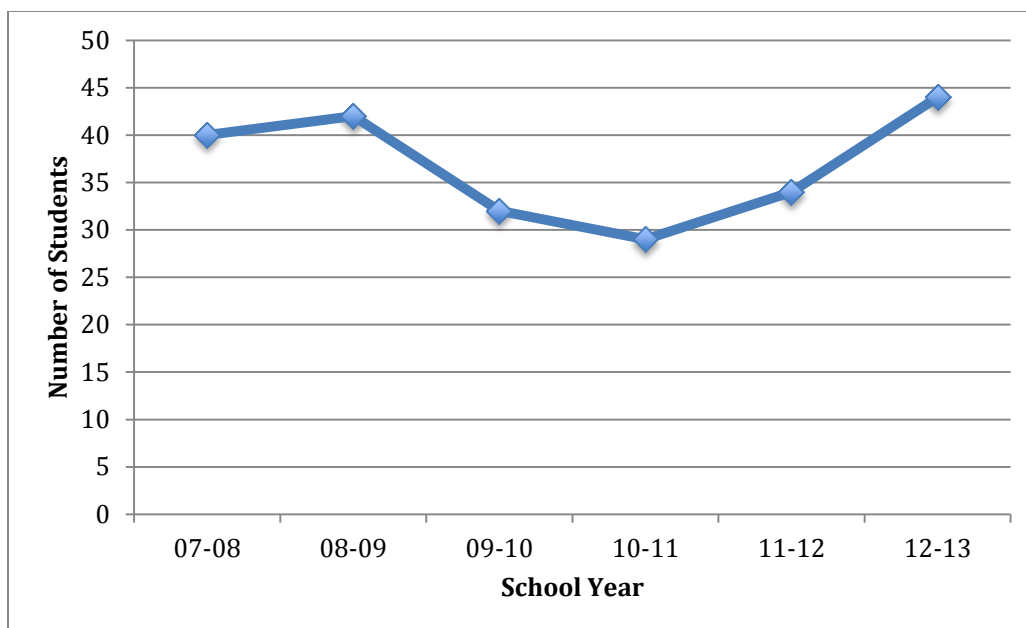
Figure 3: Number of Students Who Transferred out of the OCVTS Academies by Year (from Drop Reports)

Students who attend either MATES or PAA come from one of 16 sending districts in the county. Most students leave the programs as either freshman (70 total students) or sophomores (80 total students) (see Figure 4). The trend of students transferring out of MATES or PAA during their freshmen and sophomore years was pervasive throughout the six years of data I analyzed. As Figure 4 illustrates, sophomore students have experienced the highest overall level of attrition every year, except the 2012 – 2013 school year from both districts. The 2012 – 2013 school year saw a significant increase in freshmen leaving the district. Most teachers and administrators speculate that the sophomore year is the most challenging time for students because they are beginning to be exposed to more intense courses in their programs.
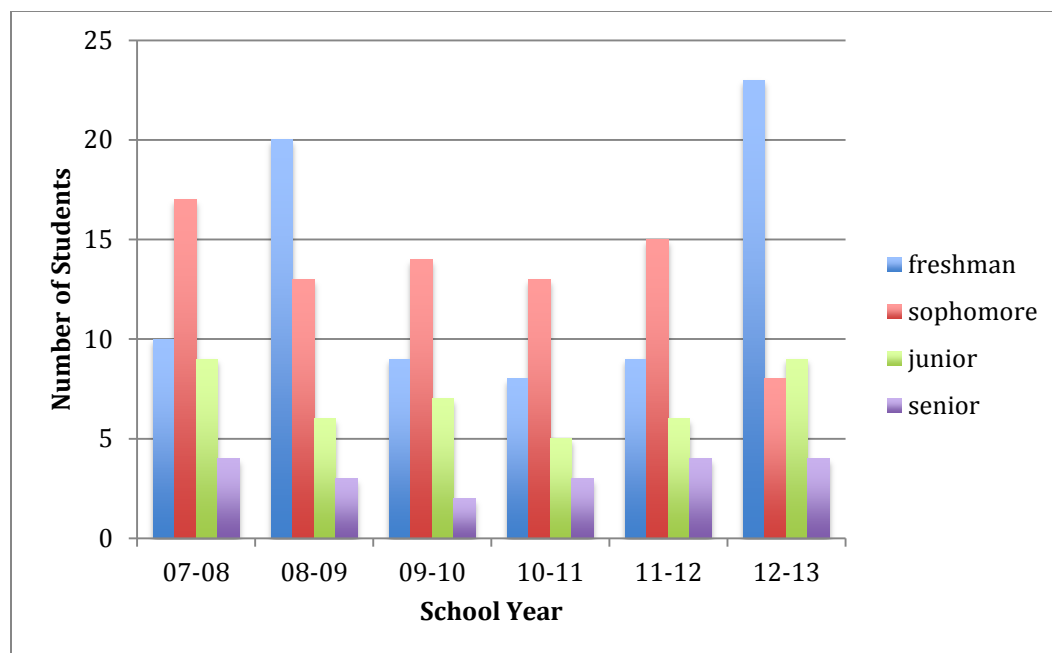
Figure 4. OCVTS Academy Students Transfer Trends by Grade from Drop Reports

As can be expected, the numbers of students who leave OCVTS academies in their junior and senior year decrease respectfully (see Figure 4). As students progress through the courses, they are "invested" in the program and usually do not leave expect for extenuating circumstances such as family relocation, failing a class (for which the schools cannot remediate) or personal reasons.

Conversations with the students also indicate that by junior year it is too late in their academic career to start over at their home school due to the nature of block scheduling and the course sequence at the academies. It is the organization structure of the academies according to students that contributes to their deciding to leave in their freshman and sophomore years.

Students in each grade at PAA and MATES follow the same course sequence over their four years. Because of the small size of the school, there are few, if any, electives each year; moving between an academy and a student's local high school is challenging given the differences in the level of the curriculum offerings. Kaitlyn a former MATES freshman explains:

> I wanted to leave because after doing a lot of the labs and everything that was in the bio, I realized that science really wasn't a career field that I wanted to go into. I don't want to stay the whole year. I was going to but then I figured if I am going to switch out eventually and the GPAs are all different and going back will take away some of my credits as honors classes. I figured I would go back before all of the classes I took these years stopped counting as honors classes.

Some of the sending school districts do not tabulate grade point averages allowing for the weighted average of the MATES all-honors curriculum. This means that even though students take rigorous, honors-level classes at MATES, their home high school may not calculate it into their weighted grape point average as an honors class. Thus, the rigor of the course ultimately does not show on their high school transcripts; this is particularly important when students are applying for college. Knowing this, Kaitlyn realized she would be doing herself a disservice taking honors classes at MATES since she wanted to transfer back to her home school. Since she knew she wanted to leave the program, it was in her best interest to leave as soon as possible to mitigate additional academic and scheduling issues; in her case, this meant in between the first and second semester of her freshman year.

Another academic challenge of the CTE program is block scheduling. Students cited the block scheduling as their incentive to leave or that the block scheduling interfered with their intent to leave based upon their home school's scheduling. For instance, if students' home schools had 40-minute classes that lasted the entire year, then they have already completed an entire class at MATES in a single semester, due to block scheduling. This translates to those students being too far ahead of their home schools. Patrick, a former MATES student, justified when he was leaving because of block scheduling; he knew he could finish out classes at MATES and then return to his homeschool. He stated, "I figured if I was going to leave I should just leave now because I have block in [my homeschool]. I could get out [of MATES] and not have to go in the middle of anything." Freshmen students in particular realized early on that if

they wished to return to their homeschool, it was in their best interest to do so as soon as possible as to not affect their schedule.

     Transfer by academy. Overall, more students have transferred out of PAA since the 2007 – 2008 school year (119 students) than students attending MATES (102 students) (see Figures 5 and 6). Figure 4 illustrates the transfer trends for students who have left MATES over the past six academic school years, starting with the 2007 – 2008 academic school year. As with the OCVTS transfer trends (Figure 4), there is a high prevalence of sophomores who have left every year. The second highest population is that of freshmen students, especially during the 2012 – 2013 school year. The 2009 – 2010 school year did feature an anomaly: there was a high level of attrition for juniors; this is a peculiar outlier. None of my data suggested why this occurred during this school year.
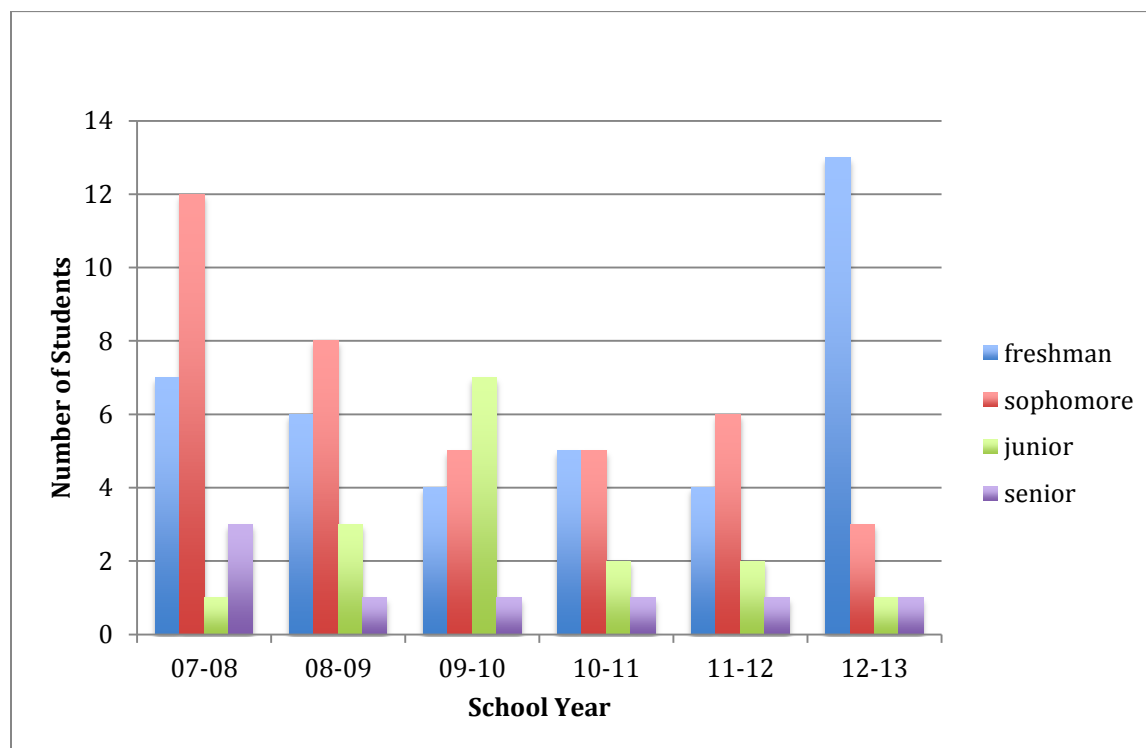

Figure 5. MATES Student Transfer Trends by Grade from Drop Reports

At PAA, transfer trends are again similar to that of the overall district. As Figure 6 clarifies, once again there are many sophomores who leave the Performing Arts Academy. While freshmen tend to make up the second highest number of students leaving, it is interesting to note that there is also the ongoing occurrence of a high number of juniors leaving the program as well.
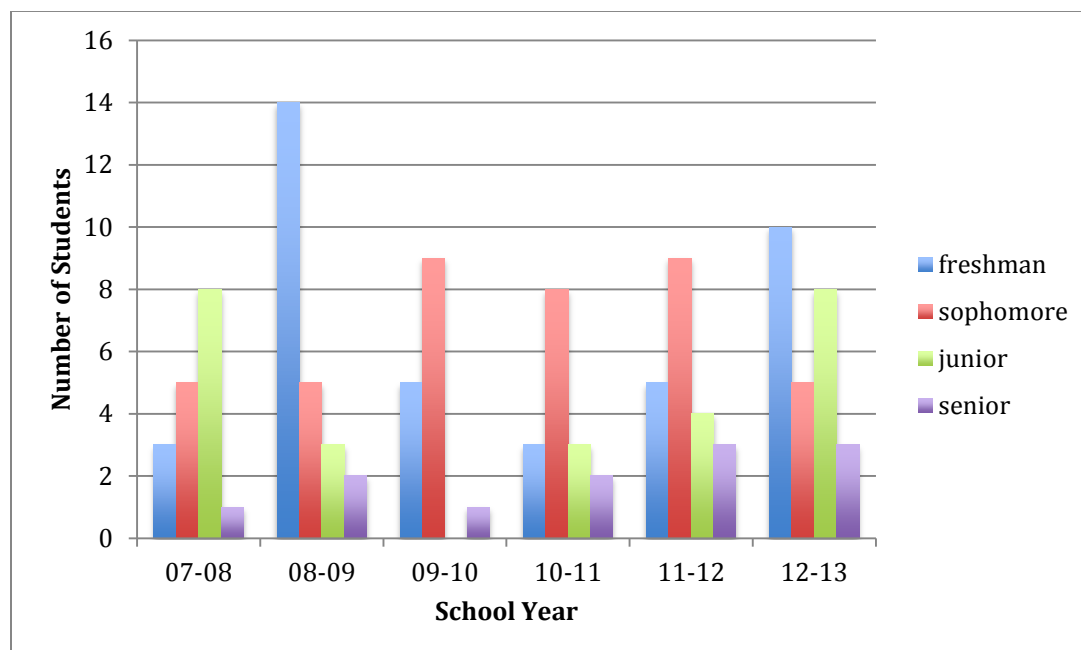

