

The Pennsylvania State University

The Graduate School

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**DIFFERENCES OF OPINION AMONG  
MAJOR STAKEHOLDERS OF THE NORTH MONTCO TECHNICAL  
CAREER CENTER TOWARD THE CENTER'S CURRENT EDUCATIONAL  
DELIVERY SYSTEMS, OPERATIONAL FACILITIES, AND PROGRAM OFFERINGS**

A Thesis in

Workforce Education and Development

By

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## ABSTRACT

This dissertation represents a live assessment study of the North Montco Technical Career Center's (NMTCC) instructional delivery systems, operational facilities, and program offerings. NMTCC's administration and Joint Operating Committee contracted the Pennsylvania State University (PSU) to conduct an in-depth analysis of the facility's infrastructure. North Montco TCC is a career and technical center located in Northern Montgomery County, Pennsylvania.

This study focused on several issues: (a) The delivery system options available to North Montco TCC; (b) the cost effectiveness of NMTCC programs; (c) the possible expansion of technical program offerings to reflect the changing employment needs of the community; and (d) the viability of the current physical plant and options for expansion to accommodate the increasing student enrollment. The purpose of the study was to determine the most efficient and effective delivery system for North Montco TCC and its participating school districts (e.g., half day sessions, comprehensive technical school). The goals of the study included: (a) A complete review of existing data; (b) an analysis of the current delivery system; (c) researching options based on cost and impact to the sending school districts, business and industry, parents and students, instructional staff, and other partners of NMTCC.

The literature review in this dissertation focused on educational delivery systems, including Tech Pep, career academies, distance education, and state vocational education delivery models. Partnerships between schools and business and apprenticeships were also discussed.

Although possible solutions gleaned from this study may be unique to North Montco TCC's situation, the research methodology employed in this study will most likely be the

component that can be utilized by the administration of other career and technical centers, should they choose to determine the feasibility of their delivery systems and facilities. A mixed methods research design was used to conduct this study. Data collection was accomplished through a survey instrument distributed to a larger group of participants and through personal in-depth interviews with a smaller sampling of key stakeholders.

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## Preface

This dissertation developed from a live assessment study of the North Montco Technical Career Center's (NMTCC) instructional delivery systems, operational facilities, and program offerings. NMTCC's administration and Joint Operating Committee contracted the Pennsylvania State University (PSU) to conduct an in-depth analysis of the facility's infrastructure. Frederick D. Loomis, Ph.D., Associate Professor, Director, Workforce Education and Development, College of Education, Workforce Education and Development Outreach Initiative, Office of Economic and Workforce Development, Penn State Outreach served as head of the assessment team. The team interviewed the key NMTCC stakeholders; developed and implemented the stakeholders' survey; reported the results to the NMTCC Joint Operating Committee; and recommended changes to the instructional delivery system, operational facilities, and program offerings.

Dr. Kenneth Gray, Professor of Workforce Education and Development, and Dr. Richard Walter, Associate Professor and Director of Professional Personnel Development Center in Career and Technical Education served as expert consultants in the field of workforce education. They provided invaluable information about the history of and trends in workforce education; the analysis of NMTCC's delivery system; and recommendations for changing the current delivery system, technical programs, and facility.

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## **Chapter 1**

### **Introduction**

This dissertation developed from a live assessment study of the North Montco Technical Career Center's (NMTCC) instructional delivery systems, operational facilities, and program offerings. NMTCC's administration and Joint Operating Committee contracted the Pennsylvania State University (PSU) to conduct an in-depth analysis of the facility's infrastructure. Frederick D. Loomis, Ph.D., Associate Professor, Director, Workforce Education and Development, College of Education, Workforce Education and Development Outreach Initiative, Office of Economic and Workforce Development, Penn State Outreach served as head of the assessment team. The team interviewed the key NMTCC stakeholders; developed and implemented the stakeholders' survey; reported the results to the NMTCC Joint Operating Committee; and recommended changes to the instructional delivery system, operational facilities, and program offerings.

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#### *Historical Perspectives*

North Montco Area Vocational Technical School (NMAVTS) was built in 1968 to serve students who wished to enroll in vocational technical programs in North Penn, Wissahickon,

Souderton, Perkiomen Valley, and Methacton school districts. By 1977, 1100 students attended the school, which primarily focused on providing vocational rather than academic education.

As Lynch (2000, p.44) stated, “Enrollments in high school vocational education increased unabated until the early 1980’s.” Most secondary vocational technical schools enjoyed similar success in enrollment until this period. Gray (1996, p. 88) described the beginning of the 1980’s as follows:

The old vocationalism began to unravel as students’ enrollment in vocational education suddenly, and dramatically, began to decline. Students and parents concluded that jobs in traditionally high-paying manufacturing industries and other industrial sectors they associated with traditional vocational education were disappearing. The world of work implicit in the old vocationalism became suspect. In the eyes of the public the only thing that seemed to be at all certain was the increasingly publicized idea that college graduates made more money than high school graduates.

*Declining enrollment.* By 1984, student enrollment at NMAVTS had dwindled to 800. Several factors influenced the declining numbers: (a) The federal government issued the document *A Nation at Risk* (1984) shifted the educational focus to academics, (b) parents perceived college as the only road to a good future, and (c) the stigma attached to the vocational technical school students by their academic peers made it socially unacceptable to attend the school (Lucas, 2004).

By 1993, NMAVTS’ enrollment dropped to 420 students. Discussion within the community began deciding if NMAVTS should remain open. Thanks to the support of parents and students, the school continued operations. At that time the administration and the Joint

Operating Committee adapted the curriculum that emphasized blue-collar occupations to those that were associated with white-collar occupations. This curricular shift more accurately reflected the changing community (North Montco Technical Career Center [NMTCC] Strategic Plan, 2002).

*New initiatives.* In 1992, NMAVTS joined *High Schools That Work*. This program specified the following key practices: (a) High expectations for student learning, (b) rigorous career and technical courses, (c) more required academic courses, (d) learning in work environments, (e) collaboration among academic and technical teachers, (f) an individualized advisee system, (g) active encouragement of students' interests; (h) extra academic assistance outside of school and during the summer, (i) use of assessment data to improve students' learning (Lynch, 2000, p.51).

The school administration aligned itself with the Tech Prep initiative to better coordinate the articulation between academics and technical courses. The Tech Prep program enabled students who wanted to enroll in an NMAVTS program and, at the same time, also planned to participate in postsecondary education. (NMTCC Strategic Plan, 2002).

In 1993, NMAVTS began soliciting support from local business and industry partners. The Pennsylvania Youth Apprenticeship Program (PAYAP) was established. The school's brochure *Your Future is Here* (2003) described PAYAP as "a combined effort of business, industry and education to develop a program of study that ensures that students will possess the appropriate skills for future employment in their chosen fields." All 11<sup>th</sup> and 12<sup>th</sup> grade students are eligible to participate in this program.

*Programmatic changes.* Career clustering was introduced in 1994. In the same year, the school was renamed from North Montco Area Vocational Technical School to North Montco



Technical Career Center (NMTCC) to more accurately reflect the curricular changes.

Additionally it was hoped the stigma of being a “techie” would diminish. (NMTCC Strategic Plan, 2002).

From 1995 to 1999, North Montco TCC added the following programs to their course offerings: Protective Services, Engineering Technology, Horticulture, Parts and Service (part of the Automotive program), and Biotechnology. In 1995, NMTCC joined the German American Partnership Program (GAPP), beginning an exchange program with a German technical school. The administration hired a German language teacher to instruct students in preparation for their visits to Germany (NMTCC Strategic Plan, 2002).

The NMTCC administration, instructional staff, community, and area businesses worked together to improve the curriculum and introduce new programs and initiatives. In 1998, an addition to the facility was built to accommodate new programs, including freshman enrollment. The ninth grade students participated in a career exploration program for the first time, sharing in hands-on experiences in several career cluster areas. During that same year, the Center changed its schedule from two half-day sessions to three shorter sessions lasting approximately two hours each (NMTCC Strategic Plan, 2002).

Two full-time programs were also started in 1998: Cosmetology and a full-time tenth grade option (NMTCC Strategic Plan, 2002). Students who wished to participate in PAYAP enrolled in the Center’s full-time 10th-grade program. During their initial year in this program, students participate in integrated academic and vocational classes. During their junior and senior years, participants spend two full days per week working under a mentor with a local employer. PAYAP students spend the remaining days at the Career Center, at which time they receive instruction in the academic skills required to perform their jobs (*Your Future is Here*, 2003).

*Increasing enrollment.* Between the 2000-2001 school years, NMTCC's enrollment increased by 270 students. As this study began (i.e., 2004-05 school year) enrollment was 1,362 students. The NMTCC Director estimated the Center would reach capacity by the 2006-2007 school year (M. Lucas, personal communication, August 30, 2004).

Enrollment steadily rose in all of the Center's participating school districts between 2001 and 2006. The Souderton School District constructed a new high school in 2005; in 2004, Perkiomen Valley reached its debt limit for expansion (M. Lucas, personal communication, August 30, 2004).

*Planning for the future.* In 2002, NMTCC held a Future Search Conference to discuss the current situation at NMTCC, and possibilities for its potential. Several themes emerged from the various groups attending the conference. Students expressed the following concerns: (a) too much cluster time, (b) desire for additional foreign languages, (c) not enough communication with home school, (d) would like more partnerships with colleges, (e) connectivity with home school, (f) and not enough information available about the Pennsylvania Youth Apprenticeship Program (*Imagine NMTCC: Partnering to Grow Our Future*, 2002).

Some of the concerns expressed by the faculty included (a) absence of instructional space, (b) lack of contact hours to meet with students, (c) lack of training to meet needs, (d) demand for more technical and academic integration, (e) full-time instruction for 10<sup>th</sup> graders, (f) need more technology to teach, (g) want to become a comprehensive high school, (h) facility should be upgraded, (i) lack of contact with home school teachers, (j) retention rate is not as high as it should be, and (k) want more project based instruction (*Imagine NMTCC: Partnering to Grow Our Future*, 2002). Faculty concerns focused on facility and delivery options.

NMTCC administrators enumerated concerns in these areas: (a) need for adequate staff, (b) desire to have more full day programs, (c) partnerships with business and industry, (d) more academic and vocational integration, (e) more options for students with special needs, (f) explore satellite programs and video conferencing, (g) initiating more involvement with home school counselors and teachers, (h) lack of resources to offer more options, and (i) home schools underutilizing the NMTCC facility as a resource (*Imagine NMTCC: Partnering to Grow Our Future*, 2002). The majority of their concerns focused on curricular issues.

Attendees from the business and industry community stated the following concerns: (a) balancing the Center's budget with limited resources, (b) increased need for career awareness K - 12, (c) more summer opportunities for adults, (d) create new or update current programs as needed, (e) obtain national industry certification of programs, (f) need to find better ways to produce more qualified employees, (g) need to develop work ethic in students, (h) need to expand summer career camp, and (i) should have more adult education opportunities (*Imagine NMTCC: Partnering to Grow Our Future*, 2002).

As stated in the preceding paragraphs, the various groups expressed similar concerns. Common among these were better communications with the home schools, upgrading NMTCC and its program offerings, expanding partnerships between the Center and local businesses, and increasing funding for technology and program improvement.

### *The Problems*

*Increasing enrollment.* During the 1980's, North Montco Technical Career Center faced closure. Through an honest assessment of their school, the administration began responding to the needs of local businesses and a changing community base by developing new course offerings. This action, in combination with the willingness of the administration and teaching

staff to embrace new educational initiatives, stimulated student enrollment from the late 1990's to the present. The increasing enrollment has evolved into a new problem; the building will soon reach capacity (1,650 students), potentially denying admission to future students (Lucas, 2004).

*Transportation and time management.* Transportation to and from NMTCC is a problem for several of the participating schools: Methacton, Perkiomen Valley, Souderton, and Wissahickon. Their students travel 40 – 45 minutes to reach the Center. NMTCC is somewhat unique, offering three two-hour sessions per day instead of two half-day sessions. Each district transports students to all three sessions, tripling costs when compared with career and technology centers where students are enrolled for a half day. The long commute, combined with the shortened three session instructional time, results in students receiving fewer than the State requirement of 990 instructional hours per year. As a consequence, the Pennsylvania Department of Education (PDE) could penalize the school districts in the NMTCC consortium for not meeting this guideline.

Likewise, the three-session schedule decreases each instructional period to fewer than two hours. This has become a major concern, as the high school principals in these districts state that technical students do not meet the State requirement of 990 clock hours of instruction per year as a result of the time lost en route (Lucas, 2004).

*Too many delivery options.* North Montco TCC offers its clientele a plethora of delivery options. Students may attend one of the three sessions each day. Others attend the full-time 10th-grade program, taking both their academics and vocational courses at NMTCC. Some students participate in PAYAP, in which they work two days per week in a local business and attend academic classes at the Center three days per week. Cosmetology students may attend one session per day, or may participate in the full-time program (*Your Future is Here*, 2003).

The Administrative Director of NMTCC expressed the following opinion regarding the current delivery systems and how the sending school district superintendents perceive these:

The Board and the area superintendents are very supportive of NMTCC, but several are new to the area and their positions. They are raising good questions about program, physical plant, and budget. The overarching strategic issue is that the leadership team feels that there may be too many delivery system options and too many programs to be cost effective as a career and technical center (M. Lucas, personal communication, August 30, 2004).

It appeared from the Director's statement that NMTCC is attempting to be the proverbial "all things to all people." By doing so, however, the Center's delivery systems may not be operating in the most efficient and effective manner.

*Cost effectiveness.* North Montco TCC's Pennsylvania Youth Apprenticeship Program continues to be a very popular program, especially with the student participants and their parents. Local employers also strongly support the program despite the substantial costs involved in maintaining the program. The Center employs six academic teachers to instruct the 50 students who are enrolled in PAYAP. The Director and superintendents in the consortium are concerned over the cost effectiveness of the program (M. Lucas, personal communication, October 1, 2004).

The NMTCC administration and school district superintendents question the cost effectiveness of the full-time Cosmetology program. The superintendents are searching for alternatives to the program, including sending their students to non-public beauty academies in the local community (M. Lucas, personal communication, October 1, 2004). The tuition for the

Center's full-time Cosmetology program, combined with transportation, is causing the superintendents to examine alternatives.

*Facility options.* The North Montco Technical and Career Center appears to be at a critical juncture. The Center is experiencing rapid enrollment growth, the delivery systems in place are not meeting the needs of the sending school districts, and the Center itself is in need of expansion and repair. The administration, superintendents, and local businesses want NMTCC to expand its program offerings to reflect the changing needs of the communities involved in the consortium (M. Lucas, personal communication, October 1, 2004).

One of the recommendations, which materialized from the Future Search Conference (*Imagine NMTCC: Partnering to Grow Our Future*, 2002), was to construct a new comprehensive technical school. The new Center would offer full-time programs in a wide range of academic and vocational courses. This option would alleviate some of the transportation concerns; however, Director Lucas estimated the construction cost at \$67,000,000 (Lucas, 2004).

Two of the five districts in the consortium, Souderton and Perkiomen Valley, have already reached their construction debt limits as a result of past and current building projects (M. Lucas, personal communication, October 1, 2004). In addition, capital expenditures would have to be financed as specified in the North Montco Articles of Agreement:

All costs of capital outlay (as included under Capital Outlay in the Manual of Accounting and Related Financial Procedures for Pennsylvania School system) for new buildings and additions, extensions of existing buildings, purchase of real estate and buildings, equipping the buildings, including any lease rentals shall be divided among the PARTICIPATING SCHOOL DISTRICTS on the basis of the current market value of all property for each of the PARTICIPATING SCHOOL

DISTRICTS as determined by the State Tax Equalization Board at the time the obligation for such capital outlays are incurred, in the proportion that the same bears to the total current market value of real property of all PARTICIPATING SCHOOL DISTRICTS (North Montco AVTS Joint Committee, 1985).

The method in which the districts share the cost of construction was a major consideration for the Wissahickon School District. While Wissahickon sends fewer students to NMTCC than any of the other districts, it would be responsible for 50 percent of the construction costs. Adding to Wissahickon's perception of financial inequality, North Penn School District students comprise 50 percent of the Center's population, yet would be held responsible for 15 percent of the construction costs (M. Lucas, personal communication, October 1, 2004; North Montco AVTS Joint Committee, 1985).

*Purpose of the study.* This study focused on several issues: (a) The delivery system options available to North Montco TCC; (b) the cost effectiveness of NMTCC programs; (c) the feasibility of expanding technical program offerings to reflect the changing employment needs of the community; and (d) the viability of the current physical plant and options for expansion to accommodate the increasing student enrollment. Ultimately the purpose of the study was to determine the most efficient and effective delivery system for North Montco TCC and its participating school districts (e.g., half day sessions, comprehensive technical school). The goals of the study included: (a) A complete review of existing data (e.g., enrollment statistics); (b) an analysis of the current educational delivery system; and (c) researching program, delivery and facility options based on cost and impact to the sending school districts, business and industry, parents and students, instructional staff, and other partners of NMTCC (Loomis, 2004).

### *Significance of the Study*

North Montco TCC concurrently operates several delivery systems. The system's most unique aspect is the ninth grade exploratory program. The freshmen schedule is separate from the other grades in the building. Their session is scheduled in the middle of the instructional day. As a result, it is difficult for the sending school principals to schedule these students for other required courses. The Cumberland Perry Area Vocational Technical School, for example, operates a half-day system with specific districts sending students either in the morning or the afternoon. Dauphin County Technical School (DCTS) and York County School of Technology (YCST) are examples of comprehensive technical schools, offering both academic and technical classes on their campuses. Both DCTS and YCST incorporate their ninth grade population into the entire building schedule.

North Montco CTC appears ready for change. The Director claims the faculty and sending districts feel that NMTCC remains an excellent school. The delivery systems in place, however, do not provide the PA Department of Education required 990 clock hours of instruction per student. Neither does this system address the trend toward increasing enrollment, and the changing occupational needs of the community. These trends require the administration to examine new options for instructional delivery (M. Lucas, personal communication, October 1, 2004).

*Contribution to the body of knowledge.* The possible solutions gleaned from this study appear unique to North Montco TCC's situation. Other career and technical centers, however, may benefit from the findings and research methodology employed in this study.

Based on data acquired from the CTCs throughout Pennsylvania during the 2004-05 school year, the Bureau of Career and Technical Education (BCTE) reported statistics on the



educational delivery system patterns of the 83 CTE centers ([http://www.pde.state.pa.us/career\\_edu/lib/career\\_edu/ACTES-RPT2005.pdf](http://www.pde.state.pa.us/career_edu/lib/career_edu/ACTES-RPT2005.pdf)). Based on the data provided (see Table 29, Appendix C) 17 CTCs are comprehensive (i.e., all academics and CTE programs are provided in the same educational facility) and 66 are occupational CTCs (i.e., offering the CTE program only or the CTE program and a few, but not all, of the academic courses required for graduation).

Based on the data provided by PDE/BCTE (see Table 29, Appendix C) there are seven CTCs that offer a comprehensive option (i.e., technical program plus academics necessary for graduation) while not classified as comprehensive technical schools. Three CTCs concurrently provide one-third day and half-day sessions. The Lancaster County CTC campuses, likewise, simultaneously operate one-third day, half-day, and full day programs.

Statewide, Pennsylvania's CTCs offer a wide variety of educational delivery systems to meet the regional needs of their students and community. Twenty-two CTCs offer four-year programs; 69 offer three-year programs; 30 offer two-year programs; 24 offer one-year programs. One CTC offers a three-week rotation; one operates a nine-week rotation; five use a semester about program; and 12 offer one-year full-time programs. Like North Montco TCC, all CTCs in Pennsylvania have developed delivery systems which their Joint Operating Committee and administration believe help them attract more and a greater variety of students.

### *Methodology*

The research methodology employed in this study will most likely be the component that can be utilized by the administration of other career and technical centers, should they choose to determine the feasibility of their delivery systems and facilities. Dr. Fred Loomis and this researcher conducted interviews with NMTCC superintendents, high school principals, high

school guidance counselors, Joint Operating Committee (JOC) members, and NMTCC administration and staff. In all, 35 people were interviewed. This researcher developed a questionnaire, which was distributed to other stakeholders who had not been consulted.

### *Research Questions*

This study sought to answer the following questions:

1. Are there differences of opinion among the major stakeholders toward NMTCC's current delivery systems?
2. Are there differences of opinion among the major stakeholders toward the renovation of the current facility or the construction of a new facility?
3. Are there differences of opinion among the major stakeholders with regard to the effectiveness of NMTCC's current technical program offerings?
4. Are there differences of opinion among the major stakeholders with regard to the interest in future technical program offerings?

### *Limitations*

The study was limited to the Northern Montgomery County region served by North Montco TCC, which includes Methacton, North Penn, Perkiomen Valley, Souderton, and Wissahickon school districts. Similarly, Boatwright and Slate's (2002, p. 48) work ethic study: [it] "was conducted in a geographically restricted region with subjects drawn from one educational system, generalizability of demographic results to other student populations, non-student populations, and other geographic locales cannot be discerned through this work."