Figure 6. PAA Student Transfer Trends by Grade from Drop Reports

While the gender demographics at PAA leave little room for interpretation, it still merits attention to look at gender differences in attrition rates at MATES. During the 2011 – 2012 school year, there were 128 males and 113 females enrolled at MATES. As Figure 7 shows, there are usually more males leaving MATES until the 2011 – 2012 school year. At this point, significantly more females are leaving MATES as opposed to their male counterparts. In an age of encouraging females to enter STEM (science, technology, engineering and mathematics) careers (Lichtman, 2013), it is discouraging to see a precipitous decline in the number of females remaining in the science and math oriented curriculum at MATES.
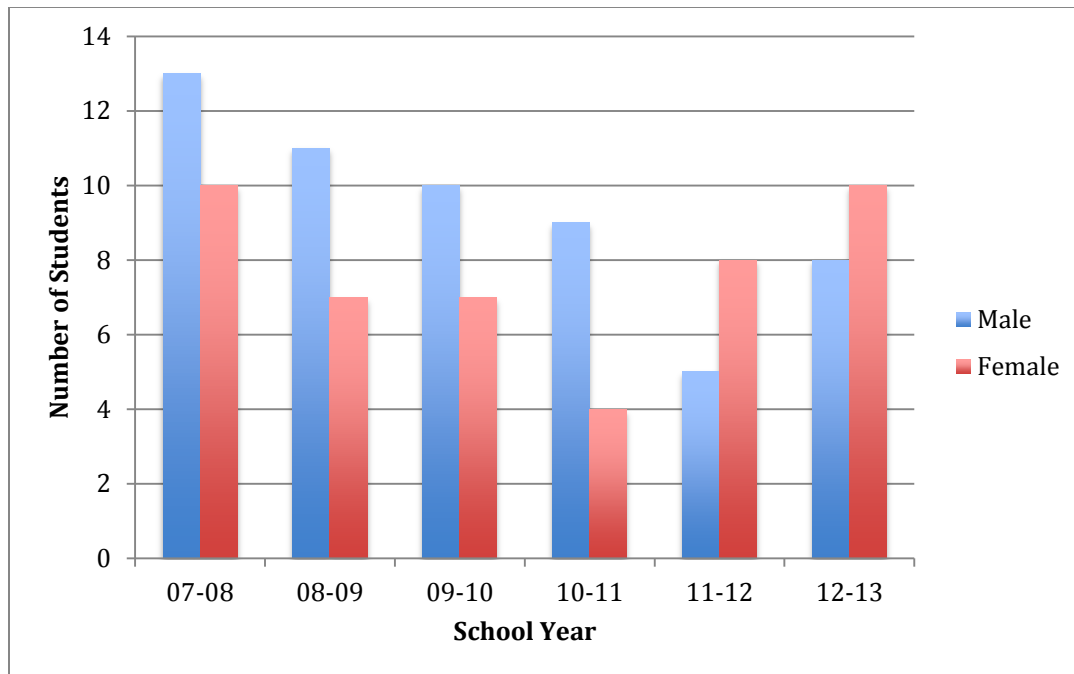
Figure 7. MATES Student Transfer by Gender from Drop Reports

By looking across the data it seems the major way in which attrition of students has changed over the years is in the increasing numbers of freshmen leaving the programs as opposed to primarily sophomores leaving the programs in earlier years.

When students are entered into the state-mandated student information system, they are assigned a state-set code as to why they are leaving the OCVTS district. These alphanumeric codes tell only one side of the story for my particular district and include general reasons for transfer out of the district including transfer to another school in state, out of state or in district. Talking to students about their decisions to leave these programs provides a more complete portrait of not only what it means to be an academy student, but also the challenges of the program and offers insights into how the issue of retention might be addressed.

Student voices on leaving.

By analyzing both student narratives and pre-existing artifact data in the form of Exit Interviews and Drop Reports, the 221 students' decisions to leave since the 2007 – 2008 school year were as multifaceted as their original decisions to attend a CTE academy in Ocean County. While most students had more than one reason to leave, their reasons fell into one of three categories: academic (including how students arrive at the academy and what they do academically once they get there), social (both atmosphere and culture) and personal (a lack of interest in the program, medical issues, and changed plans). Those three reasons were also cited in the Exit Interview and Drop Reports gathered from the district; however, they were slightly different in frequency (see Figure 8).
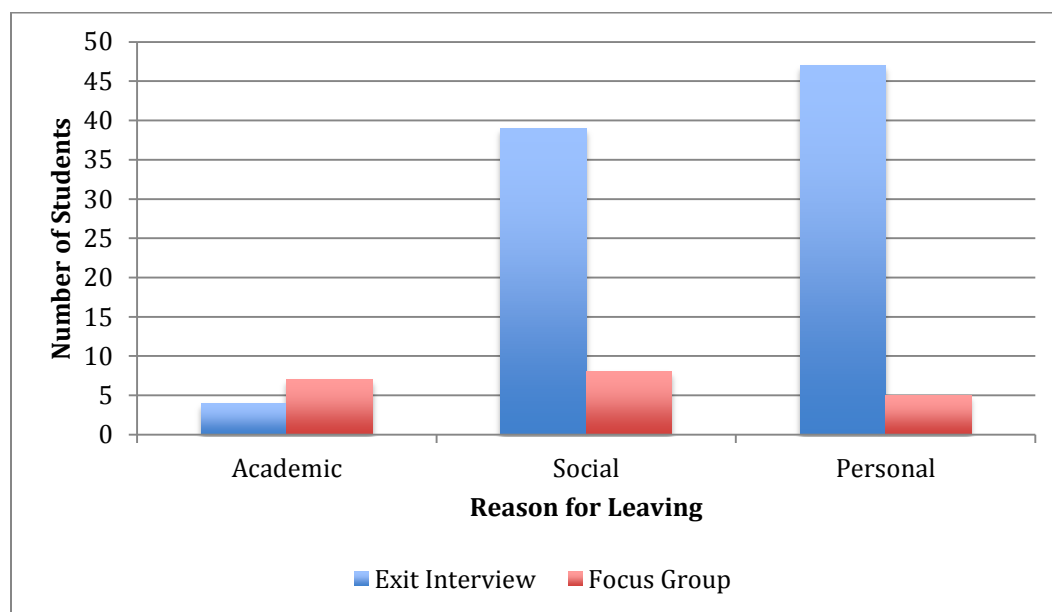

Figure 8. Comparison of Focus Group Participants' Reasons for Leaving OCVTS Academies Versus Exit Interview Analysis Reason for Leaving OCVTS Academies

It is important to note that the number of students leaving the district—221 students since 2007 – 2008 school year—do not match the numbers of students in each of the following charts because students cited more than one reason to leave, transferred out of the district completely (relocated), or did not complete an Exit Interview. Focus Group numbers do not add up to the total population of participants because most participants cited more than one reason influencing their decision to leave.

When discussing their reasons in a group setting, student responses were markedly different from what they stated to their guidance counselors (see Figure 9). As Figure 9 shows, most students who left MATES indicated on their Exit Interviews that they left because of academic issues; Focus Group participants cited personal reasons as their reason for leaving MATES. At PAA, Exit Interviews as well as Focus Groups indicated personal reasons as a main reason for leaving.
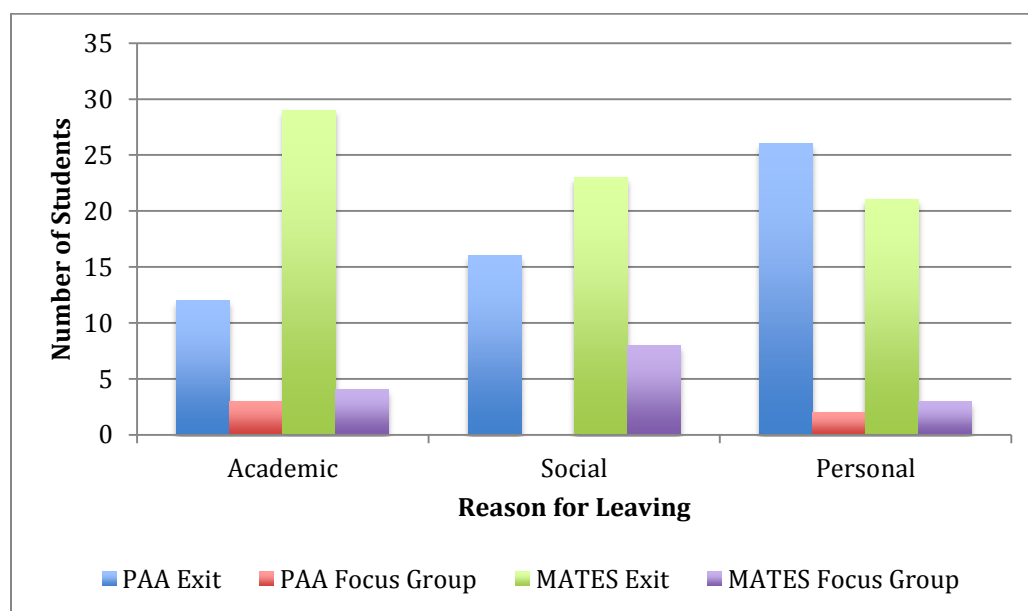

Figure 9. Comparison of Focus Group Participants' Reasons for Leaving MATES and PAA Versus Exit Interview Analysis Reason for Leaving MATES and PAA

For instance, Adele, a junior and former PAA student, told her guidance counselor that she found the social atmosphere "odd" at PAA and wished to return to her home school. During her focus group, she stated that she left because

> I have a lot of other interests other than the performing arts and they did not offer a lot of clubs or activities at all. That was really my main reason for leaving. I had not a great math teacher there and I'm actually struggling in math now. It was Algebra and now I'm in Algebra II and I'm struggling a bit because of that. The clubs were the main reason. I couldn't really become a well-rounded student, I felt. I didn't really feel like I was getting anything out of it. The acting program.

Even though she stated that the found the program "odd" to her counselor, she did not describe the program or her reason for leaving as "odd", or a synonym of odd, at any point during her focus group. This mismatch of data was evident for all eight of my focus group participants for which I had Exit Interviews. The remaining three participants did not have Exit Interviews on file. An obvious cause for the disconnect is that information reported on the Exit Interviews and Drop Reports are usually in phrases or short sentences. Some Exit Interviews contained a brief paragraph that also included any notes on prior counseling before the student decided that he or she wanted to indeed leave the program. The Focus Groups allowed students to more fully express why exactly they chose to leave.

Despite the discrepancies between different data sources, information gathered from both MATES and PAA Exit Interviews and Drop Reports as well as the focus groups showed that most students left OCVTS because of academic, social or personal reasons. I now go further into depth on these three primary reasons for leaving the OCVTS academies of MATES and PAA.

Academic. By definition academies are supposed to be academically rigorous with a thematic focus. While students know this when they apply to the academies, the challenges posed by attending the academies were too much for some students. Having to navigate

increased academic expectations of PAA and MATES, along with a longer commute, and a

regimented curriculum were reasons students said they chose to leave.

In order to take part in the career academy curriculum as either PAA or MATES, students

had to obviously first arrive at the physical buildings. This was a long and frustrating process for

many students. Students live all over Ocean County and neither of the academies—MATES and

PAA—are located in the majority of the students' communities, as is their home school. In fact,

some of the students who live in the most northern portions of the county in towns such as

Jackson are over 40 miles from MATES.

The physical location poses issues for students in terms of arriving to these schools or

staying after school for activities. Tyler, a MATES sophomore explains that

> I got to say one thing I dislike about MATES isn't the school itself, it's the situation
> being in the school puts you in because you can't stay after here to do some of the
> activities and do some things at your home school because it's just too far away. There's
> so much to do but there are not enough hours in the day.

As students come from all over Ocean County, some of them are on the bus for over an hour and

a half in the morning and then an additional hour and a half in the afternoon. Additionally, there

are students who have to transfer from one bus that picks them up at their houses, to another bus

either at their home school or at a central busing depot. Jillian, a MATES senior, explains this

lengthy process of traveling to school:

> In the afternoon [my bus] carpool[s] with [another town] which doesn't really make any
> sense because we're not that close to [that town] and then we used to have to go to
> [another school], get on another bus and take us to the high school. Then go from the
> high school to another elementary school, take the 5th and 6th grade bus home which
> really doesn't work out well. Putting high schoolers with 5th and 6th graders is kind of
> torture for everyone…

Senior students have the privilege to drive to school, but this is not always an answer to their problems. Jillian, a MATES senior, explains how, even though she drives to school regularly, should she need to take the bus, it would cause a lot of problems:

> I just wish busing in general worked better. I'm a senior so I've been able to drive a lot but if I were to take my bus I would have to take the normal high school bus, take that to the high school, get on another bus that would take me to MATES and I'd get here a lot later than all of the school districts that that are farther away. But because I haven't been taking the bus there's so many kids on my first bus and they don't save a seat for me. So, even if I wanted to take the bus they would kick me off because there is no room for me on that bus. So I really have no choice but to drive now, which is kind of annoying because if my car ever breaks I don't know…walk to school or what.

Students, regardless of whether they were still attending one of the academies, spoke about the varying levels of frustration for dealing with these long commutes. Most current students found "productive" ways to spend their time on the bus either studying or catching up on sleep. One student current student who is on the bus for over 45 minutes says he likes to sleep to "pass the time".

Former students focused on the negative impact of the commute in getting to school, getting together with friends, and staying or participating in after school activities. Kaitlyn, a freshman stated "if we decide to do any after school activities and have practices it is hard to get to. You lose a lot of time on the bus rides, which are for me like an hour-and-a-half long." In general, it appeared that the students who actively engaged in something during the bus ride (such reviewing for a test with a peer, studying, or completing homework) were more "successful" in terms of managing their time. These were the current students. All former students dismissed the bus ride as lost time and did not clarify what happened on their hour (or longer) commute.

Briana, a freshman and former MATES student, had to travel back to her home school for sports, she would arrive at "practice for field hockey, I only had 30 minutes of practice left. Probably half of that was to clean up all the equipment and stuff." A former PAA student even commented that she "couldn't even be in the plays at [PAA]" because she was unable to obtain a ride home from practice. A MATES senior who is heavily involved in sports at her home school commented that she would not recommend MATES to an eighth grader who was "die-hard" about participating in sports because "if you get to practice the coaches are still going to be mad that you're late".

Academies, by nature of their definition, are created with the overt structure around a core focus; this focus drives the curriculum for all of the classes the students take (CCASN Resources; Brand, 2009). A common thread throughout discussions involved the overt thematic focus on the program: students both appreciated the focus of the courses, and yet wanted diversity in their course options either to expose them to varied future options or simply to provide range in their current studies. Even though students apply and enroll in either MATES or PAA knowing the focus of the program, students still lamented the fact that they believe the curriculum to be too focused on the specified subject matter with no room for exploration of different interests. As Stephanie, a MATES sophomore stated, "you're not allowed to pick any of your classes, everything is assigned to you and it's just all marine pretty much." Meg, a MATES senior, commented on this when she discussed her future career plans:

One thing I actually dislike is that the science courses are all focused on oceanography and another thing that I want in my high school experience was something that would be related to the field that I want to go into as an adult. That field is medicine but the thing is that we don't have a lot of classes such as anatomy and physiology that we can actually focus on here…I feel like it would be more beneficial for my education if we focused on more classes pertaining to what I want to do in life… I think we need more classes that are structured towards individual fields such as medicine, or such as architecture, any kind of field that is related to what you want to do. The thing is that Ocean County there are only two vo-tech schools… I felt that MATES was the option that was better than [my homeschool] but it wasn't the optimal option for what I want to do.

PAA students shared a similar sentiment. One particular student wished there was more diversity in the course selection:

I feel like I came to the school wanting to act. I wanted to act for TV and commercials and all this stuff. But, a lot of the stuff that we do in classes is like Broadway. You know, I like Broadway and I maybe want to go try out for it, but I'm mainly for TV. Just learning about theater and stuff, I'm not really going to look forward to doing that stuff as much as I want to do for TV. (Dina, PAA sophomore)

Lindsey, a junior and former PAA student stated that "your majors are focused so much on one genre or one type of work that it's impossible to improve." She clarified that

I went [to PAA] thinking that it would be the best vocal program I ever did, because I've been singing for eight years now, and I was so excited and then I showed up and they only teach operetta and opera. There's no room to improve on skills you already have. You just kind of do it. I switched over to acting my next year, and it was the same deal. You did Shakespeare. You did southern acts. You changed Shakespeare into a southern style. It was terrible. There was, again, no room to improve on skills I already had and skills that I could possibly have had if I had time to work on them with professionals.

It is interesting that students pointed towards a lack in course diversity when research suggests that "schools with fewer choices have higher academic results because the curriculum is more coherent" (qtd. in Allen, 2002). Students commented that they felt that they needed to be exposed to a wide range of interests and options in high school to facilitate their future career and college choices. One student in particular, Ariana a MATES senior, decided to come to MATES because she preferred it over her home school. She commented that she thought MATES should

Provide more options and more areas of study for people to explore so they can like get a feel for all interests because I know for me I didn't really get to explore that many things that I really truly enjoyed and felt passionate about here. Now applying to colleges, it's led me to this place where oh no there are all these things out there but I haven't had the opportunity to try them. I'm not really sure what I want to do.

Still other students were wholly disappointed in the program. Several students seemed to have entered into the program with preconceived expectations regarding academic rigor and teacher ability that were not met. This caused ennui and they decided to leave the program and return to their home school. Walt, a freshman, first came to MATES anticipating "everything would be amazing, like great all-around teachers and stuff" and did not believe his experience met his expectations.

Another negatively perceived aspect of the small school setting was the fact that since there were so few students and thus fewer faculty than the larger homeschools, students were assigned classes each semester with very little, if any, room for selecting classes that interested them; this was also due in part to the block scheduling format of the school. This meant that there were few electives over the course of the four years at MATES. Since academies have a focused, thematic curriculum, the schedule is rigid; many students felt that it was too narrow and focused. Ironically, the research shows that if enrollment were to increase by 100%, students would only see a 17% increase in the variety of classes they could take (Pittman & Haughwout, 1987).

Social.

> The social aspect was a big thing for me to leave. I was afraid all my friends here that I
> have known for five years would forget me in a matter of a year…. Friends would go out
> and you would just have to sit in the sidelines because you have a lot of work to do. I
> didn't think I would be able to deal with that because I don't want my friends to forget
> me because all the memories we had. I just couldn't deal with it.
>
> <div align="right">-Bill, freshman, former MATES student</div>

Social reasons are defined as not feeling connected to the teachers and school, feeling

completely disengaged from everything that used to bring them pleasure, as well as missing out

on a true "high school experience" by attending an academy instead of their homeschool. While

current students at PAA felt "comfortable" in their setting; current MATES students described a

social atmosphere that was academic and challenging, but with positive connotation. Former

students, however, did not find their niche and many cited the culture as a reason to return to

their home school.

Walt, a freshman and former MATES student, summed up his reason for leaving simply

as "atmosphere and time"; Patrick, a freshman, echoed Walt's sentiment by stating that "the

social atmosphere" was his primary reason for leaving MATES. James, a senior and former

MATES student, believed that his social growth did not match that of his peers:

> I was very socially inept during middle school. As I went to MATES, I kind of realized
> that one, I grew socially, I grew far beyond socially than what other kids had there. I
> couldn't really deal with the culture that developed there.

Bill, a freshman and former MATES student, did not feel comfortable in the school. Leaving

only two weeks into his freshman year at MATES, Bill was arguably not able to experience any

of the true culture of the school and certainly not any of the rites of passage. He explained that he

left because of this culture:

It was the social aspects for me. I didn't really talk to anyone. Here in [my home school] I talk to so many people but then there I didn't really feel comfortable around the people there. They didn't seem like people I would make friends with and I didn't really like that.

Students said they did not opt to leave only because they felt they did not fit in but also because by attending MATES or PAA they felt they were missing out on the "high school experience". When students were speaking about the "high school experience" they were, in general terms, talking about the aspects of high school they felt as though they were missing out on by attending an academy including the size of the school and access to extracurricular activities.

[I left because of] my future and the high school experience.

-Kaitlyn, freshman, former MATES student

This exact phrase was mentioned 10 times in Exit Interviews and Drop Reports. While this may not seem like a high frequency given there were 221 students who have left, it is interesting that 13 students (10 in Exit Interviews and three during the Focus Groups) used this identical phrase or described similar sentiments. Extracurricular activities such as sports and most clubs are not available at either MATES or PAA. Each academy does offer some clubs, but these usually take place within the confines of the school day or parents have to travel to pick up their students. Therefore, if students wish to participate in sports or clubs, they are allowed to participate in their home school's sports and clubs. However, since most students have to travel over an hour to reach their home or homeschool, this obviously impacts their arrival time to afterschool activities.

Adele, a junior and former PAA student, believed that because PAA was so small, it limited her extracurricular interests as well. She explained that "I have a lot of other interests other than the performing arts and they did not offer a lot of clubs or activities at all." Violet, a

senior and former MATES student, had a similar reaction to the size of the school. She rationalized "the size of the school was also a factor in my decision to leave. The intimate atmosphere is a great asset but after two years I was missing being in a larger school."

Patrick, a former MATES freshman stated "In the spring if I were to be here and I would play Lacrosse, I would've been late to every practice. I would've gotten up to practice halfway through it. I know especially the coach, that guy's really strict on time. So that would've been hard." Because Patrick would not have been able to participate in lacrosse if he stayed at MATES, he ultimately chose to leave the program.

For other students, "the high school experience" was more than being able to participate in the academic and social activities offered by high school, it was about being a well-rounded person. Chelsea explains:

> I felt like if I stayed at MATES that would be the only thing I could do. I had to quit my competition cheerleading team. I didn't get to see my friends often. I couldn't do a lot of community service and I couldn't be involved in a lot of clubs; I couldn't do choir which I loved. There was just so many other things that were important to me and I felt like I needed more of a balance and I couldn't have that there because of the workload. That might sound dumb to some people because I take challenging classes anyway but I just feel like it's easier to be more well-rounded at [my home school] than it was at MATES.

A longitudinal analysis of the National Education Longitudinal Study of 1988 to evaluate trends in participation in afterschool activities and future activities such as attending college, voting and volunteering found that school participation was connected to "greater civic involvement, and higher levels of academic achievement" (Zaff, Moore, Papillo, & Williams, 2003, p. 620). In general, extracurricular activities are beneficial to students' future (Zaff, Moore, Papillo, & Williams, 2003). Not only do these activities provide a safe place for students after school hours, but they also allow students' to develop their leadership skills, self-efficacy, athletic skills, peer relationships and conflict resolution, to name a few (Zaff, Moore, Papillo, &

Williams, 2003). Students also recognize the import of participation in these activities: "A lot of that comes from stuff you do outside the classroom and going above and beyond. Not just coming here and then leaving at 1:45." (Jillian, MATES senior)

Another former student opposed Jillian's stance and commented that

> I think it's better to be a well-rounded student at [my homeschool] then go to MATES and not do anything else because colleges aren't going to like you. If you have no community service, no clubs, no other activities, no whatever else you do. You don't have anything else. No matter what grades you get there, they're still going to be like "Why didn't you do anything? Why didn't you try? Why weren't you trying to put yourself out there and get involved in different things and actually experiencing life and making friends in different clubs and activities?". (Chelsea, junior, former MATES student)

This dichotomy of experiences leads students into the conundrum of both excelling in their academic endeavors during the school day as well as finding the time and resources to travel to their homeschool to participate in afterschool activities, or convincing a licensed driver to pick them up at MATES or PAA after school. For some students moving between academy setting and home school for extracurricular activities appears to be too much to navigate.