A second limitation of the study is the sample itself. Most of the primary stakeholders (e.g., district superintendents) are included; however, the proposal (Loomis, 2004) approved by the administration and Joint Operating Committee of NMTCC does not include current students

or their parents among the groups to be surveyed. Balamuralikrishna and Dugger (1995) emphasized that, while analyzing the internal source of strengths and weaknesses of an organization, current students should be surveyed. Likewise, the authors identify parents and families of students as part of the external environment of an institution, including them in their analysis.

Students, past, present and future, should be included as participants in the second phase of the NMTCC study. While the adult stakeholders (e.g., high school principals) make assumptions regarding the reactions of their students to specific educational delivery systems, program offerings, and facility changes, no one can effectively predict the positive or negative impact on enrollment without polling the institution's clientele (i.e., possible student enrollees).

A third limitation was the nature of qualitative research. As LaPorte (2003, p. 3) stated, "Trying to synthesize the qualitative research that has been done in technology education and derive principles from it are difficult and formidable challenges. Applying the principles thus derived to educational practice in a meaningful way is likewise daunting. Part of the problem in making sense of qualitative research is related to terminology. The novice has a difficult time entering the arena due to the elusive and inconsistent nature of the terminology used." The respondents could have misinterpreted some of the questions or statements in the questionnaire. For example, there was a question concerning the viability of NMTCC's Pennsylvania Youth Apprenticeship Program. The respondents may not have been aware of the program; therefore, they may not have provided an informed opinion.

### *Definition of Terms*

Career cluster – vocational courses grouped together by similarity of occupations (e.g., carpentry, masonry, and electrical construction could be defined as trades in the construction cluster).

Career exploration program – Ninth grade students rotate among several vocational programs to determine which occupations interest them. During their 10th-grade year, students are placed in vocational programs that correspond with their interests.

Comprehensive technical school – a career and technical center that provides both full academic course offerings and vocational courses.

Consortium – A group of school districts that fund and whose students participate in the educational opportunities available at a career and technical center.

Delivery system – the scheduling method by which career and technical centers offer courses (e.g., half day session).

Joint Committee or Joint Operating Committee – The controlling board of a career and technical center; members are nominated from each sending school district in a consortium.

Vocationalism – The practice of organizing curriculum in such a way as to provide students with the opportunity to develop skills, both vocational and academic, that will give them the strategic labor market advantage (Gray, 1996, p. 86).

### *Assumptions*

Several assumptions were made regarding the population being studied. The sending school districts, the administration and staff of NMTCC, and area businesses and industry saw the need for changes in NMTCC operations and facility.

The current multiple delivery systems were a cause of frustration for the superintendents, Administrative Director, and NMTCC staff. The system may need modification, either in the form of two half-day sessions or one full-day session.

All of the data provided by North Montco TCC (e.g., enrollment statistics) and the initial interviews of the superintendents and the Administrative Director seemed to indicate the Center needed expansion (i.e., new construction in the form of an addition or new building) to accommodate more students. Construction of a new facility, he anticipated, would be a major fiscal issue for Perkiomen Valley and Souderton school districts, as they have reached their construction debt limits. Construction costs, likewise, would be an issue for Wissahickon, because they are required to pay for 50 percent of the construction costs (North Montco AVTS Joint Committee, 1985).

The school district superintendents were concerned that PAYAP was not cost effective. Superintendents questioned if this program should continue considering the instructional costs associated with it (i.e., six academic teachers serve 50 students). Unless PAYAP students, their families, and local employers rallied behind this program, it may be discontinued as a result of the costs involved.

### *Conceptual Framework*

As Rojewski (2002, p. 8) states, “We must recognize that for a conceptual framework to be effective and useful in (a) explaining the general purposes of career and technical education, (b) reflecting the underlying beliefs and perspectives of its constituents, and (c) shaping current activity and future direction, it cannot be developed in a vacuum. Many people and organizations must be involved to provide a comprehensive view of career and technical education and its applications in classrooms, boardrooms, living rooms, and factory floors. Therefore, this

framework should be viewed as an initial point of departure for discussion and debate rather than as an arrival at the final destination.” The North Montco TCC research study sought the perspectives of the major stakeholders involved with this Center. The findings of this study initiated a discussion about the school’s future.

Several objectives were accomplished within the conceptual framework of the study. The PSU team (a) established the parameters of the Center by delineating its mission and current practices, (b) considered the historical events that shaped the current institution, (c) established the philosophical infrastructure of the school and determined the relationship between philosophy and practice, and (d) provided a forum to discuss the needed or actual direction of the school (Rojewski, 2002). This study did include a review of NMTCC’s Articles of Agreement (NMAVTS Joint Committee, 1985), history of the school, review of the minutes from the future search conference (*Imagine NMTCC: Partnering to Grow Our Future*, 2002), the mission of the Center, and its statistical data (e.g., enrollment).

*Vocationalism.* According to Gray (1996) vocationalism is defined as “The practice of organizing curriculum in such a way as to provide students with the opportunity to develop skills, both vocational and academic, that will give them the strategic labor market advantage.” (p.86). The type of vocational education that developed at the turn of the twentieth century remained essentially intact until the 1980’s. Its success relied on the belief that, by obtaining vocational training, one could have access to secure employment opportunities.

In the early 1980’s, the system began to deteriorate, mostly because students and their parents lost faith that vocational education would lead to gainful employment (Gray, 1996). The uncertainty about the economic outlook of vocational education, public over-estimation about the future value of college degrees, and spurred by open college admissions, students rejected

traditional vocational education in favor of academic oriented preparatory programs. A new vocationalism has emerged. Average achieving students now enroll in both traditional college preparatory programs and technical training (Gray & Herr, 1995).

Tech Prep is increasingly advocated as the new vocationalism. The goal of the program is to motivate students to actively prepare for two-year postsecondary technical institutions. The key to Tech Prep is integrating challenging academic courses and vocational curriculum. Mathematics and sciences are, consequently, taught in contextual situations (Gray, 1996).

At NMTCC academic and vocational curricula were likewise integrated. Through the efforts of the administration and staff, numerous articulation agreements were established with local community colleges and technical institutes (*Your Future is Here*, 2003). This study analyzed the current articulation agreements. In conjunction, vocational programs offered and the employment outlook within the community were discerned. This data was necessary to determine if some of the current course offerings should be expanded or deleted, or if there were rationale for new programs

*SWOT analysis.* As Broadhead (1991) stated, “Vocational administrators should become initiators in shaping the future of their institutions. Strategies must be developed to ensure that institutions will be responsible to the needs of the people in the year 2000 and beyond. To do so requires, among other things, an examination of not only the individual college environment but also the external environment” (as cited in Balamuralikrishna & Dugger, 1995, p. 29).

Balamuralikrishna and Dugger (1995, p. 29) stated “The Strengths, Weaknesses, Opportunities, and Threats (SWOT) analysis (also referred to as the TOWS analysis in some management texts), provides a framework for educational administrators to focus better on serving the needs of their communities.”

The purpose of the SWOT analysis is to examine an organization's internal strengths and weaknesses, and its environment, opportunities, and threats. This tool can be utilized in the preliminary decision-making stages (Johnson, et al., 1989; Bartol et al., 1991; as cited in Balamuralikrishna & Dugger, 1995). If correctly applied, institutions may acquire an overall perspective of their relationship with the community, and the industries and businesses that may employ their graduates. In order to be successful in this analysis one must be aware of and understand the external factors (i.e., threats and opportunities) combined with an examination of internal strengths and weaknesses. These factors impact the stakeholders' visions of the future. (Balamuralikrishna & Dugger, 1995).

The first step in a SWOT analysis is to make a worksheet, creating four sections, one each for strengths, weaknesses, opportunities, and threats. An outline of this worksheet is shown in Figure 1. The next step is to list the specific items under each category that are related to the problem (Balamuralikrishna & Dugger, 1995).

The SWOT includes all of the following areas, each of which may be a source of strengths, weaknesses, opportunities or threats (Balamuralikrishna & Dugger, 1995, p. 31):

*Internal environment of the institution*

1. faculty and staff
2. classrooms, laboratories and facilities
3. current students
4. operating budget
5. various committees
6. research programs



*External environment of the institution*

1. prospective employers of graduates
2. parents and families of students
3. postsecondary institutions
4. population demographics
5. funding agencies

Surveys, focus groups, interviews, and other knowledgeable sources also facilitate assessing strengths and weaknesses. Different perceptions concerning strengths, weaknesses, opportunities, and threats are dependent upon the group or person consulted (Balamuralikrishna & Dugger, 1995).

As Balamuralikrishna & Dugger (1995, p. 33) stated “The external look is complementary to the internal self-study in a SWOT analysis. National and regional influences, as well as state and local concerns, are of paramount importance when deciding what new programs need to be added or which existing ones need to be modified.”

Gaining an awareness of the demographic changes in a community reveal potential opportunities to design new curriculum. New businesses might emerge seeking highly trained graduates conversant in a new technology (Balamuralikrishna & Dugger, 1995). This circumstance is evolving in Northern Montgomery County. New high tech companies (i.e., pharmaceuticals) have established new facilities within their attendance area.

*Drawbacks of SWOT.* A SWOT analysis can reflect a researcher’s bias, which can be misused to justify a pre-conceived course of action. Threats can sometimes be perceived as opportunities, depending upon the individuals involved; the converse can also prove true (Balamuralikrishna & Dugger, 1995).

*Strengths of SWOT.* A SWOT analysis could be an excellent tool to explore the possibilities for initiating change (e.g., adding or eliminating vocational programs). A SWOT analysis forces individuals to systematically examine future possibilities. This approach involves introspective analysis into both positive and negative concerns. SWOT is also a relatively simple method to convey ideas and concerns to others (Balamuralikrishna & Dugger, 1995).

## Chapter 2

### Review of Related Literature

#### *Case Study Methodology*

As Mulenga (2001) stated,

First, a case study is not a methodological choice. Rather, it is primarily characterized by an interest in individual cases. This interest in an individual or single case is the driving motivation behind the use of a case study approach. The specific methods used to study individual cases are of secondary significance (p.130).

This dissertation developed from a live assessment study of the North Montco Technical Career Center's (NMTCC) instructional delivery systems, operational facilities, and program offerings. NMTCC's administration and Joint Operating Committee contracted the Pennsylvania State University (PSU) to conduct an in-depth analysis of the facility's infrastructure. The PSU team interviewed the key NMTCC stakeholders; developed and implemented the stakeholders' survey; reported the results to the NMTCC Joint Operating Committee; and recommended changes to the instructional delivery system, operational facilities, and program offerings. Mulenga (2001) defined the characteristics of a case study:

Clearly, the term case study has many meanings. However, there is some agreement that the quintessential characteristics of a case study is the purpose of deriving holistic understanding of a particular, unique, and bounded system. Case study, therefore, refers to the collection, analysis, and presentation of detailed information about a specific phenomenon. Typically, the emphasis is placed on

*exploration* and *description* rather than on discovery of universal, generalizable truths (p.131).

The NMTCC administration and Joint Operating Committee entered into a contract with the Pennsylvania State University to study its unique educational delivery system, program offerings, and facility. The PSU team assessed the effectiveness of NMTCC's delivery system, program offerings and facility through personal in-depth interviews and the NMTCC stakeholders' survey of its major stakeholder groups (e.g., JOC members, high school principals). The PSU team collected data regarding the effectiveness of NMTCC's delivery system, program offerings, and facility; analyzed the data; and presented their findings and recommendations to the NMTCC Joint Operating Committee.

Yin (1993) categorized case studies into three main types: exploratory, explanatory, and descriptive (as cited in Mulenga, 2001). For the North Montco Technical Career Center (NMTCC) study, the exploratory approach was utilized. Yin (1994, as cited in Mulenga, 2001, p. 135) identified five components of design that are important for case study research:

1. Clearly stated research questions,
2. Propositions of the study, if any,
3. The selected unit(s) of analysis,
4. The logic that links collected data to propositions, and
5. Criteria used for interpreting findings

The NMTCC study included Mulenga's (2001) recommendations to improve the reliability and validity of case studies: (a) prolong the processes of data gathering on site, (b) conduct member checks (i.e., talk to your participants), (c) collect referential materials (e.g.,

empirical research done in similar topics), and (d) engage in peer consultation (i.e., consult with colleagues in order to establish validity through pooled judgment) (p.140-141).

On site data gathering was extensive, utilizing personal in depth interviews both of NMTCC and sending school personnel. This was accomplished through disseminating and collecting surveys (i.e., questionnaires). The research investigators interviewed each identified participant, prepared a report of the participant's responses, and provided the respondent with a copy of the report. This ensured the accuracy of the recorded responses.

Referential materials were collected on-site (e.g., Joint Operating Committee Articles of Agreement), as well as a literature review of related topics in vocational education (e.g., instructional delivery methods). The researchers also reviewed similar studies.

Prior to submitting the final report, the researchers collaborated to ensure that data were properly collected, reviewed, and analyzed. The report was presented to NMTCC's Joint Operating Committee through a cooperative effort in September 2005.

#### *World Wide Concepts for Vocational Education*

European countries initiated "the Post-16 Strategies Project" in 1996-1997 and continued to track the effects of this project. "Sharpening Post-16 Education Strategies by Horizontal and Vertical Networking (SPES-NET) Project" involved 14 European institutions and 13 countries from the European continent. The 13 nations included England, France, Austria, Germany, Scotland, Norway, Finland, Belgium, Spain, Greece, Hungary, Denmark, and Estonia (Stenström, 2000). The results indicated that innovative social organization could modernize industrial production and the service industry by adopting the shaping principle as a guideline for vocational education (Heidegger, 2000). Thus, career and technical education needed to respond

to the lifelong learning theory and select core occupations and occupational profiles (as cited in Wu, 2003).

In the United States, career and technical education is seen as a leader in 21<sup>st</sup> century education (Castalda, Schray, & Lyons, 2000). According to the goals of globalization and high technological economic development, the career path alternatives are high skills with commensurate high earnings or low skills with equally low life-long earnings. Career and technical education must follow economic trends in order to develop its own directions and strategies for fostering technical manpower (as cited in Wu, 2003).

*European philosophy.* Traditions often dictate human resource development. Frequently this is even more important than technological development in the process of economic growth. European human resource development and career and technical education was, therefore, dominated by the shaping principle. Such an approach was in contrast to the adaptation approach, which included the boundary conditions and specific features of the work process, but not the fundamental direction. According to the shaping principle, however, workers can decide their own goals, and have broader visions of direction in regard to work. As a result, the following main directions evolved: (1) engaging workers in shaping the working conditions, the work organization, and the content of their work; and (2) using competencies, especially creativity, to promote initiatives that contribute to the creation of new jobs. As a result, career and technical education plays an important role in fostering the ability of workers to perform self-reliantly, independently, and creatively in their jobs, and to use communication skills effectively. Traditional education and training methods of apprenticeships fail to fulfill such tasks, and only multi-skill education and lifelong learning could help individuals achieve these goals (Wu, 2003).

*United States philosophy.* In 1990, demand for workers with high skills and high productivity resulted in the Carl D. Perkins Vocational and Applied Technology Education Act describing the Tech Prep program as another form of vocational education. Until 1994, the School-to-Work Opportunity Act provided a framework to address economic needs through education and business partnership by introducing three types of integration: integration of academic and vocational education programs, integration of school- and work-based learning, and integration of secondary and postsecondary vocational education programs (Hogg, 1999; as cited in Wu, 2003).

As Wu (2003, p. 50) stated, “Related directions and strategies [in career and technical education] include the establishment of career clusters and the implementation of career academies, new American high schools, and middle colleges.” Career clusters are divided into 16 areas: agriculture and natural resources; architecture and construction; arts, A/V technology, and communication; business and administration; education and training; finance; government and public administration; health science; hospitality and tourism; human services; information technology; law and public safety; manufacturing; retail/wholesales sales and service; scientific research and engineering; and transportation, distribution, and logistics (Castalda, Schray, & Lyons, 2000; as cited in Wu, 2003). These classifications of career clusters could facilitate students in their vocational awareness, exploration, and preparation, and could serve as a guideline to help career and technical schools in program-to-program articulation (Hoachlander & Rahn, 1994; as cited in Wu, 2003).

There are four themes that were consistently revealed in conversations with educators, businesspersons, and policy groups with regard to career and technical education (Lynch, 2000, p.52):

1. Infuse career planning throughout the entire curriculum, from pre-K through lifelong learning. The essence of this theme is that all teachers (and parents) should be cognizant of applications of knowledge to real-world environments, especially workplaces.
2. Ground career and technical programs in high school reform. Consistently, respondents spoke of the need to change the way in which high schools are organized, programs and curriculum are delivered, and students are taught.
3. Improve the image and upgrade vocational education into a new and improved career and technical education. Reform initiatives must be important and substantive.
4. Prepare high school graduates both for workplaces and continuing education. Many reports reviewed and most people interviewed for this project called for a 13th and 14th year as a minimum education benchmark for the next generation of American students.

Lynch (2000, p. 54) continued: “Much of the current theory and research on teaching and learning is quite supportive of the practices or pedagogy identified historically with career and technical education, especially that related to the contextualization of learning.”

#### *Integration of Academics and Technical Coursework*

Berryman (1991) suggested, “Knowledge can be taught independent of context and that such learning can be evaluated using non-authentic/non-performance methods.” Aspiring to modern cognitive research, Grabinger (1996) emphasized that “Knowledge learned but not explicitly related to relevant problem solving situations remains mostly inert, meaning the learner is unable to use it for anything practical when the opportunity arises and thus such knowledge quickly disappears.” For most students, skills and knowledge are best learned within realistic contexts where students have the opportunity to practice and master outcomes that are expected of them (Morris, Bransford, & Franks, 1979; all as cited in Gray, 2002, p.6).



Lynch (2000) outlined the expectations and needs of America's youth and their parents:

In reviewing public survey data and some government data bases and analyzing comments from position papers and interviews, a few conclusions seem obvious:

(a) The public expects its high school youth to attend college and indeed more high school graduates continue to do so each year. (b) The public expects public high schools to prepare youth for employment. (c) Huge numbers of high school graduates are not prepared to be successful at four-year colleges, and large percentages (~50 percent on a nation-wide average) will drop out before completing a liberal arts baccalaureate degree or a professional program within six years. (d) Virtually all American youth should complete a solid, high quality education that includes some career and technical education through the equivalent of two years of postsecondary education (p.49).

As Lynch (2000, p.49) observed,

Business persons and educational researchers continue to say we must teach all students to new levels of higher-order thinking. This, then, is much of the impetus that undergirds the initiatives to integrate vocational and academic education. It is important to teach youth how to think, not just what to think. Any definition of higher-order critical thinking skills include the ability to think creatively, make decisions, solve problems, visualize a solution, reason, analyze, interpret, and how to continue to learn. Critical thinkers draw on a variety of resources and disciplines to solve problems, use standards of performance as a benchmark, and are intermittently independent and group reliant for assistance.

*Integrated Tech Prep.* The Carl D. Perkins Vocational and Technical Education Act (PL 105-332) was signed into law in 1998. The Tech-Prep Education Act was introduced as federal policy in Perkins II in response to widespread concerns that many high school students were failing to develop the technical and academic skills they would need to succeed in the workplace. The goals of this program were to create a more coherent foundation for further education and employment, to introduce higher standards in academic and vocational courses, and to increase students' motivation to pursue the further education they would likely need for career success, particularly in high-demand, technically-oriented occupations (Stasz & Bodilly, 2004).

*Perkins III* continues to emphasize improving academic achievement, and preparing young people for postsecondary education and work. The law also reaffirms the commitment to integrate academic and vocational education, serve special populations, tech prep (extensive articulation between secondary and postsecondary programs), accountability, and expand the use of technology (Rojewski, 2002).

Gray (2002) reflects on the integration of academics and technical education model:

The integrated career and technical education model ensures that no child will be left behind by, first, providing a sequence of occupational courses that keeps at-risk children in school and by doing so effectively so that they make a successful transition from high school to work. Second, the model provides a relevant and effective education to students whose postsecondary goal is pre-baccalaureate technical education (60% go on to college; of these, 60% enroll in pre-baccalaureate programs). Finally, the occupational course sequence of the integrated model provides elective skill-building courses for the four-year college

bound high school students, particularly in the areas of telecommunications and business software manipulation (p.15).

Tech Prep is designed for students to transfer to a two-year technical or community college. The program also requires four credits in CTE within a career pathway, one of which must be a second-level course. The students must also complete mid-level technical or integrated math in addition to Algebra I (Stasz & Bodilly, 2004).

*High Schools That Work.* Bottoms (1992) reported the results of The Southern Regional Educational Board Fall Forum. The monograph sought to provide ways for High Schools That Work sites and other high schools to examine their old vocational education programs and to develop new ones. These would give students quality academic and technical preparation that business and industry expect. Major components of the new vocational education programs would include: (1) the integration of academic and vocational studies by allowing students to master higher level concepts in the context of broad technical fields; (2) a link between high schools and postsecondary schools to connect a concentration in high school with studies at a two year institution; (3) a link between the school setting and the work setting such as youth apprenticeships, career academies, and magnet schools; and (4) a curriculum suited to the new economic order where students learn to solve problems, communicate with people and adapt to changing work conditions. The report contended that schools that adopt these principles would produce graduates who are ready to enter and advance in the workplace. Additionally, these alumni would also be capable life-long learning in other educational settings (as cited in Frantz, 1997).