Personal. Other reasons for leaving the academies were more individual and personal in nature. These reasons were diverse and included a lack of interest or dissatisfaction with the program, medical issues including stress, and changed future or career plans.

Many students changed their career trajectory and found that MATES or PAA was no longer a fit for their future. James, a senior and former MATES student, said "my interest changed from science to more of a politics and government affairs field. The classes [at MATES] certainly didn't suit the needs of what I wanted for college and beyond." Walt, a former MATES freshman, was initially interested in coming to MATES because "I figured it looked cool because at the time I wanted to be a marine biologist. That has completely went out the window by now." Since he changed his mind from that of a science-oriented career to "broadcasting or sports

medicine", he decided the school did not coincide with his future career aspirations and thus left the program. Similarly, participation in the science curriculum solidified a reason for Kaitlyn, a former MATES freshman, to leave. She stated, "I wanted to leave because after doing a lot of the labs and everything that was in the bio, I realized that science really wasn't a career field that I wanted to go into."

Students have a lot of pressure put on them daily from school, parents, and other areas; however, research asserts that school is the most reported source of stress for adolescents (McGuire & Mitic, 1987; Omizo, Omizo, & Suzuh, 1988 as cited in Kouzma & Kennedy, 2002). Daily stress for high school students is "particularly potent" (de Anda et al., 2000, p. 442) and future goals rank as the most cited stressor for students (de Anda et al., 2000). In fact, research suggests that stress could potentially cause students to withdrawal from the school culture or impact their academic performance (Johnson, 1979 and Wassef, Ingham, Collins, & Mason, 1995 as cited in Kouzma & Kennedy, 2004). Many students spoke of the stress involved in partaking in a rigorous curriculum. They spoke about how some of the stress was self-induced, while others students' stress came from juggling multiple projects at the same time.

When asked to pinpoint in one-to-two words why she left, Briana, a freshman and former MATES student, simply stated "pressure." The academic nature of the program, according to Briana, was too much of a focus for her and did not allow her to perform to her potential in all areas. She felt she had to "just memorize the book" because she did not "know what to study when it comes to [a particular teacher's] tests. I kind of go insane." She described her typical day as "really stressful" because she would "wake up, school, sports. Get back at 7 and then work until like 9. Then I would do homework on top of that."

Four MATES students who felt the stress was too much to handle, chose to leave the program; these students were explicit in pointing out that stress was an aspect of their decision to leave. Chelsea, a junior and former MATES student, does not think that it necessarily has to be a stressful experience, but realized that since she gets easily stressed, it was in her best interest to leave the program. She stated that "I just look at everything and like 'Ahh.' I can't take it all at once. I get so overwhelmed that I just freak out." Violet, a senior and former MATES student, thought that "The amount of stress I experienced made me realize it would be beneficial to leave MATES.... Instead of feeling like I was reviewing what I learned in class, I felt like I was drowning in work." Two other former students made it explicit that stress was involved in their decision to leave the program and return to their home schools.

Conclusion.

Overall, the students' reasons for leaving were as nuanced and specific as the individual students. The students in this study highlight how the highly academic focus of academies, and the way they are organized around a theme is not for everyone. For some students the academies are too limiting on who and what they want to be and ultimately they choose to leave. On the other hand, those who manage to negotiate the demands of the curriculum seem to find a match between who they are within the culture of the academies.

Speaking to the students and allowing them to share their experiences not only with me, but also with other students in similar situations, allowed for a richer and more specific discussion to take place on why exactly they chose to leave. In the following chapter, I draw on students' voices once more to consider how the polices and practices of OCTVS can be improved to not only attract, but retain students for all four years of the high school experience.

Chapter 5: Implications

> It's certainly rewarding and it's certainly challenging but it's not for everyone.
> -James, senior, former MATES student

> I know I said a lot during the year how much I hated the school and couldn't wait to get out. But when I really thought about it, I realized that there were a lot of good things that happened out of this semester, too. There were so many memories made, so many new friendships built, and I really think I have found myself [at MATES], since I was away from all the pressure of trying to fit in back at [my home school].
> -Briana, freshman, former MATES student

A career academy is a program with a college preparatory curriculum and a thematic focus that enables students to see the application between academics and field work and that involves partnerships with employers, the community, and local colleges to "improve student motivation and achievement" (CCASN Resources; Brand, 2009; Stern, 1999). The purpose of this dissertation was to use students' voices to understand what it is like to attend a CTE academy and to listen to their reasons as to why an academy, as James says, "is not for everyone."

In this chapter, I turn to my third research question "what do students' experiences and perceptions suggest for retaining students in the CTE system?" Using student voices, I outline specific strategies that district and academy administrators and teachers can employ to retain more students in the CTE academies in Ocean County. I begin by first providing a brief summary of my findings on the two academies. This summary is then followed with implications linked to each of the key issues raised by students in this study.

Research Summary and Implications

 While proponents of CTE academies argue that an academy education leads to benefits such as better grades, increased attendance and graduation rates, and dropout prevention, there is little empirical research that documents what it is like to be a student in this kind of educational setting. Similarly, while retention of students in CTE has been cited as a national issue (e.g. NRCCTE Core Issues), little has been done to talk with students to address this issue in an attempt to combat attrition. In my own context as an English educator in a CTE, this issue of retention has been an ongoing concern for a number of years. While we attract more applicants than we accept, which the students referred to as "Ivy League levels of rejection", we also lose substantial percentages of students each year. During the 2012 – 2013 school year, forty-four students, or approximately 9% of the student population, left CTE academies in Ocean County. While this overall number may not seem significant, of the 44 students who left the academies to return to their homeschools, approximately 15% were from the freshman class therefore it is of the utmost important to implement interventions that addresses the attrition rate of this population.

 This study sought to foreground student voices about life in the CTE academies and factors that they identify as contributing to succeeding in this kind of educational environment. To gather students' voices, I first conducted focus groups and collected writing samples from students who were currently enrolled in the academies, had left the academies to return to their home school, or had graduated from an academy in the Ocean County Vocational Technical School District. These data were supplemented with pre-existing documents in the form of Exit Interviews and Drop Reports.

Data were analyzed in several steps. First, a portrait of each of the academies was created based off of writing samples and student focus group data to provide an overview of the daily experiences in an academy. Further analysis involved a reiterative process whereby I looked across groups of students (current, former and graduates) as well as across data sources (focus groups, writing samples, Exit Interviews and Drop Reports) in order to triangulate data, and provide a complete picture of why some students choose to leave the academy setting.

This analysis led to two main sets of findings: a) student-cited benefits of CTE are also the impetus for some students to leave the academies altogether and b) fitting into the culture of the academy is crucial. It was also found that the majority of students who leave the academies do so during their freshmen or sophomore year. In what follows I summarize what each set of findings suggests for improving policy and practices that might lead to increased retention of students at OCVTS.

Fitting into the culture of the academy is important.

The culture of a school is the shared values and norms created by both the school's structure and enacted by those who inhabit the school, including students (Nieto, 2008). Despite being organized in the same way (i.e. thematic focus, block scheduling, and small class size) each academy had its own distinct culture. In order to succeed in the academy culture, students had to adjust to life in the academy and learn to fit in with the new culture. Students who remained in both MATES and PAA spoke of the culture in positive terms and as beneficial to their future. Students who left the programs discussed their inability to fit in with the culture and how the program was "hard to transition into." As Chuck, a MATES senior, stated "you've got to have that cultural fit."

At MATES, the culture was structured around high academic expectations and an orientation toward college. Students reported that in order to be successful at MATES, they had to engage with demanding assignments, a busy schedule, and balancing homeschool activities, after-school jobs and volunteering obligations with this new culture—all while traveling great distances to make it to the physical building every day. MATES students described the "three options when you go to MATES: You can either sleep, have friends, or you can get good grades. You're only allowed to pick two of those." Alternatively, PAA students spoke about the culture of their school as a family and that if they were not in with the "family", that they were not going to succeed at PAA. A former PAA student stated "if you don't get in with the right people, you're just not friends with them, and the whole family just won't accept you."

As the culture of each academy simultaneously empowers some students while it constrains others, finding one's place and quickly fitting in with the culture of the school is crucial considering that most students leave the academies during their freshmen and sophomore years. As my data showed, 72% of the students who left MATES and PAA were either freshmen or sophomores.

Cultural implications: School-based acculturation programs.

As the findings of this study illustrate that students have to figure out a way to fit in with the socially constructed culture of their specific academy if they are to stay, it seems important to develop strategies to assist freshmen to make this transition. .

One way to help with the transition process is to expand the freshmen orientation programs currently in place at both MATES and PAA. Currently, PAA uses senior mentors, who are supposed to check in with freshmen prior to the start of the student's first day of freshmen year, but students expressed ennui about the program and said their mentors either never checked

in with them or were not helpful. Currently, MATES facilitates meetings between seniors in the National Honors Society with small groups of freshmen on a monthly basis during the activity period, which lasts approximately 20 minutes. This program is overseen by the guidance department at MATES, which consists of two guidance counselors, who are responsible for myriad activities including the rigorous college admission process for every senior student. An OCVTS guidance counselor stated that "enhancing our mentoring activities and freshman transition topics is an area we can surely grow in" (S. Stout, personal communication, November 14, 2013).

A revised freshmen transition program should include a structured program for all freshmen students in both academies, as part of their course load during their freshmen year. Instead of having brief, monthly meetings like at MATES, it would be in the students' best interests to have weekly programming during one of their classes in order to expand the acculturation process for freshmen students. In order to create as little disruption as possible, this time could rotate among the four blocks. In addition to covering some of the cultural norms of the programs, students could meet upperclassmen and teachers, learn study habits and how to manage stress, and become familiar with the various educational technologies that could both improve their organization and help them succeed in the academies.

Student-cited benefits are also the impetus for leaving.

While students are attracted to the academies because of the rigor of the curriculum and the perceived "opportunities way above [their] homeschool", they also chose to leave because of the academic and thematic focus of CTE academies. It was this tension between students wanting some of the aspects of an academy education, but not willing to give up traditional high school programs and choices that led some students to return to their home schools.

Many students found the small size in combination with the thematic focus of the school to be limiting to their futures. Their class selection was already limited because of the small size of the school; but upon entering an academy, their class options were also limited in scope since their programs were focused on either the marine sciences or performing arts. Students felt as though they were missing out on the varied classes available at their homeschool, especially when it came to AP class selection, which MATES does not offer.

In addition to the thematic focus and the smallness of the school, many students struggled to maintain what they referred to as the "high school experience" by participating in their homeschool's extracurricular programs. With a small student population, an academy does not have the resources to field athletic teams or other extracurricular activities that are not fully aligned with the thematic nature of the programs (e.g.: MATES competes in academically-focused science competitions such as Envirothon and ShoreBowl; and PAA stages elaborate plays and musicals). Thus, students found it difficult, if not impossible, to perform academically at these academies as well as compete in their extracurricular programs at their home school. This forced many students to make the choice between remaining in the academy and quitting their extracurriculars, or leaving the academy to continue their involvement in their extracurricular obligations at their home school.

While the academy administration does communicate that it is difficult, but not impossible, to remain involved in extracurricular activities at students' homeschools, it seems as though this information is not communicated clearly or students feel as though they can overcome it; once they are in the academies, they find out how difficult it is.

Thematic and academic implications.

I feel like sometimes the name MATES—The Marine Academy of Technology and Environmental Science—puts people of off choosing MATES as a school just because they think, "Oh, it only focuses on technology and environmental science and marine biology." Just only sciences, but that's not true. It's a very well-rounded curriculum.

-Jacob, MATES freshman

In talking with students, they offered several suggestions for addressing the issue of retention with regard to the academic challenges of attending an academy. First, the students spoke about helping prospective students understand how the themes are applicable not only to careers in particular fields but also to help them realize the import of having an academy education and the opportunities it can afford them. They also thought that incoming students need to be aware of the challenging nature of the programs. Tyler, a sophomore, described being part of MATES as "a curse as well as it is a gift. Gift: you get a higher education. Curse: it's hard."

Meg, a MATES senior recalls how she has learned to work more efficiently because of her thematic program, even though she is not going to pursue a degree in marine sciences: "It used to take six hours to write a good lab report in freshman year. Now, I take only three hours. You see little differences like that and even if MATES hasn't guided you in a field that you want to go into, it still has given you that knowledge to use….It definitely prepares you."

Building on these ideas, it seems at the very least that current recruitment efforts should be expanded to explain the benefit of an academy education to students in order to attract students who will remain in and be successful in the academies. This can be done both through more informative information sessions as well as through a revamped website.

Many students are unaware of the applicability of the thematic high school curriculum if they are not interested in pursuing either a science or performing arts career. Regardless of the

thematic focus of the program, its benefits and applicability to post-high school options are immense: academy students are shown to earn "significantly" more course credits than other students, perform "significantly" better in terms of attendance as well as grades (Stern et al., 1988, 1989). Chuck, a senior, said most MATES students are "okay with the environmental science because [they] can see some purpose to it, even if [they're] not that interested in [environmental science]." Information about the relevance of the curriculum and the academic advantages of attending an academy could be communicated to students in the information sessions presented to interested middle school candidates as well as at the program-specific information sessions at each of the schools.

Students need to fully understand the dynamics of an academy before becoming a part of the program; this includes knowing that the school is small. Students should be made aware that they may have the same teacher more than once, sometimes as many as four times, throughout their high school career. While students perceived the negative "burned bridges", they should also be made aware of the benefits of this type of education: increased attention from teachers.

Some schools have addressed the issue of extracurricular accessibly to academy students by sending "sports buses" to MATES in order to facilitate earlier arrival times at events for select groups of students. Every effort should be made to set up similar situations, when applicable and available, for students from every district.

In order to attract and retain students who are fully knowledgeable about the programs, recruitment events can be scaffolded to provide various venues and ways in which to see the programs. This could include student visits and current student colloquiums. By allowing students to come to MATES or PAA for a day, these prospective students would be able to experience the program first-hand in order to get a taste for what it is like to attend these schools.

Current students could participate in panels at each of the middle schools' information sessions to facilitate questions and clarify expectations of the program and what to expect throughout the programs.

Finally, while both academies are in fact part of the OCVTS district, it would be important to make a more informative, independent website for each academy in order to more clearly articulate not only the aim of each academy, but also to provide a more descriptive explanation of what happens in these academies on a daily basis. Currently, each academy is listed as a "bulletin board" on the main website with little-to-no interactivity and clarification of the rich nature of these programs.

Additional implications.

There were three additional implications that came out of the study. The first implication came directly from the students and involved revising the admission process. The second finding came from the process of collecting and analyzing data throughout the study. The final implication emanates from the purposes of this study to give students a voice in their education.

Revised admissions process.

In order to address attrition, the population of the academy needs to be evaluated: are the best and most interested students applying to and enrolling in the academies? Do students know what they are getting themselves into? To this end, the admissions process could be revised to include aspects beyond a simple multiple-choice test, such as an individual student interview. Agho et al. (1998) found interviews as a means of "clarifying information written on application, assessing an applicant's non-cognitive skills, assessing an applicant's 'fit' with the mission of the program, and communicating the expectations of their program to the applicant" (as cited in Salvatori, 2001, p. 593). It is through this assessment of the eighth grade applicant's cultural "fit"

with either MATES or PAA, as well as his or her understanding of the "expectations of the program" that make the interview a logical and appropriate addition to the OCVTS academy admission process.

Several students agreed that the testing process to get into the academies was outdated and did not lend itself to attract and retain the most "academically fit students", as Chuck described them. Tyler, a MATES sophomore, stated, "When it comes to applications, you cannot classify a person based on a multiple choice test. You can see where their strong points are. You can find out how prepared they are, but you cannot find someone's passion for something by answering A, B, C or D." Chuck clarified that

> You're literally just in an amalgamation of numbers….We got to really step up to the plate and say we can't just have the most academically-fit students because I think a lot of times that they lack the passion; they're not going to do well. You've got to have the kids that you know can do the work and are going to enjoy it because I would rather have a B student that's going to hustle, to do a ton of work, do research or some kind of club, really just get involved within the school, than an A plus student that's going to do nothing.

By creating a more dynamic application process that includes an interview with each applicant, applicants would be able to, as MATES junior Carl mentioned, "really just to show what kind of person you are." Chuck agreed, stating that "I think that the MATES' application fails to deliver on figuring out who you are as a person." In order to add an interview to the admissions process, the applicant pool would first have to be narrowed down based on a set of qualifying criteria. Then, a staff member from the district could individually interview these students at their middle schools. By interviewing students, the district would not only be better able to communicate the responsibilities and nature of both academies, but also be able to understand how interested the candidates are in the program and further utilize student voice in

the process. The acceptance of students who are already motivated to become an informed part

of the MATES and PAA communities would likely decrease the attrition at both academies.

Data management.

While most of the implications of this study came from the students, there was another

issue that arose which warrants considerable attention: data management. Throughout my data

collection, I struggled to assemble and analyze data about the students who chose to leave the

program because I had to cull from multiple sources, between both of the schools as well as the

Board of Education Office and Student Services Office. In general, the overall system of

maintaining the data was not accurate. The process of collecting and analyzing data is crucial in

not only understanding why students leave, but also in attempting to attract and retain more

successful students to each program. By clearly understanding which students leave, at specific

points in their academic career, for specific reasons and from particular schools, student-specific,

sending-district specific and other exact interventions could be implemented for these

populations to increase retention for this particular population. Ironically, in the age of data-

driven decision-making and electronic access to information, the OCVTS district is not

capitalizing nor advocating for this approach to retaining students in the district. In order to

address the data issues and to be better understand why students are leaving the OCVTS district,

two actions are warranted: an overhaul of the data management process as well as the hiring of a

"point person" to collect and manage this data. The addition of this staff member would be

beneficial in making future, informed decisions for the district.

Overhauling the data management process at the academies and in the OCTVS district

involves first revising the process and content in the information collected on students who

attend and leave the schools. The main data entry about student retention is the Exit Reports, but

there is a lack of consistency in how this data is collected, as well as the type of data collected through these reports. For example, it is not clear the exact date when a student leaves a program because the date on the paperwork does not necessarily match when the students actually left the programs, but rather when the interview was conducted or after the student's withdrawal paperwork is signed. Since there are at least four different people compiling this Exit Interview data across two schools, the information is sometimes left to interpretation. In order to address this lack of consistency, an Exit Interview protocol needs to be created that would allow for anyone to be able to follow the exact same procedure, regardless of the school or student.

In addition to the lack of consistency, there is the issue of the accuracy of the data collected on students who leave the academies. Information reported on the Exit Interviews and Drop Reports are usually in phrases or short sentences. Some Exit Interviews contained a paragraph which also included any notes on prior counseling before the student concluded that he or she wanted to indeed leave the program and other Interviews contained only a word or phrase as a reason for leaving. This lack of data makes it nearly impossible to tell exactly why and when students are leaving their programs. Without this concrete information, policy and practice cannot be altered to facilitate an intervention for these students. By appointing one person to collect all of this data in a prescribed manner, accuracy would increase and thus programs could be implemented for populations of students.

In order to allow for a more streamlined process of collecting accurate data, the data could be collected by the same person, in the same manner, each time a student expresses an interest in leaving. This "point person" would develop new data collection protocols, be the main person collecting exit interview and recording drop reports and therefore would make sure similar types and amount of data is collected in both academies.

One way in which this person could collect data is through scheduled focus groups, set at specific points in the school year with both former students and current students. While it is not entirely practical to have focus groups for students who leave every semester, it would be beneficial to conduct them annually, if not more frequently. The Focus Groups I conducted allowed students to more fully express why exactly they chose to leave. As Mitra (2004) remarks that "partnering with students to identify school problems and possible solutions reminds teachers and administrators that students possess unique knowledge and perspectives about their schools that adults cannot fully replicate" (Kushman, 1997; Levin, 2000; Mitra, 2001; Rudduck, Day, & Wallace, 1997; Thorkildsen, 1994 as cited in Mitra, 2004).

Therefore, it is suggested that the OCVTS district create a new administrative position and hire an additional staff member: this person would be in charge of collecting relevant data for both academies, as well as overseeing the freshmen transition program at both MATES and PAA and conducting interviews with prospective students.

Giving students a voice.

According to Mitra (2004) "Hardly any studies exist that examine student experiences and outcomes when they participate in schoolwide decision making and change efforts" (p. 653). As this study shows students have many valuable insights about their schooling and how to improve the issue of retention. Students need to have a voice in their education. Students at PAA in particular did not feel like the administration listens to them. In fact, one student stated "It's like it [suggestions] goes through one ear and out the other."

In order to frequently address students' voices and allow them to have ownership of their education, there should be a meeting of representative students with administration on a regular basis in order to address student concerns in these programs. By allowing students to have a

voice in their own education, they will become more connected to the school and thus the problem of attrition could be mitigated by developing a philosophy of communication between administration and students within the academies. These meetings should take place within the school day and be meaningful interactions between students and administration; students would be instructed to come prepared with their concerns and doable ways in which they propose addressing the concerns. Administration should then make it a priority to not only listen to the concerns, but also make every attempt to address them by working with studen

Conclusion

This study was limited by a small sample size, especially in terms of the numbers of participants at PAA and students who had returned to their home schools. Further studies are needed that look at more students' experiences in academies. One way to do this would be to look at other CTE academy programs in the remaining 20 counties in New Jersey in order to work together and compare data. Undoubtedly, other schools are experiencing the same issues as Ocean County, since retaining students in the CTE model was mentioned in The National Research Center for Career and Technical Education (NRCCTE, operated by the U.S. Department of Education) as one of its core issues. By working with these other districts and pooling resources, there could be the opportunity to create support systems in place for districts with high attrition.

In order to build a more accurate portrait of attrition in OCTVS, it would also be helpful to look at each sending district in order to address trends in the attrition for students by district. I was unable to do this for this study, as the data was not readily available. By identifying specific reasons why there is a high attrition rate for specific schools, better programming could be created with the aim of support students' transition into the cultures of

either MATES or PAA, since the ninth grade year has been identified as a crucial year to retain students (Cohen & Smerdon, 2009; Smith, 1997).

Despite these limitations, this study provides new insights from students themselves about life and attrition in the OCTVS academies. Overall, most students were appreciative of their academy education and their perspectives have informed useful action steps for addressing the issue of retention so that every student who is accepted to the academy can take full advantage of everything the academy has to offer.

As this study sought to foreground a small number of students about their experiences in an academy, it is only fitting to end with their voices. Chuck, as he had his way with words, summarized his feelings about MATES eloquently:

> You'd be crazy to not come here….I'm saying all these really nice things about MATES because I feel like I have been given so many opportunities that I would not have elsewhere. Just four years of MATES, my life's going to be going in completely different trajectory than I would have at [my homeschool] and I'm incredibly grateful for it. I feel like I owe this school a huge debt. I think a lot of kids ignore the fact that this school has offered you so many things. [The school doesn't] force you to take them up on the offer, but if you do, it just puts you in so many different places: it's amazing.

As a teacher in this school, I am confident the district can use the students' ideas and the findings of this study to make sure that every student has a voice and finds a way to succeed when attending an academy in Ocean County.

References

ACTE.org. (2012). *ACTE: Perkins act implementation*. Retrieved from

  https://www.acteonline.org/perkins.aspx

Adderley, C., Kennedy, M., & Berz, W. (2003). "A home away from home": The world of the

  high school music classroom. Journal of Research in Music Education, 51(3), 190-205.

  Retrieved from http://search.proquest.com/docview/214481649?accountid=13626

Allen, R. (2002). Big schools: the way we are. Educational Leadership, 59(5), 36-41.

Bahr, P. (n.d). College Hopping: Exploring the Occurrence, Frequency, and Consequences of

  Lateral Transfer. 36(4), 271-299.

Baxter, J. (2011). Now is the time to advocate for CTE. *Techniques (Association For Career And

  Technical Education)*,86(6), 16-19.

Belenky, M. F., Clinchy, B. M., Goldberg, N., & Tarule, J. (1997). *Women's ways of knowing:

  The development of self, voice and mind.* New York, NY: BasicBooks.

Biddle, B. J., & Berliner, D. C. (2002). Small class size and its effects. *Educational

  Leadership*, *59*(5), 12-23.

Beltram, P. (2010). Total CTE program Model Makes CTE the Answer. *Techniques: Connecting

  Education & Careers*, 85(5), 10-11.