*Project 720.* The project is designed to help transform Pennsylvania's high schools so that every student can succeed. PDE's goals are to make the curriculum more challenging and

improve the learning environment. Forty-one school districts participated in the pilot program during the 2004-05 school year and 21 schools during the 2005-06 school year. Funding is available to expand the program to approximately 40 additional schools for the 2006-07 academic year (<http://www.project720.org/>).

*Dual Enrollment.* This program, offered through Project 720, allows school districts to partner with eligible postsecondary partners to offer high school juniors and seniors who can show they are ready the chance to earn college credit while completing their high school requirements. Dual enrollment is an effort by Pennsylvania to encourage a greater variety of students to experience postsecondary coursework and its challenges while still in the supportive setting of their local high school.

The objective of dual enrollment is to increase the number of students who go on to postsecondary education and to decrease the need for remedial coursework at postsecondary institutions. The program is locally managed and affords a secondary student the opportunity to concurrently enroll in postsecondary courses and to receive both secondary and postsecondary credit for that coursework. Secondary schools form partnerships with postsecondary institutions to develop and implement a program that is mutually beneficial to all parties (i.e., students, CTCs, high schools, and postsecondary institutions). Students attending career and technology centers have the chance to earn college credits while attending their CTCs. In addition, the credits earned are part of a student's college transcript, which allows students to transfer the credits to other postsecondary institutions (<http://www.project720.org/content/view/36/117/>).

## **Instructional Delivery Systems**

### *Distance Education*

While the Internet and other technologies have created interest in distance education, it is not a new phenomenon; it has been a mode of teaching for over a century (Moore & Kearsley, 1996; as cited in Zirkle, 2003). Distance education is generally described as a pedagogy in which the learner is not physically present in the same location as the instructor (Distance Learning Resource Network, 2003; Steiner, 1995). This separation of teacher and learner is fundamental to distance education (Keegan, 1983) and differentiates distance education from all other forms of traditional instruction (Holmberg, 1978; all as cited in Zirkle, 2003).

Distance education can occur in a synchronous or "real time" mode that requires the simultaneous participation of all students and instructors (Distance Learning Resource Network, 2003). This interaction can also occur in an asynchronous mode, which does not take place in real time (Zirkle, 2003).

*Issues with distance education.* Instructional issues permeate distance education. Faculty, accustomed to traditional, on-campus courses can be resistant to offering distance courses (Dillon & Walsh, 1992). This reaction may be a result of the significant time constraints associated with delivering career and technical education courses and programs without direct student contact (Miller & Miller, 2000; Murphy & Terry, 1998b; Ndahi, 1999; Ragothaman & Hoadley, 1997; Zirkle, 2002c). Many faculty need training in order to move an on-campus class to a distance environment and this training may be scarce (Ko & Rossen, 2001; Murphy & Terry, 1998a; all as cited in Zirkle, 2003). Some course content—such as the specific psychomotor "hands-on" skills found in many trade and industrial (Zirkle, 2000) and agriculture programs (Miller, 1997) may not be easily taught through distance education. The "soft skills" associated

with many business education programs (Fann & Lewis, 2001) may also be difficult to teach at a distance (all as cited in Zirkle, 2003).

As cited by Zirkle (2003),

In K-12 education, very few teachers use technology for distance education purposes (Kleiner & Farris, 2002). While 75% of all K-12 schools had a website, it was used for the school calendar and other information. K-12 teachers use the Internet primarily for research purposes (Smerdon, Cronen, Lanahan, Anderson, Iannotti, & Angeles, 2000). A search of two Internet course developers, WebCT (<http://www.webct.com/>) and Blackboard (<http://www.blackboard.com/>), reveals a number of K-12 school systems that are using this method to deliver portions of instruction online. However, research on K-12 teacher use of distance education is extremely limited (pp. 169-170)

In secondary career and technical education, there exists little specific data about school and teacher use of the Internet and distance education. Zirkle (2002c) described career and technical teachers who, as a result of completing an online course, created online courses for their own secondary programs. As with the rest of K-12 education, however, little is known about secondary career and technical education teacher use of distance education (as cited in Zirkle, 2003)

### *Career Academies*

A career academy is a small learning community within a school. Career academies are distinct and autonomous units with their own vision, culture and environment. The career academy's three key components involve the learning community, curriculum and partnerships (Center for Curriculum and Assessment, Office of Career-Technical and Adult Education, Ohio

Department of Education, 2004). The makeup of these components is highlighted in Table 1 (Center for Curriculum and Assessment, Office of Career-Technical and Adult Education, Ohio Department of Education, 2004) below.

Table 1

*Definition of Career Academies*

<b>Small Learning Community</b>	<b>College-Prep Curriculum with a Career Theme</b>	<b>Partnerships with Employers, Community, and Higher Education</b>
<p>Several academy-only classes in grades 9-12, 10-12, or 11-12</p> <p>Self-selected cross-disciplinary team of teacher-managers, with a lead teacher/ coordinator</p> <p>Voluntary enrollment, cross- section of students; size limited to maintain personalization</p> <p>A family-like atmosphere with a motivating, supportive, disciplined instructional tone</p> <p>When possible, academy classes blocked back-to-back in the daily schedule</p> <p>Support from district and school administrators and counselors</p> <p>Students given opportunity to engage in full range of non-academy courses, electives, and other</p>	<p>Several academic courses per year that meet high school graduation and college entrance requirements</p> <p>One or more courses per year in a broadly defined career field that lets students explore a full range of career options</p> <p>Academic classes that illustrate applications in the career field</p> <p>Common planning time for teachers to allow curricular integration</p> <p>Projects that bring together skills across academic and career classes, possibly a school-based enterprise</p> <p>Counseling to ensure postsecondary plan which may include college, work, or both</p> <p>Articulation with postsecondary curriculum</p>	<p>Locally selected career field with a cadre of employer partners</p> <p>Steering Committee that governs program operation</p> <p>Parental involvement in students' decision to enroll, and in various program activities</p> <p>Business representatives who provide role models, show students career options and paths</p> <p>Field trips/job shadowing to illustrate work environments</p> <p>Mentors, employee volunteers that serve as career-related "big brothers and sisters"</p> <p>Workplace experiences (paid or unpaid internships, community service) in the last year or two</p> <p>Postsecondary institution articulation, concurrent</p>

school activities		enrollment
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Common characteristics of the Career Academy concept include (a) enrollment of 100-300 students in two-, three- or four-year curriculum; (b) blocked, back-to-back classes with same group of students in each class; (c) challenging, rigorous curriculum infused with career focus that prepares students for college, careers and productive citizenship; (d) career and academic classes linked to technical and academic content standards; (e) exposure to a range of careers in a specific career field; (f) teaching team of academic and career-technical teachers with shared planning; (g) time for development and delivery of the curriculum; (h) teacher facilitating performance-based learning experiences; (i) project and work-based learning opportunities; (j) individual and consistent student attention throughout the day, week, and year span of the program; and (k) partnerships with business/industry, postsecondary institutions, parents, and community (Center for Curriculum and Assessment, Office of Career-Technical and Adult Education, Ohio Department of Education, 2004).

*Steps to implementing career academies.* There are four major steps to implement a career academy (Center for Curriculum and Assessment, Office of Career-Technical and Adult Education, Ohio Department of Education, 2004). The steps in the process include:

### **Explore**

1. Assess need for career academy
2. Determine career academy focus
3. Engage primary partners
4. Seek assistance from academy networks
5. Visit academies



6. Seek technical assistance
7. Develop initial proposal

**Plan**

1. Recruit additional partners
2. Determine funding need
3. Select school site(s)
4. Develop implementation plan
5. Recruit teachers and coordinators
6. Obtain formal system approval
7. Formalize advisory committee/board

**Develop**

1. Create team for planning/decisions/training
  - a. Curriculum and course schedules
  - b. Academy culture development
  - c. Roles and responsibilities
2. Obtain funding/resources

**Implement**

1. Recruit/select students
2. Conduct orientation for parents/students
3. Open academy/begin classes
4. Evaluate for continuous improvement

*Data studies.* Annual data collected from state funded academies in California continue to show improvement in high school completion rates after students enter an academy and

while they are in it (Dayton 1997). High school dropout rates in academies average approximately seven or eight percent over three years. This represents about half the rate in the general population of California students, despite the fact that state-funded academies are required to recruit a majority of students who are economically or educationally disadvantaged. Although these data describe only the performance of academy students, without comparison groups, these are consistent with the comparison-group evaluations (as cited in Stern, Dayton & Raby, 2000).

Maxwell and Rubin (2000) analyzed school district records on academy and non-academy students. They concluded that students in career academies obtained significantly better grades. This was not, however, due to less rigorous grading standards within the academies: Maxwell and Rubin found that courses within most of the academies actually awarded lower grades than non-academy courses in the same subjects (as cited in Stern, Dayton & Raby, 2000).

Maxwell (1999) extended the Maxwell-Rubin study to follow graduates of career academies and other graduates from the same school district who enrolled at a nearby campus of the state university. She determined that academy graduates were more likely to originate from high schools with large proportions of low-income minority students. After taking this factor into account, the academy graduates were less likely to need remedial coursework at the university, and they were more likely to receive their bachelor's degrees, compared to the other graduates from the same district. These findings suggest that academies assist and support low-income students to finish not only high school, but also college. These conclusions imply that improvement in high school graduation rates was not accomplished by lowering academic standards in the career academies (as cited in Stern, Dayton & Raby, 2000).

*Partnerships Between Schools and Business*

Policymakers, educators, and employers are realizing the importance of helping students place their academic work within applied contexts, including work and careers. Many state economic and workforce development organizations have developed strategies to facilitate collaboration between education and business for job training and economic development (Cantor, 1990). For example, in Florida and Connecticut, the focus of pre-apprenticeship programs has been on recruiting, training, and educating youth for gainful employment. These arrangements are designed to provide for coordination of a high school education, entry-level employment, and transition into postsecondary education (as cited in Cantor, 1997).

*Registered apprenticeships.* Glover (1986, p. 5) defines an apprenticeship as follows:

Apprenticeship is characterized by a contractual employment relationship in which the firm or sponsor promises to make available a broad and structured practical and theoretical training of an established length and/or scope in a recognized occupational skill category. Apprenticeship is a work-study training scheme in which part of the training occurs on the job and part occurs off the job in a classroom or workshop setting.