Blomenkamp, J. (2009). Career Academies as Instruments of School Reform and Change.

  Techniques: Connecting Education & Careers, 84(8), 40-42.

Brand, B. (2009). High School Career Academies: A 40-Year Proven Model for Improving

  College and Career Readiness. Commissioned by The National Career Academy

  Coalition.

Brown, B.L. & ERIC Clearinghouse on Adult, Career, and Vocational Education. (2003). *The Benefits of Career and Technical Education*.

Bryan, J., Moore-Thomas, C., Gaenzle, S., Kim, J., Lin, C., & Na, G. (2012). The Effects of School Bonding on High School Seniors' Academic Achievement. *Journal Of Counseling & Development*, 90(4), 467-480.

Butler, J., Quinn, S. C., Fryer, C. S., Garza, M. A., Kim, K. H., & Thomas, S. B. (2013). Characterizing researchers by strategies used for retaining minority participants: Results of a national survey. *Contemporary Clinical Tr*ials, 36(1), 61-67. doi:10.1016/j.cct.2013.05.014

Calefati, J. and Kaimann, F. and Star-Ledger Staff. (2012). N.J. high school graduation rates decrease under new federally mandated calculation method. Retrieved from http://www.nj.com/news/index.ssf/2012/05/nj_high_school_graduation_rate_1.html?app Session=525193028965739

Career and Technical Education Programs and Standards, N.J.A.C 6a:19. (2006) Retrieved 11 June 2012 from http://www.state.nj.us/education/code/current/title6a/chap19.pdf.

Carl D. Perkins Career and Technical Education Improvement Act of 2006 § 109, 270 U.S.C. § (2006).

Catalano, R. F., Oesterle, S., Fleming, C. B. and Hawkins, J. D. (2004), The Importance of Bonding to School for Healthy Development: Findings from the Social Development Research Group. *Journal of School Health*, 74: 252–261. doi: 10.1111/j.1746-1561.2004.tb08281.x

Chubb, J. & Moe, T. (1990). "America's Public Schools: Choice Is a Panacea." *The Brookings Review*.

Clark, R. W., Farmer, E. I., & Welch, S. M. (2010). An Examination of Leadership Issues Facing Pennsylvania Career and Technical Administrators. *Career And Technical Education Research, 35*(1), 47-62.

Cobb, R., & Preskill, H. (1983). Evaluating vocational education: a review of past practices and suggestions for future policy. *Educational Evaluation & Policy Analysis*, 5495-505.

Cohen, J.S & Smerdon, B.A. (2009). Tightening the dropout tourniquet: Easing the transition from middle to high school. *Preventing School Failure*, 53(3). P. 177-184.

Cohen, M., & Besharov, D. J. (2002). The Role of Career and Technical Education: Implications for the Federal Government.

Cook-Sather, A. 2002. Authorizing students' perspectives: Toward trust, dialogue, and change in education. *Educational Researcher,* 31(4), 3–14.

Cook-Sather, A. (2006). Sound, Presence, and Power: "Student Voice" in Educational Research and Reform. *Curriculum Inquiry*, 36(4), 359-390. doi:10.1111/j.1467-873X.2006.00363.x

Costigan, H. A. (1949): Recruitment to the secondary technical schools, *The Vocational Aspect of Education*, 1(2), 183-188.

Creswell, J. (2007). *Qualitative inquiry & research design*. Thousand Oaks, California: Sage.

Cross, N. (2013). Culture: The missing link to learning. *Leadership*, 42(4), 36-37.

de Anda, D., Baroni, S., Boskin, L., Buchwald, L., Morgan, J., Ow, J. Gold, J.S. & Weiss, R. (2000). Stress, Stressors and Coping among High School Students. *Children and You Services Review*, 22(6), 441-463

DeWitt, S. (2012). Students as advocates. Techniques, 87(4), 12-13. Retrieved from http://search.proquest.com/docview/1016793136?accountid=13626

Ed.gov. (2007, March 16). *Reauthorization of Perkins*. Retrieved from

http://www2.ed.gov/policy/sectech/leg/perkins/index.html

Elliott, M. N., Hanser, L. M., and Gilroy, C. L. (2000). *Evidence of positive student outcomes in*

JROTC career academies. Santa Monica, CA: RAND Corporation.

Emeagwaui, N. (2011). Millennials: Leading the Charge for Change. *Techniques (Association*

For Career And Technical Education), 86(5), 22-26.

Fender, E. and Stern, D. (2010). Career Academies A Proven Model to Prepare Students for

College and Careers [PowerPoint Slides]. Retrieved from CCASN

website: http://casn.berkeley.edu/resources.php?r=307&c=21

Fennessy, B. (2008). Integrating CTE and Academics: One Student's Account. *Techniques:*

Connecting Education & Careers, 83(8), 47-48.

Ferguson, D. L., Hanreddy, A., & Draxton, S. (2011). Giving Students Voice as a Strategy for

Improving Teacher Practice. *London Review Of Education*, 9(1), 55-70.

Freire, P. (1993). *Pedagogy of the oppressed*. New York: Continuum.

Gaunt, D., & Palmer, L. (2005). Positive Student Attitudes Toward CTE (Career and Technical

Education). *Techniques: Connecting Education And Careers*, 80(8-), 44-47.

Gentry, M., Peters, S. J., & Mann, R. L. (2007). Differences between General and Talented

Students' Perceptions of Their Career and Technical Education Experiences Compared to

Their Traditional High School Experiences. *Journal of Advanced Academics*, 18(3), 372-

401. Retrieved from EBSCOhost.

Gilligan, C., (1982). *In a Different Voice*. Cambridge, Massachusetts, and London, England:

Harvard University Press.

Glenn, L. M., & Nikirk, F. (2009). How Career and Technical Education Can Jumpstart a New Industry. *Techniques (Association For Career And Technical Education), 84*(7), 26-29.

Goodenow, C. (1993). The Psychological Sense of School Membership Among Adolescents: Scale Development and Educational Correlates. *Psychology in Schools*, 30, 79-90.

Goodwin, B. (2012). For Positive Behavior, Involve Peers. *Educational Leadership*, *70*(2), 82-83.

Gray, K. (2004). Is High School Career and Technical Education Obsolete?. *Phi Delta Kappan*, 86(2), 128-134.

GUTEK, G. L. (2002). Pestalozzi, Johann (1746–1827). In J. W. Guthrie (Ed.), *Encyclopedia of Education* (2nd ed., Vol. 5, pp. 1874-1876). New York: Macmillan Reference USA. Retrieved from

http://go.galegroup.com.proxy.libraries.rutgers.edu/ps/i.do?id=GALE%7CCX3403200487&v=2.1&u=new67449&it=r&p=GVRL&sw=w

Handley, P. (2002). Every classroom teacher's dream. *Educational Leadership*, *59*(5), 33-35.

Haury, D. & Rillero, P. (1992). Hands-On Approaches to Science Teaching: Questions and Answers from the Field and Research. ERIC Clearinghouse for Science, Mathematics, and Environmental Education. Retrieved from http://eric.ed.gov/?id=ED349185

Hayward, B., and Talmadge, G. (1995) *Strategies for keeping kids in school.* Washington, DC: U.S. Department of Education.

Holloway, J. H. (2002). Do smaller classes change instruction?. *Educational Leadership*, *59*(5), 91-92.

Hyslop, A. (2009). The Role of Career Academies in Education Improvement. *Techniques: Connecting Education & Careers*, 84(6), 32-35.

Jagersma, J. (2010). Empowering Students as Active Participants in Curriculum Design and Implementation. Online Submission.

Kantor, H. and Tyack, D. eds. *Work, Youth, and Schooling: Historical Perspectives on Vocationalism in American Education*. Stanford, Ca: Stanford University Press, 1982. Retrieved September 6, 2012 from www.encyclopedia.com

Kemple, J. J. (with Willner, C. J.). (2008). Career Academies: Long-Term Impacts on Work, Education, and Transitions to Adulthood. From MDRC.org

Kidwai, S. (2011). Changing the Image of CTE. *Techniques (Association For Career And Technical Education), 86*(4), 16-19.

King, S. B., & West, D. (2009). Statewide Articulation Agreements between High Schools and Community College Career and Technical Programs. *Community College Journal Of Research & Practice*, 33(6), 527-532. doi:10.1080/10668920802662438

Kouzma, N. M. & Kennedy, G. A. (2002) HOMEWORK, STRESS, AND MOOD DISTURBANCE IN SENIOR HIGH SCHOOL STUDENTS. *Psychological Reports*: 91, pp. 193-198. doi: 10.2466/pr0.2002.91.1.193

Kouzma, N. M. & Kennedy, G. A. (2004) SELF-REPORTED SOURCES OF STRESS IN SENIOR HIGH SCHOOL STUDENTS. *Psychological Reports*: Volume 94, pp. 314-316. doi: 10.2466/pr0.94.1.314-316

Krueger, R. L. (1988). *Focus groups a practical guide for applied research*. Newbury Park, California: Sage Publications.

Lazonder, A.W., de Jong, F.P.C.M. (1999) Evaluation of transition in Dutch senior secondary vocational education. *Studies in Educational Evaluation*, Volume 25, 63-78.

Lewis, A. C. (2008). Climb Out of the Five-and-Dime Hole. *Phi Delta Kappan*. pp. 155-156.

Lewis, M. V., & Kosine, N. R. (with Overman, L.). (2008, October). *What will be the impact of programs of study? A preliminary assessment based on similar previous initiatives, state plans for implementation, and career development theory.* Louisville, KY: National Research Center for Career and Technical Education, University of Louisville.

Lichtman, F. (host). (2013, August 16). The stem gender gap. [transcript of radio broadcast]. *Science Friday*. Washington, DC: National Public Radio.

Mates, D., & Allison, K. R. (1992). Sources of stress and coping responses of high school students. *Adolescence*, 27(106), 461.

Martin, A. J., Anderson, M., & Adams, R. (2012). What Determines Young People's Engagement with Performing Arts Events?. *Leisure Sciences*, 34(4), 314-331. doi:10.1080/01490400.2012.687631

Maxwell, N. L., and Rubin, V. (1997). *The relative impact of a career academy on post-secondary work and education skills in urban, public high schools.* Hayward, CA: California State University, Hayward, School of Business and Economics, The Human Investment Research and Education Center.

Maxwell, N. L., and Rubin, V. (2000). *High school career academies: A pathway to educational reform in urban schools?* Kalamazoo, MI: W.E. Upjohn Institute for Employment Research.

Mbuva, J. (2011). An Examination of Student Retention and Student Success In High School, College, and University. *Journal Of Higher Education Theory & Practice*, 11(4), 92-101.

McPartland, J. M., Balfanz, R., Jordan, W., and Legters, N. (1998). Improving climate and achievement in a troubled urban high school through the Talent Development Model. *Journal of Education for Students Placed at Risk, 3,* 337–361.

Merriam, S. (1998). Chapter Six: Mining Data from Documents. *Qualitative Research and Case Study Application in Education*. p. 112-133.

Mitra, D. L. (2004). The Significance of Students: Can Increasing ''Student Voice'' in Schools Lead to Gains in Youth Development?. *Teachers College Record*, 106(4), 651-688.

Mitra, D. L. (2006). Student voice or empowerment? Examining the role of school-based youth-adult partnerships as an avenue toward focusing on social justice. *International Electronic Journal for Leadership in Learning*. 10(22), http://www.acs.ucalgary.ca/~iejll/.

Moocbida, C. (2004). Oracle Academy: Four Success Stories Model the Competitive Edge of CTE. *Techniques: Connecting Education & Careers*, 79(8), 50-54.

Moore, L. (2007). Preaching the word: Career and technical education. *Techniques*, 82(3), 48-51. Retrieved from http://search.proquest.com/docview/216140758?accountid=13626

Morgan, D. L. (1988). *Focus groups as qualitative research*. (16 ed.). Newbury Park, California: Sage Publications.

Morrison, S. J. (2001). THE SCHOOL ENSEMBLE. *Music Educators Journal*, 88(2), 24.

A Nation at Risk. (1983) In Archived Information. Retrieved from http://www2.ed.gov/pubs/NatAtRisk/risk.html

The national research center for career and technical education. (2012). Retrieved from http://www.nrccte.org/

New Jersey Council of County Vocational-Technical Schools. (2011). Career Tech NJ. Retrieved from http://www.careertechnj.org/

New Jersey Council of County Vocational-Technical Schools. (2011). New Jersey's County Vocational-Technical Schools: Career-focused public schools of choice. Retrieved from

http://www.careertechnj.org/wp-content/themes/careertechnj/docs/data_profile_2010-1.pdf

Newsweek. (2012). Best High Schools in America. Retrieved from

http://www.thedailybeast.com/newsweek/features/2012/americas-best-high-schools.html

Nieto, S. (2008). Culture and education. *Yearbook of the National Society for the Study of Education*. 107(1), 127-142. DOI: 10.1111/j.1744-7984.2008.00137.x

Noddings, N. (2000). From The Challenge to Care in Schools: An Alternative Approach to Education (1992). In Reed, R. F. & Johnson, T.W. (Eds.), *Philosophical Documents in Education* (247 – 257). New York: Longman.

NRCCTE research snapshot. (2011, July). Retrieved from

http://www.nrccte.org/sites/default/files/publications-snapshots/snapshots_pos_year3_joint_report.pdf

OCVTS School District. (2011) Ocean County Vocational Technical School District Website. Retrieved from http://www.ocvts.org

OCVTS School District. [OCVTS]. (2010, November 3). *OCVTS High School Career Academies Part One.* [Video file]. Retrieved from

http://www.youtube.com/watch?v=MOsGhN73Dgc

OCVTS School District. [OCVTS]. (2010, November 3). *OCVTS High School Career Academies Part Two.* [Video file]. Retrieved from

http://www.youtube.com/watch?v=MOsGhN73Dgc

Orenstein, P. (1994). *School girls: Young women, self-esteem, and the confidence gap*. New York: Doubleday.

Orr, M.T, Bailey, T., Hughes, K.L., Karp, M.M. and Kienzl, G.S. (2004.) *The National Academy Foundation's Career Academies: Shaping Postsecondary Transitions. Institute on Education and the Economy*, Teachers College, Columbia University.

Park, T., Pearson, D., & Sawyer, J. (2011). Changing Approaches—Changing Perspectives. *Techniques (Association For Career And Technical Education), 86*(4), 20-23.

Philadelphia Academies, Inc. (2011). History. In *Philadelphia Academies, Inc*. Retrieved September 18 2013, from http://www.academiesinc.org/history.

Pipher, M. (1994). *Reviving Ophelia saving the selves of adolescent girls*. New York: Ballantine Books.

Predmore, S. R. (2005). Putting it into Context. *Techniques: Connecting Education And Careers*, 80(1), 22-25.

Patton, M. Q. (1990). Qualitative Interviewing. In M. Patton, *Qualitative research and evaluation methods* (2nd ed., pp. 277-367). Thousand Oaks, CA: Sage.

Patton, M. Q. (2002). *Qualitative research and evaluation methods*. Thousand Oaks, CA: Sage. pp. 385-418

Pittman, R.B. and Haughwout, P. (1987). Influence of High School Size on Dropout Rate. *Educational Evaluation and Policy Analysis*, 9(4). pp. 337-343

Rabiee, F. (2004). Focus-group interview and data analysis. *Proceedings of the Nutrition Society*, 63. P 655-660. DOI:10.1079/PNS2004399

Ravitch, D. (2000). *Left back a century of battles of school reform*. New York: Touchstone.

Ravitch, D. (2010). *Life and Death of the Great American School System*. New York: Basic Books.

Raywid, M.A. (1997/1998). Small Schools: A Reform That Works. *Educational Leadership*.

Reese, S. (2001). Painting a positive picture. *Techniques*, 76(6), 20-23.

http://search.proquest.com/docview/216109122?accountid=13626

Reese, S. (2011). ADVOCACY on the FRONT LINES of CTE. *Techniques (Association For Career And Technical Education)*, 86(6), 24-27.

Reese, S. (2012). FULFILLING THE PROMISE THROUGH CTE. (Cover story). *Techniques: Connecting Education & Careers*, 87(4), 16-21.

Reller, D. (1984). *The Peninsula Academies: Final technical evaluation report.* Palo Alto, CA: The American Institutes for Research.

Reller, D. J. (1985). *The Peninsula Academies, interim evaluation report, 1984–85 school year.* Palo Alto, CA: American Institutes for Research

Rhonda, M. (2011). Motivation Predictors of College Student Academic Performance and Retention. *Journal Of College Student Retention: Research, Theory & Practice*, 13(1), 1-15.

Ryan, S. & Lobman, C. The Potential of Focus Groups to Inform Policy and Practice. In Hatch, J. A. (Ed.). (2006). *Early Childhood Qualitative Research*. London: Routledge-Falmer.

Salvatori, P. (2001). Reliability and validity of the admissions tools used to select students for the health professions. *Advances in Health Sciences Education*, 6, 159-175.

Sarason, S. B. (1996). *Revisiting "the culture of the school and the problem of change"*. New York: Teachers College Press.

Scheer, Scott D., Gavazzi, Stephen M., and David G. Blumenkrantz. 2007. Rites of passage during adolescence. *The Forum for Family and Consumer Issues*, 12 (2).

Shochet, I. M., Dadds, M. R., Ham, D., & Montague, R. (2006). School connectedness is an

underemphasized parameter in adolescent mental health: Results of a community

prediction study. *Journal of Clinical Child and Adolescent Psychology, 35,* 170−179.

Smith, J. B. (1997). Effects of eighth-grade transition programs on high school retention and

experiences. *Journal Of Educational Research*, 90. p.144-152.

Smyth, J. (2006). Educational leadership that fosters 'student voice'. *International Journal Of*

Leadership In Education, 9(4), 279-284.

State of New Jersey Department of Education. (2010). Career and Technical Education.

Retrieved from http://www.nj.gov/education/cte/

Stern, D. (1999). Improving Pathways in the United States from High School to College and

Career. *Preparing Your for the 21st Century The Transition from Education to the Labour*

Market.

Stern, D. (2003). Career Academies and High-School Reform before, druing, and after the

School-to-Work Movement. *The School-to-Work Movement Origins and Destinations*.

Eds. Stull, W.J. and Sanders, N.M.

Stern, D. (2010). *From Vocational Education to Career-Technical Education: A Capsule History*

and Summary of Research. Retrieved from http://www.edutopia.org/stw-career-technical-

education-research-roundup#stern

Stern, D., Dayton, C., and Raby, M. (2010) Career Academies: A Proven Strategy to Prepare

High School Students for College and Careers. CASN.

Stern, D., Dayton, C., Paik, I., Weisberg, A., & Evans, J. (1988). Combining academic and

vocational courses in an integrated program to reduce high school dropout rates: Second-

year results from replications of the California Peninsula Academies. *Educational*

Evaluation and Policy Analysis, 10, 161−170.

Stern, D., Dayton, C., Paik, I., & Weisberg, A. (1989). Benefits and costs of dropout prevention in a high school program combining academic and vocational education: Third-year results from replications of the California Partnership Academies. *Educational Evaluation and Policy Analysis, 11,* 405–416.

Stern, D., Wu, C., Dayton, C., and Maul, A. (2005). *Learning by Doing Career Academies*. Prepared for a conference on school-to-work research and practice, Russell Sage Foundation. New York City, May 17-18, 2004.

Stewart, D. W., & Shamdasani, P. N. (1990). *Focus groups: Theory and practice*. (Vol. 20). Newbury Park, California: Sage Publications.

TAŞ, A., SELVİTOPU, A., BORA, V., & DEMİRKAYA, Y. (2013). Reasons for Dropout for Vocational High School Students. *Educational Sciences: Theory & Practice*, 13(3), 1561-1565. doi:10.12738/estp.2013.3.1398

Tews, N. M. (2011). Integrated Curricula: Implementing English and Math Credit into CTE. *Techniques: Connecting Education And Careers*, 86(1), 44-47.

Tyack, D. & Cuban, L. (1995). *Tinkering Towards Utopia*. Cambridge: Harvard University Press.

University of California. (n.d.). Resources. In College & Career Academy Support Network. Retrieved September 18 2013, from http://casn.berkeley.edu/resources.php.

University of California. (n.d.). Career Academies: An Overview. In College & Career Academy Support Network. Retrieved September 18 2013, from http://casn.berkeley.edu/resource_files/CareerAcademies_overview.pdf

University of North Texas. (2011, July). *CTE history of legistlation*. Retrieved from http://cte.unt.edu/about/history-of-legislation

US News and World Report. (2012). STEM Schools Best High Schools. Retrieved from

    http://www.usnews.com/education/best-high-schools/national-rankings/stem.

Vander Ark, T. (2002). The case for small high schools. *Educational Leadership*, *59*(5), 55-59.

Wasley, P.A. and Lear, R. J. (2001) Small Schools, Real Gains. *Educational Leadership, 58*(6).

Wasley, P.A. (2002). Small classes, small schools the time is now. *Educational Leadership, 59*(5). Retrieved from

    http://www.ascd.org/publications/educational-leadership/feb02/vol59/num05/Small-

    Classes,-Small-Schools@-The-Time-Is-Now.aspx

Watt, K. W., Johnston, D., Huerta, J., Mendiola, I., & Alkan, E. (2008). Retention of First-Generation College-Going Seniors in the College Preparatory Program AVID. *American Secondary Education*, 37(1), 17-40.

Williams, C. (2012). A Culture Shift Transforms Achievement in West Virginia. *District Administration*, *48*(9), 94-95.

Wonacott, M. E., & ERIC Clearinghouse on Adult, C. H. (2002). *Dropouts and Career and Technical Education. Myths and Realities*.

Appendix A: Parental Consent Form

Using Student Experiences to Rethink Vocational Education

Your child is invited to participate in a research study that is being conducted by Erin Conti, who is a student in the Graduate School of Education at Rutgers University. The purpose of this research is to learn about experiences and perceptions of attending and studying at an academy in a vocational technical school district. This study is being conducted Erin Conti, who is a graduate student at Rutgers University. She is doing the study in order to complete requirements for her doctoral program.

Approximately 15 subjects between the ages of 15 and 21 years old will participate in the study, and each individual's participation will last approximately two hours. With your permission and your child's permission these focus groups will be audiotaped. In addition each student will produce a short writing sample and may be observed in English class once over the fall term.

- Writing Sample: At the conclusion of the focus group, each student will be instructed to think about a writing task that will be assigned. Then, the student will be asked to type his/her response and email it to me.

- Observation: These will not require anything additional from your student. I will simply observe them during their English class and may take pictures or samples of some of their work (no originals).

- Focus groups: These will take place during the school day at your student's school. There will be one focus group meeting, lasting approximately two hours. Your student is responsible for making up any missed work during this time.

There are no foreseeable risks to participation in this study. Participation in this study is voluntary. You may choose not to participate, and you may withdraw at any time during the study procedures without any penalty to you. In addition, you may choose not to answer any questions with which you are not comfortable.

This research is confidential. Confidential means that the research records will include some information about your child and this information will be stored in such a manner that some linkage between your child's identity and the response in the research exists. Some of the information collected about your child includes their name, age, and school. I will keep this information confidential by limiting individual's access to the research data and keeping it in a secure location. The research team and the Institutional Review Board at Rutgers University are the only parties that will be allowed to see the data, except as may be required by law. If a report of this study is published, or the results are presented at a professional conference, only group results will be stated, unless you have agreed otherwise. All study data will be kept for at least three years and destroyed upon final completion of study.

Initial_____

If you have any questions about the study or study procedures, you may contact me at:
EConti@mail.ocvts.org
195 Cedar Bridge Road
Manahawkin, NJ 08050
609-978-8436 x 4017

You can also contact my Faculty advisor, Sharon Ryan, at:
sharon.ryan@gse.rutgers.edu
10 Seminary Place
New Brunswick NJ 08901
732-932-7496 x 8114

If you have any questions about your rights as a research subject, you may contact the Sponsored Programs Administrator at Rutgers University at:

Rutgers University Institutional Review Board for the Protection of Human Subjects
Office of Research and Sponsored Programs
3 Rutgers Plaza
New Brunswick, NJ 08901-8559
Tel: 848 932 4058
Email: humansubjects@orsp.rutgers.edu

Your child will also be asked if they wish to participate in this study. You will be given a copy of this consent form for your records. Sign below if you agree to allow your child to participate in this research study:

Name of Child (Print) _____

Name of Parent/Legal Guardian (Print)_____
Parent/Legal Guardian's Signature _____ Date _____

Principal Investigator Signature _____ Date _____

AUDIOTAPE ADDENDUM TO CONSENT FORM

You have already agreed to allow your child to participate in a research study entitled Using Student Experiences to Rethink Vocational Education conducted by Erin Conti. I am asking for your permission to allow me to audiotape (sound) your child as part of that research study. The recording(s) will be used for analysis by Erin Conti for research purposes.