Many technical schools use the apprenticeship model to provide work-study programs for students who learn best through applied learning experiences. Apprenticeship training is particularly useful for occupations requiring diverse skills and knowledge, as well as maturity and independence of judgment (Cantor, 1997).

Pre-apprenticeships afford learners with an early opportunity to enter into a system of training and education that motivates by (a) placing school learning into meaningful contexts and (b) providing for continuing long-term career development after high school. At the same time,

apprenticeships contribute to the economic development and infrastructure of the participating communities (Cantor, 1997).

Pre-apprenticeships typically are established for students who have reached junior or senior year status at the secondary school level. The student, parent, and employer enter into a formal written agreement (in some states a registration agreement) specifying the kind of work and working conditions to which the student will be exposed (Cantor, 1997).

### **The Facility**

#### *Construction Planning*

Whether an educational entity decides to build a new facility or add to an existing school, it is key that the administration of the entity includes the major stakeholders in the community in the planning process. The stakeholders are comprised of students, parents, local businesses, teachers, support staff, and others affected by the educational outcomes of a school district.

*Major stakeholders.* Building an edifice is a multifaceted task involving numerous individuals with varying interest levels in the project (Earthman, 1986; Moore & Lackney, 1994; Nagakura & Moronuki, 1986; Norris & Poulton, 1991; as cited in Riggs, Petersen & Stockburger, 2002). To build a facility responsive to the programming needs of the students and staff members, work in this area has shown that the future occupants (e.g., teachers and students) must partake in the planning of the facility (Hedley & Brokaw, 1984; as cited in Riggs, Petersen & Stockburger, 2002). It is crucial to the success of the new or adapted structure that an adequate amount of planning time is allocated to include discussions with major stakeholders. As Sanoff (1996; Riggs, Petersen & Stockburger, 2002, p. 23) states, “The educational structure does not merely house the students and the staff, but conceivably can balance the need of the students with the teaching styles of the staff members.”

It is the adaptation of fit between the structural layers within the organization that causes a project to be successful or unsuccessful (Bolman & Deal, 1997; as cited in Riggs, Petersen & Stockburger, 2002). Continual input by the future stakeholders throughout the planning and designing phases of the facility will allow decisions to be made causing the stakeholders to develop a sense of ownership for the building (Chan, 1996; as cited in Riggs, Petersen & Stockburger, 2002).

The process of designing, planning, and constructing a school facility should be a systematic and cyclical process (Almedia, 1988; as cited in Riggs, Petersen & Stockburger, 2002). In reality, the process often becomes a cultural system, a chain of interrelated actions, whereby the structure is in a constant state of flux due to changes in the status of individuals and repetitive changes within the organizational composition (Beals, Spindler & Spindler, 1967; as cited in Riggs, Petersen & Stockburger, 2002).

#### *Similar or Related Research*

Research specifically related to vocational delivery systems (e.g., comprehensive technical schools or half day systems) appears to be limited. Literature relevant to instructional delivery was much more available, and has been reviewed previously in this chapter.

Stasz and Bodilly (2004) compared the vocational delivery systems of seven states: California, Florida, Massachusetts, Michigan, North Carolina, Ohio, and Texas. In their review of states' efforts, Stasz and Bodilly (2004) have concluded,

States have encouraged academic attainment through the adoption of mandatory academic standards - in Florida, Massachusetts, North Carolina, Ohio and Texas - or voluntary ones - California and Michigan - and through the assessment of students relative to those standards. The states in our sample have paid less

attention to the development of standards for vocational programs. The two states that have developed mandatory vocational education course standards - Florida and North Carolina - also are relatively more centralized. Ohio also has mandatory standards, but only for programs that seek Perkins funding and state approval. The other four states are either in the process of developing vocational standards - California, Massachusetts and Michigan - or their standards are voluntary - Texas. Five states - California, Florida, Ohio, North Carolina and Texas - reported working on activities to better align vocational courses with the state's academic standards and assessments. Meanwhile all states in the sample report encouraging the use of national or industry certification programs or state licensure requirements as they develop vocational programs and courses (p.77).

*Career pathways or clusters.* Stasz and Bodilly (2004) have also reported the following:

Every state in the sample has begun, if not completed, the reorganization of vocational programs into career pathways or clusters to create more coherent and sequential courses of study. These tend to vary by state. For example, Michigan has developed six different pathways with 41 career programs while Massachusetts is in the process of developing seven career clusters.

The systems in Florida and North Carolina stand out as providing the most coherent vocational pathway structures. Florida has done away with stand-alone vocational courses. The state established career pathways or ladders through its Occupational Completer Point system - discussed in Chapter Four - that organizes courses into industry-related clusters. In addition, this system provides coherent sequences of courses - vertical alignment - with specific sequences for each job or

completer point – the point of exit from school and entrance into a job - for grades 9 - 16.

North Carolina’s mandated system of four courses of study, also discussed in Chapter Four, incorporates career clusters vertically aligned with a statewide articulation agreement and dual enrollment policy for all secondary and postsecondary institutions. As in Florida, this was possible because of the strong centralized character of the state educational system. The more recent changes in North Carolina were still being implemented at the time of the visits to local sites (p. 90).

*Secondary vocational delivery systems.* Table 2, as adapted from Stasz and Bodilly (2004, p. 53), outlines the secondary vocational delivery systems for the seven states in their study.

Table 2

<i>Secondary Vocational Delivery Systems</i>	
State	Delivery System
California	58 counties divided into 11 geographical regions, 1,000 school districts, 72 Regional Occupational Programs/Centers, serving high school and adult students
Florida	5 regions within the state aligned with county boundaries with state leads to serve each region; 28 districts and counties are coterminous; within each can be numerous comprehensive high schools and area vocational schools
Massachusetts	317 high schools including 26 regional vocational-technical schools
Michigan	53 secondary regions with 377 secondary agencies, 60 area career and tech ed centers, and 9 trade academies 53 Career Education Planning Districts, which mostly parallel intermediate school district boundaries; in 2001–2002 will reorganize to 25 Career Preparation Planning Areas

North Carolina	State divided into regions with regional service support centers for professional development in each, located at colleges; districts and counties are coterminous; comprehensive high schools only
Ohio	Career and technical education system has 94 Career Technical Planning Districts; CTE provided in comprehensive high school, Joint Vocational Schools, career centers, CTE compacts
Texas	1,221 independent school districts; 1,538 high schools; decentralized to 20 regional education service centers; each region includes several counties and independent school districts

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Stasz and Bodilly (2004) concluded “state structures characterized by centralized and unified systems had mandated coherent and uniform vocational programs with clients understanding the system and moving easily from place to place within it. In contrast, the more decentralized systems with more fragmented agency authority and control and overlapping delivery systems often promoted vocational improvement through voluntary means” (p. 55).

Limited research is available regarding the impact of vocational delivery systems on attitudinal outcomes. Martini (1984) conducted a study to determine the relationship of delivery systems and attitudinal outcomes of vocational education. Using data obtained for the New York State Longitudinal Study of Vocational Education Outcomes, selected attitude measures from students enrolled in vocational programs were compared and analyzed.

The sample population consisted of over 1050 grade 12 students who attended academic and vocational classes at their home high school and over 2950 grade 12 students who attended area occupational centers for their vocational classes and home high schools for academic classes. Forty-four home high schools and 33 occupational centers were represented in the sample. Measures of the following were used: Attitude Toward School, Attitude Toward Peers,



Motivation to Learn, Social Confidence, Social Autonomy, Clarity of Career Goals and Job Finding Confidence. Except for Motivation to Learn, significant attitude differences were found between the two groups of students (Martini, 1984).

Results also indicated that, regardless of interactions found between delivery system, vocational program, school enrollment size and locale, type of delivery system tended to affect attitudinal outcomes of vocational education. Home school vocational students were more confident about their social skills and more positive regarding their social autonomy. Occupational students were more positive toward their school and peers than home school students were about their school and peers. Occupational center students were also more positive about their job finding skills and career goals (Martini, 1984).

### *Summary*

The NMTCC assessment was a case study as described by Mulenga (2001), in that the assessment performed by the PSU team collected and analyzed data with the goal of critiquing the bounded system of the NMTCC consortium. The purpose of the study was to gain a holistic understanding of the educational delivery system, program offerings, and facility.

The PSU team followed Mulenga's (2001) recommendations to improve the reliability and validity of the NMTCC case study, which included collecting reference materials, and engaging in peer consultation. On-site data gathering was extensive, including personal in-depth interviews with 35 key stakeholders, and collection of data via the NMTCC stakeholders' survey instrument.

Tech Prep, dual enrollment, and High Schools That Work programs prepare students for employment in the 21<sup>st</sup> century. Current and future employees must not only obtain specific skills to make them more employable; they must also have the ability to become lifelong learners

through continued studies in challenging academics and the accrual of updated technical skills. These programs offer students a head start in postsecondary education.

Distance education may provide opportunities for secondary and postsecondary students to obtain new skills with the convenience of not having to travel long distances or even while staying at home. This educational delivery option will provide opportunities for people who have never considered postsecondary education due to travel or time limitations.

The career academy model may become the preferred delivery system in the future. This school within a school concept provides a more intimate and tailored educational approach for students who have explicit career goals. Academic courses and technical skills are designed to prepare students for specific occupational areas.

Riggs, Petersen and Stockburger (2002) stressed that all major stakeholders should be included in the discussion of new construction plans. This is a vital part of the planning process prior to the construction phase. Stakeholders (e.g., teachers and students) must be surveyed to ascertain their needs with regard to the allocation and design of classrooms and other areas within the facility.

More often than not, an architect in consultation with the administration and school board members, designs a school. These individuals do not have to live within the constraints of the facility after construction is completed. Teachers, students and other key school personnel must be consulted to ensure that the new facility provides the optimal learning experience for the students.

## Chapter 3

### Methodology

The purpose of this study was to determine the most cost effective and cost efficient facility and delivery systems for the North Montco Technical Career Center. The study compared and studied several career and technical centers (CTCs), which also operate on a half-day, semester about, or full-day comprehensive system.

#### *The Problems*

*Increasing enrollment.* During the 1980's, North Montco Technical Career Center faced closure. Through an honest assessment of their school, the administration responded to the needs of local businesses and a changing community base by developing new course offerings. This action, combined with a willing administration and teaching staff, embraced new educational initiatives which rejuvenated student enrollment from the late 1990's to the present. The increasing student population has evolved into a new problem; the building will soon reach capacity (1,650 students), potentially denying admission to future students (Lucas, 2004).

*Transportation and time management.* Transportation to and from NMTCC poses a problem for several of the participating schools including: Methacton, Perkiomen Valley, Souderton, and Wissahickon. Their students travel 40 – 45 minutes to reach the Center. NMTCC is somewhat unique, however, offering three two-hour sessions per day instead of two half-day sessions. Each district transports students to all three sessions, tripling costs when compared with career and technology centers where students are enrolled for a half day. The long commute, combined with the shortened three session instructional time, result in students receiving fewer than the Pennsylvania State requirement of 990 instructional hours per year. As a consequence,

the Pennsylvania Department of Education (PDE) could penalize the school districts in the NMTCC consortium for not meeting this regulation.

Likewise, the three-session schedule decreases each instructional period to fewer than two hours. This has become a major concern, as the high school principals in these districts expressed concern that technical students do not meet the State requirement of 990 clock hours of instruction per year as a result of the time lost en route (Lucas, 2004).

*Too many delivery options.* North Montco TCC provides its clientele a plethora of delivery options. Students may attend one of the three sessions each day. Others attend the full-time 10th-grade program, receiving both their academics and vocational courses at NMTCC. Some students participate in PAYAP, in which they work two days per week in a local business and attend the Center for only three days per week. Cosmetology students may attend one session per day, or may participate in the full-time program (*Your Future is Here*, 2003).

The Administrative Director of NMTCC expressed the following opinion regarding the current delivery systems and how the sending school district superintendents perceive these options:

The Board and the area superintendents are very supportive of NMTCC, but several are new to the area and their positions. They are raising good questions about program, physical plant, and budget. The overarching strategic issue is that the leadership team feels that there may be too many delivery system options and too many programs to be cost effective as a career and technical center (M. Lucas, personal communication, August 30, 2004).

It appeared from the Director's statement that NMTCC is attempting to be the proverbial "all things to all people." By doing so, however, the Center's delivery systems may not be operating in the most efficient and effective manner.

*Cost effectiveness.* North Montco TCC's Pennsylvania Youth Apprenticeship Program continues to be a very popular program, especially among the student participants and their parents. Local employers also strongly support the program despite the substantial maintenance costs. The Center employs six academic teachers to instruct the 50 students who are enrolled in PAYAP. The Director and superintendents in the consortium question the cost effectiveness of the program (M. Lucas, personal communication, October 1, 2004).

The NMTCC administration and school district superintendents, likewise, question the cost effectiveness of the full-time Cosmetology program. The superintendents are searching for alternatives to the program, including sending their students to non-public beauty academies in the local community (M. Lucas, personal communication, October 1, 2004). The tuition for the Center's full-time Cosmetology program, combined with the extra transportation expenses, are causing the superintendents to examine alternatives.

*Facility options.* The North Montco Technical and Career Center appears to be at a critical juncture. The Center is experiencing rapid enrollment growth, the delivery systems in place are not meeting the needs of the sending school districts, and the physical plant itself is in need of expansion and repair. The administration, superintendents, and local businesses want NMTCC to expand its program offerings to reflect the changing needs of the communities involved in the consortium (M. Lucas, personal communication, October 1, 2004).

One of the recommendations, which materialized from the future search conference (*Imagine NMTCC: Partnering to Grow Our Future*, 2002), was to construct a new

comprehensive technical school. The new Center would offer full-time programs in a wide range of academic and vocational courses. This option would alleviate some of the transportation concerns; however, Director Lucas estimated the construction cost at \$67,000,000 (Lucas, 2004).

Two of the five districts in the consortium, Souderton and Perkiomen Valley, have already reached their construction debt limits as a result of past and current building projects (M. Lucas, personal communication, October 1, 2004). In addition, capital expenditures would have to be financed as specified in the North Montco Articles of Agreement:

All costs of capital outlay (as included under Capital Outlay in the Manual of Accounting and Related Financial Procedures for Pennsylvania School system) for new buildings and additions, extensions of existing buildings, purchase of real estate and buildings, equipping the buildings, including any lease rentals shall be divided among the PARTICIPATING SCHOOL DISTRICTS on the basis of the current market value of all property for each of the PARTICIPATING SCHOOL DISTRICTS as determined by the State Tax Equalization Board at the time the obligation for such capital outlays are incurred, in the proportion that the same bears to the total current market value of real property of all PARTICIPATING SCHOOL DISTRICTS (North Montco AVTS Joint Committee, 1985).

The method in which the districts share the cost of construction was a major consideration for the Wissahickon School District. While Wissahickon sends fewer students to NMTCC than any of the other districts, it would be responsible for, as per the Articles of Agreement, 50% of the construction costs. Conversely, North Penn School District students comprise 50% of the

Center's population, yet would be held responsible for just 15% of the construction costs (M. Lucas, personal communication, October 1, 2004; North Montco AVTS Joint Committee, 1985).

*Purpose of the study.* This study focused on several issues: (a) The delivery system options available to North Montco TCC; (b) the cost effectiveness of NMTCC programs; (c) the feasibility of expanding technical program offerings to reflect the changing employment needs of the community; and (d) the viability of the current physical plant and options for expansion to accommodate the increasing student enrollment. Ultimately the purpose of the study was to determine the most efficient and effective delivery system for North Montco TCC and its participating school districts (e.g., half day sessions, comprehensive technical school). The goals of the study included: (a) A complete review of existing data (e.g., enrollment statistics); (b) an analysis of the current educational delivery systems; and (c) researching program, delivery and facility options based on cost and impact to the sending school districts, business and industry, parents and students, instructional staff, and other partners of NMTCC (Loomis, 2004).

#### *Significance of the Study*

North Montco TCC concurrently operates several delivery systems. The system's most unique aspect is the ninth grade exploratory program. The freshmen schedule is separate from the other grades in the building. Their session is scheduled in the middle of the instructional day. As a result, it is difficult for the sending school principals to schedule these students for other required courses. The Cumberland Perry Area Vocational Technical School, for example, operates a half-day system with specific districts sending students either in the morning or the afternoon. Dauphin County Technical School (DCTS) and York County School of Technology (YCST) are examples of comprehensive technical schools, offering both academic and technical

classes on their campuses. Both DCTS and YCST incorporate their ninth grade population into the entire building schedule.

North Montco CTC appears ready for change. The Director claims the faculty and sending districts felt that NMTCC remains an excellent school. The delivery systems in place, however, do not provide the PA Department of Education required 990 clock hours of instruction per student. Neither does this system address the trend toward increasing enrollment, and the changing occupational needs of the community. These trends require the administration to examine new options for instructional delivery (M. Lucas, personal communication, October 1, 2004).

*Contribution to the body of knowledge.* The possible solutions gleaned from this study appear unique to North Montco TCC's situation. Other career and technical centers, however, may benefit from the findings and research methodology employed in this study.

Based on data acquired from the CTCs throughout Pennsylvania during the 2004-05 school year, the Bureau of Career and Technical Education (BCTE) reported statistics on the educational delivery system patterns of the 83 CTE centers ([http://www.pde.state.pa.us/career\\_edu/lib/career\\_edu/ACTES-RPT2005.pdf](http://www.pde.state.pa.us/career_edu/lib/career_edu/ACTES-RPT2005.pdf)). Based on the data provided (see Table 27, Appendix C) 17 CTCs are comprehensive (i.e., all academics and CTE programs are provided in the same educational facility) and 66 are occupational CTCs (i.e., offering the CTE program only or the CTE program and a few, but not all, of the academic courses required for graduation).

Based on the data provided by PDE/BCTE (see Table 27, Appendix C) there are seven CTCs that offer a comprehensive option (i.e., technical program plus academics necessary for graduation) while not classified as comprehensive technical schools. Three CTCs concurrently



provide one-third day and half-day sessions. The Lancaster County CTC campuses, likewise, simultaneously operate one-third day, half-day, and full day programs.

Statewide, Pennsylvania's CTCs offer a wide variety of educational delivery systems to meet the regional needs of their students and community. Twenty-two CTCs offer four-year programs; 69 offer three-year programs; 30 offer two-year programs; and 24 offer one-year programs. One CTC offers a three-week rotation; one operates a nine-week rotation; five use a semester about program; and 12 offer one-year full-time programs. Like North Montco TCC, all CTCs in Pennsylvania have developed delivery systems which their Joint Operating Committee and administration believe help them attract more and a greater variety of students.

### *Methodology*

The research methodology employed in this study will most likely be the component that can be utilized by the administration of other career and technical centers, should they choose to determine the feasibility of their delivery systems and facilities. Dr. Fred Loomis and this researcher conducted interviews with NMTCC superintendents, high school principals, high school guidance counselors, Joint Operating Committee (JOC) members, and NMTCC administration and staff. In all, 35 people were interviewed. This researcher developed a questionnaire, which was distributed to other stakeholders who had not been consulted.

### *Research Questions*

This study sought to answer the following questions:

1. Are there differences of opinion among the major stakeholders toward NMTCC's current delivery systems?
2. Are there differences of opinion among the major stakeholders toward the renovation of the current facility or the construction of a new facility?

3. Are there differences of opinion among the major stakeholders with regard to the effectiveness of NMTCC's current technical program offerings?
4. Are there differences of opinion among the major stakeholders with regard to the interest in future technical program offerings?

### *Population*

The population of this study is the major stakeholders in the North Montco Technical Career Center's consortium (i.e., Methacton, North Penn, Perkiomen Valley, Souderton, and Wissahickon school districts): (a) district superintendents, (b) North Montco staff, (c) Joint Operating Committee (JOC) members, (d) high school principals, (e) high school guidance counselors, (f) parents, and (g) students.

### *Sample*

The sample for this study included (a) all sending school superintendents, (b) all high school principals in the consortium, (c) all JOC members, (d) guidance counselors who are identified as district liaisons to the TCC, (e) all North Montco staff, (f) district special education staff (g) General Advisory Committee members, and (h) community members.

While all JOC members and North Montco staff participated in the study, not all were personally interviewed. A random sample was interviewed, and the remaining individuals were asked to complete a survey.

### *Variables*

*Dependent variable.* Urdan (2001) defines the dependent variable as

A variable for which the values may depend on, or differ by, the value of the independent variable. When the dependent variable is statistically related to the

independent variable, the value of the dependent variable “depends” on, or is predicted by, the value of the independent variable (p. 80).

The dependent variables for this study were North Montco TCC’s (a) current delivery systems, (b) current technical program offerings, (c) facility options, and (d) future technical program offerings.

*Data sources.* Data collected with regard to these dependent variables were both nominal and interval. Nominal data was collected through personal interviews with school superintendents, high school principals, the high school guidance counselors who serve as liaisons with NMTCC, and a sampling of NMTCC administration and staff. Nominal data was also collected through the survey instrument, which provided space for anecdotal responses under each statement.

The interview was comprised of three open-ended questions. The interviewees’ responses were treated as nominal data and placed into groups by frequency. A descriptive narrative was also collected. Table 3 illustrates and codifies the research questions utilized in the personal interview process.