The recording(s) will be confidential. Confidential means that the research records will include some information about you, such as your name, age and school location. I will keep this information confidential by limiting individual's access to the research data and keeping it in a secure location.

The photographs and recording(s) will be stored in a locked file cabinet with no link to subjects' identity and will be retained for approximately one year and then destroyed upon completion of the study results.

Your signature on this form grants the investigators named above permission to record your child as described above during participation in the above-referenced study. The investigator will not use the recording(s) for any other reason than that/those stated in the consent form without your written permission.

Name of Participant (Print) _____

Participant's Signature _____ Date _____

Principal Investigator Signature _____ Date _____

Name of Child (Print) _____

Name of Parent/Legal Guardian (Print) _____

Parent/Legal Guardian's Signature _____ Date _____

Principal Investigator Signature _____ Date _____

Appendix B: Graduate Consent Form

Using Student Experiences to Rethink Vocational Education

You are invited to participate in a research study that is being conducted by Erin Conti, who is a student in the Graduate School of Education at Rutgers University. The purpose of this research is to learn about experiences and perceptions of attending and studying at an academy in a vocational technical school district. This study is being conducted Erin Conti, who is a graduate student at Rutgers University. She is doing the study in order to complete requirements for her doctoral program.

Approximately 15 subjects between the ages of 15 and 21 years old will participate in the study, and each individual's participation will last approximately two hours. Your participation will involve an interview with Mrs. Conti. With your permission, this interview will be audiotaped.

There are no foreseeable risks to participation in this study. Participation in this study is voluntary. You may choose not to participate, and you may withdraw at any time during the study procedures without any penalty to you. In addition, you may choose not to answer any questions with which you are not comfortable.

This research is confidential. Confidential means that the research records will include some information about you and this information will be stored in such a manner that some linkage between your identity and the response in the research exists. Some of the information collected about you includes your name, age, and school. I will keep this information confidential by limiting individual's access to the research data and keeping it in a secure location. The research team and the Institutional Review Board at Rutgers University are the only parties that will be allowed to see the data, except as may be required by law. If a report of this study is published, or the results are presented at a professional conference, only group results will be stated, unless you have agreed otherwise. All study data will be kept for at least three years and destroyed upon final completion of study.

If you have any questions about the study or study procedures, you may contact me at:

EConti@mail.ocvts.org
195 Cedar Bridge Road
Manahawkin, NJ 08050
609-978-8436 x 4017

You can also contact my Faculty advisor, Sharon Ryan, at:

sharon.ryan@gse.rutgers.edu
10 Seminary Place
New Brunswick NJ 08901
732-932-7496 x 8114

Initial ____

Rutgers University Institutional Review Board for the Protection of Human Subjects
Office of Research and Sponsored Programs
3 Rutgers Plaza
New Brunswick, NJ 08901-8559
Tel: 848 932 4058
Email: humansubjects@orsp.rutgers.edu

Sign below if you agree to participate in this research study:

Name (Print) _____

Signature _____ Date _____

Principal Investigator Signature _____ Date _____

AUDIOTAPE ADDENDUM TO CONSENT FORM

You have already agreed to allow your child to participate in a research study entitled Using Student Experiences to Rethink Vocational Education conducted by Erin Conti. I am asking for your permission to allow me to audiotape (sound) your child as part of that research study. The recording(s) will be used for analysis by Erin Conti for research purposes.
The recording(s) will be confidential. Confidential means that the research records will include some information about you, such as your name, age and school location. I will keep this information confidential by limiting individual's access to the research data and keeping it in a secure location.

The photographs and recording(s) will be stored in a locked file cabinet with no link to subjects' identity and will be retained for approximately one year and then destroyed upon completion of the study results.

Your signature on this form grants the investigators named above permission to record your child as described above during participation in the above-referenced study. The investigator will not use the recording(s) for any other reason than that/those stated in the consent form without your written permission.

Name of Participant (Print) _____

Participant's Signature _____ Date _____
Principal Investigator Signature _____ Date _____

Appendix C: Assent Form

Career and Technical Education (CTE) Perceptions and Experiences

You are invited to take part in a research study about experiences and perceptions of attending and studying at an academy in a vocational technical school district. This study is being conducted Erin Conti, who is a graduate student at Rutgers University. She is doing the study in order to complete requirements for her doctorate.

If you agree to participate, you will be asked to participate in one focus group that will last approximately 2 hours, during your school day; you will also complete a short writing assignment that you can take home and email when you are finished. You will be responsible for obtaining any work missed in your absence from class.

Your grades will not be affected in any way by your decision to participate or not participate in the study. You will not receive any benefits from taking part in this study; however, your answers may increase understanding of the factors that impact both the Performing Arts Academy and The Marine Academy of Technology and Environmental Science.

One of your parents will also be required to provide permission for you to participate in the study, and they will be given a phone number for Mrs. Conti, in case you or your parents have any questions about the research. They will also have a phone number for the Office of Research and Sponsored Programs at Rutgers University, in case there are any questions about your rights as a research subject. You will be given a copy of this form to keep.

It's completely up to you! Both you and your parent or guardian have to agree to allow you to take part in this study. If you choose to not take part in this study, I will honor that choice. No one will get angry or upset with you if you don't want to do this. If you agree to take part in it and then you change your mind later, that's OK too. It's always your choice!

Your parent or guardian will also be asked if they wish for you to participate in this study. You will be given a copy of this form for your records.

If you agree to participate in the study, please sign below:

Student signature _____ ____ Date _____

Student name (printed) _____ Date _____

Investigator signature _____ Date _____

Appendix D: Current Student Focus Group Protocol

1. Introduction by moderator
2. Introduction of students. Students will state their
    a. name,
    b. age,
    c. homeschool, and
    d. grade level
3. How did you become part of the vocational high school?
    a. What was it about [PAA/MATES] that initially attracted you to the program?
    b. Did your friends from middle school apply/enroll here, too?
4. What are your classes like at [PAA/MATES]?
    a. Describe a typical class.
    b. What do you like about your classes? Dislike?
    c. What are the benefits of being in your classes?
    d. What are the challenges of your classes/program?
5. What is your experience like at [PAA/MATES]?
    a. What does a typical school day look like for you?
    b. What is a benefit of being in your program?
    c. What is a challenge?

We've been discussing how you became involved with your program and what it means to be a part of it from an insider perspective. Now I would like to know what other people think about your daily experiences.

6. If you were to discuss [PAA/MATES] with your friends, what would I hear?
    a. What do your friends say about [PAA/MATES] in your home school?
    b. What do your friends say about your home school at [PAA/MATES]?
    c. Have any of your friends left the program?
        i. What point (grade) did they leave?
        ii. What was their reason for leaving?
        iii. What sort of conversation/interaction did you have with them about leaving?

You are the experts on what it means to be a student at [PAA/MATES]. Sometimes people don't always ask the most obvious experts for their opinions. I want to know what you think about your experiences in CTE.

7. What would you change about [PAA/MATES]? Why?
    a. How would you improve the school (not related to academics)?
    b. What would you change about the academics?
    c. What advice would you give to the administration or Board of Education?
8. Suppose I was an eighth grade student considering enrolling in either PAA or MATES. What advice would you give me to facilitate a decision between regular HS and [PAA/MATES]?

Appendix E: Non-academy Student Interview Protocol

Date: Interviewer:
Place: Interviewee:

1. Introduction by moderator
2. Student Background
    a. name,
    b. age,
    c. previous academy
    d. current school, and
    e. grade level
3. How did you hear about [PAA/MATES]?
4. What was it about [PAA/MATES] that initially attracted you to the program?
    a. Did anyone influence your decision to attend?
    b. Did you know anyone who had attended or was going to attend?

We've been discussing how you became involved with your program and what it means to be a part of it from an insider perspective. Now I would like to know what affected your decision to leave the program and return to your homeschool.

5. Tell me about your decision to leave [PAA/MATES].
    a. What influenced your decision to leave [PAA/MATES]?
    b. How did you feel about leaving?
    c. Did you tell any of your friends at [PAA/MATES] that you were leaving?
        i. What was their reaction?
        ii. Did they try to "talk you out of it" or encourage you to leave?
    d. What, if anything, do you miss at [PAA/MATES]?
    e. What were the challenges of [PAA/MATES]?
    f. What were the benefits of [PAA/MATES]?

After making the decision to return to your homeschool, I am sure your friends at your academy and your friends from your homeschool had reactions to your decision. I would like to know more about that.

6. If you were to discuss [PAA/MATES] with your friends, what would I hear?
    a. Do you ever wish you were still there? Why or why not?
    b. If you could go back to talk to your eighth grade self, what advice would you give yourself regarding attending [PAA/MATES]?
7. How do the classes in your current school compare to [PAA/MATES] classes?
8. What would you change about [PAA/MATES]? Why?
9. Suppose I was an eighth grade student considering enrolling in either PAA or MATES. What advice would you give me to facilitate a decision between regular HS and [PAA/MATES]?

Appendix F: Academy Graduate Interview Protocol

Date: Interviewer:
Place: Interviewee:

1. Introduction by moderator
2. Student background
   a. name,
   b. age,
   c. homeschool, and
   d. current "position" (working, unemployed, college student [then location, major, etc.], etc.
3. How did you become part of the vocational high school?
4. What was it about [PAA/MATES] that initially attracted you to the program?

We've been discussing how you became part of the academy, but now I want to know what other people think about what goes on in an academy.

5. If you were to discuss [PAA/MATES] with your friends, what would I hear?
   a. What did your friends say about [PAA/MATES] in your home school?
   b. What did your friends say about your home school at [PAA/MATES]?
   c. If at college/working: What do your college/work friends say about your high school experience at [PAA/MATES]?
   d. What are the benefits of [PAA/MATES]?

I am sure you have reflected on what it meant to be part of [PAA/MATES] instead of your homeschool. I wonder what this has meant to you after leaving the academy.

6. What were the challenges of [PAA/MATES]?
7. How has your time at [PAA/MATES] impacted your decisions/plans after leaving the academy?
8. What would you change about [PAA/MATES]? Why?
   a. How would you improve the school (not related to academics)?
   b. What would you change about the academics?
   c. What advice would you give to the administration or Board of Education?
9. Suppose I was an eighth grade student considering enrolling in either PAA or MATES. What advice would you give me to facilitate a decision between regular HS and [PAA/MATES]?

Appendix G: Writing Sample

Imagine that an alien has landed in the parking lot of your school. It wanders into your building and is rooted to the floor with fascination. What has it seen? Write with as much detail as possible what goes on during your school day. Please start when you step out your door in the morning. Be as descriptive and informative as possible. Maybe this alien wants to open up its very own [PAA/MATES]

Appendix H: Focus Group Sample

Name	Grade	Sex	Academy*	Type	Reason Selected**
Colleen	11	F	MATES	current	4
Keri	11	F	PAA	current	5
Chuck	12	M	MATES	current	1
Ariana	12	F	MATES	current	1
Christina	12	F	PAA	current	3
Zack	10	M	MATES	current	3
Patty	10	F	PAA	current	4
Stephanie	10	F	MATES	current	3
Jillian	12	F	MATES	current	4
Tyler	10	M	MATES	current	3
Dina	10	F	PAA	current	5
Meg	12	F	MATES	current	1
Jacob	9	M	MATES	current	3
Carl	11	M	MATES	current	2
Michelle	18	F	MATES GRAD	graduate	graduate
Jake	19	M	MATES GRAD	graduate	graduate
Sue	9	F	(PAA)	former	N/A
Lindsay	11	F	(PAA)	former	N/A
Chelsea	11	F	(MATES)	former	N/A
Bill	9	M	(MATES)	former	N/A
Adele	11	F	(MATES)	former	N/A
James	12	M	(MATES)	former	N/A
Briana	9	F	(MATES)	former	N/A
Kaitlyn	9	F	(MATES)	former	N/A
Violet	12	F	(MATES)	former	N/A
Patrick	9	M	(MATES)	former	N/A
Walt	9	M	(MATES)	former	N/A

* ( ) denotes former academy

**Reason Selected Key	
1	Doing well academically
2	May be failing
3	Expressed interest in leaving
4	High level of involvement
5	Not involved in anything