Table 3

<i>Open-ended Interview Questions</i>				
Research Question	Interview Question	Data	Variables	Method of Measure
Are there differences of opinion among the major stakeholders toward NMTCC’s current delivery systems?	How would you assess the effectiveness and efficiency of the current delivery system at NMTCC?	Nominal	Type of delivery system	Frequency by group
Are there differences of opinion among the major stakeholders toward the renovation of	How do you evaluate the adequacy of the current physical plant?	Nominal	Current physical plant design	Frequency by group

the current facility or the construction of a new facility?

Are there differences of opinion among the major stakeholders with regard to the effectiveness of NMTCC's current technical program offerings?	In your opinion, are the current program offerings cost effective and educationally sound?	Nominal	Technical program offerings	Frequency by group
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*Independent variable.* The independent variable in this study were the stakeholders who assessed the effectiveness and efficiency of the NMTCC facility and delivery systems: (a) JOC members, (b) school district superintendents, (c) sending school guidance counselors, (d) sending school principals, (e) NMTCC administration, (f) special education staff, (g) GAC members, and (h) NMTCC instructional and support staff.

*Questionnaire.* A stakeholders' questionnaire was utilized to collect interval data from the groups identified as the independent variables. The questionnaire was comprised of 21 Likert-type scale items, plus a section in which the stakeholders ranked prospective technical programs. The attitudes of these groups toward NMTCC's delivery systems and facility were measured. Table 4 outlines the survey questions and how each related to the research questions.

Table 4

*Stakeholders' Questionnaire and Variables Studied*

Research Question	Survey Statement	Data	Variables	Method of Measure
Are there differences of opinion among the major stakeholders toward	North Montco TCC's delivery system (i.e., three sessions per day) meets the <u>technical</u> instructional needs of the students	Interval	Delivery systems	Frequency by group

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NMTCC's current delivery systems?	North Montco TCC's delivery system (i.e., three sessions per day) meets the <u>academic</u> instructional needs of the students at their respective high schools.	Interval	Delivery systems	Frequency by group
	North Montco TCC's should continue to operate using its current delivery system (i.e., 3 sessions per day).	Interval	Delivery systems	Frequency by group
	NMTCC should change its schedule from 3 sessions per day to 2 longer, half-day sessions.	Interval	Delivery systems	Frequency by group
	NMTCC should change to a full day seniors only program.	Interval	Delivery systems	Frequency by group
	NMTCC should change to a semester about program (i.e., students would take one semester of technical training at NMTCC, and 1 semester of academic classes at their respective high schools).	Interval	Delivery systems	Frequency by group
	NMTCC should change to a two or three week about program, in which students would have several weeks of nothing but vocational training followed by an equal amount of time taking academic classes.	Interval	Delivery systems	Frequency by group

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	North Montco TCC should change to a full-time comprehensive technical school (i.e., NMTCC would offer <b>ALL</b> academic and technical courses at their facility).	Interval	Delivery systems	Frequency by group
	The three-session delivery system should be changed to two longer sessions per day.	Interval	Delivery systems	Frequency by group
Are there differences of opinion among the major stakeholders toward the renovation of the current facility or the construction of a new facility?	The current physical plant adequately meets the needs of the community, with regard to student enrollment/building capacity, and technical course offerings.	Interval	Facility options	Frequency by group
	North Montco TCC's facility should be renovated (i.e., construction of new classrooms) to address the future needs of the community (i.e., adding new technical course offerings, and expanding student enrollment).	Interval	Facility options	Frequency by group
	A new facility should be built to best meet the needs of the students and community.	Interval	Facility options	Frequency by group
	NMTCC should move all or a portion of its programs to the Souderton High school once they move into their new building.	Interval	Facility options	Frequency by group

Are there differences of opinion among the major stakeholders with regard to the effectiveness of NMTCC's current technical program offerings?	North Montco Technical Career Center's technical course offerings (refer to brochure enclosed) meet the <u>current</u> needs of the students and businesses in our community.	Interval	Current program offerings	Frequency by group
	The 9 <sup>th</sup> grade program provides an important career exploration component for the students.	Interval	Current program offerings	Frequency by group
	The Pennsylvania Youth Apprenticeship Program is very important, and should not be changed.	Interval	Current program offerings	Frequency by group
	NMTCC's Cosmetology program should continue to be offered, as it always has been, through NMTCC.	Interval	Current program offerings	Frequency by group
Are there differences of opinion among the major stakeholders with regard to the interest in future technical program offerings?	North Montco Technical Career Center's technical course offerings (refer to brochure enclosed) meet the <u>future</u> needs of the students and businesses in our community.	Interval	Future program offerings	Frequency by group
	Cosmetology should be offered through the private sector (i.e., private beauty academy) instead of being offered through NMTCC.	Interval	Future program offerings	Frequency by group

The 9 <sup>th</sup> grade program should be expanded to include ALL students who wish to participate.	Interval	Future program offerings	Frequency by group
<u>All</u> 9 <sup>th</sup> grade students from the five sending districts should be exposed to a career exploration experience at NMTCC. (This experience would last 9 weeks.)	Interval	Future program offerings	Frequency by group
Ranking of future programs section	Interval	Future program offerings	Frequency by group

### *Instrumentation*

Wimmer and Dominick (2000) recognize that both qualitative and quantitative methodologies are necessary “to fully understand the nature of a research problem” (as cited in Brewer, 2001, p.49). For example, in this study in-depth personal interviews and anecdotal responses from the NMTCC Stakeholders’ Survey were used to enhance the quantitative findings (i.e., results of the stakeholders’ questionnaire).

*Mixed Methods.* A mixed methods research design was used to conduct this study. Data collection was accomplished through a survey instrument distributed to a larger group of participants and through personal in-depth interviews with a smaller sampling of key stakeholders. As Brewer (2001) described the process, “mixed methods supplement quantitative data taken from a larger sample with qualitative data from a smaller representation of the population” (p. 113). Brewer (2001, p. 113) adds

Other mixed methods are also possible such as [1] addressing both quantitative and qualitative research questions, [2] quantifying narrative findings (i.e.,



counting the number of times various themes arise in interviews), and [3] qualifying some of the quantitative findings (e.g., writing a narrative profile of the mean participant based on statistical data).

Recurring themes resulting from the interview process were categorized and reported based on the frequency of which they are affirmed.

*Advantages of mixed study design.* For purposes of this study, it was important at the outset to recognize the groups of individuals and their respective responses to interview questions and the stakeholders' survey. It could be postulated that, based on their unique perspective, individuals would perceive the dependent variables (e.g., facility options) differently. For example, the superintendents and Joint Operating Committee members' views on the comprehensive school option could be different from the NMTCC instructors and students. While the construction of a new building that houses both academic and technical courses might be the most educationally sound method of delivery, the superintendents and JOC members might rate this option lower than some of the others, because they were concerned with the cost of new construction.

Greene, Caracelli, and Graham (1989) suggest that one method's results may complement the other. Creswell (1994) states that using mixed studies sometimes increases the scope of knowledge about a problem (as cited in Brewer, 2001).

Quantitative data can be used to overcome observer bias, which may occur when using qualitative techniques in isolation (Brewer, 2001). An observer can be influenced by his/her previous experiences, and the observer's presence in the interview process can affect how participants respond (Fine & Elsbach, 2000; as cited in Brewer, 2001). Findings from one

technique may supplement those from another, such as uncovering paradoxes, contradictory findings, and additional information (Brewer, 2001).

*Mixed model simultaneous design.* This research study utilized a mixed model design as described by Tashakkori and Teddlie (1998). In this design, the quantitative and qualitative methodologies are not required to be incorporated into the same research plan. According to the authors, quantitative and qualitative studies could be conducted by using simultaneous investigations. Morse (1991) described simultaneous designs as ones that gather quantitative and qualitative from two different samples within the same population, with each methodology having equal status. The two sets of data are collected independently, and are analyzed and compared after completion of both studies (as cited in Brewer, 2001).

*Triangulation.* Triangulation can be achieved through the convergence of findings from the quantitative and qualitative data sets (Brewer, 2001). Mertens (1998) remarked “Triangulation always includes comparisons of multiple data sets for determining the consistency of evidence” (as cited in Brewer, 2001, p. 115). Denzin and Lincoln (1994) identified four categories of triangulation (as cited in Brewer, 2001, pp. 115-116).

1. Data triangulation: Use of a variety of data sources in a study.
2. Investigator triangulation: Use of several different researchers or evaluations.
3. Theory triangulation: Use of multiple perspectives to interpret a single problem.
4. Methodological triangulation: Use of multiple methods to study a single problem. (pp. 214-215)

Data and methodological triangulation were utilized in this study. Dr. Frederick Loomis, an Associate Professor in the Workforce Education and Development Department of the Pennsylvania State University, and the author of this research study conducted the interviews

with the sending district superintendents. The research team (i.e., Dr. Loomis and this researcher) conducted joint interviews with the current and prior administrative directors, three technical instructors, two academic teachers, one NMTCC counselor, the NMTCC Business Manager, the NMTCC Maintenance Supervisor, the Supervisor of Vocational Education, and two community members. This researcher conducted in-depth interviews with five high school principals and five high school guidance counselors.

*Triangulation of observers.* Multiple interviewers and observers were utilized in this study. This method was used to gain greater depth of perspective (Newman, 2000; as cited in Brewer, 2001). Dr. Loomis and this researcher conducted the in-depth interviews. Dr. Kenneth Gray, Professor of Education in the Workforce Education Department at the Pennsylvania State University, and Dr. Richard Walter, Associate Professor of Education in the Workforce Education Department at the Pennsylvania State University, provided information, data, background, and perspectives regarding best practices in the areas of delivery systems and facility operations and management.

*Across-methods triangulation.* Campbell and Fiske (1959) argued that validation of findings could result from variance in the methods used rather than from the variables being examined (as cited in Brewer, 2001). Brewer (2001) further stated that, by using multiple methods to confirm results, researchers can be assured of the validity of their findings.

*Construct validity.* Nunnally and Bernstein (1994) define construct validity as “an overarching term now seen by most to encompass all forms of validity, which refers to the extent to which a measure adequately assesses the construct it purports to assess” (as cited in Westen & Rosenthal, 2003, p. 609). Virtually all measures include error components that reflect not only random factors but method variance (variance attributable to the method being used, such as self-

report vs. interviews) and irrelevant but nonrandom variables that have been inadvertently included in the measure (Westen & Rosenthal, 2003).

### *Survey Administration*

Following the procedure suggested by Hill (2001), a cover letter was included with the survey to provide a brief explanation of the study and its importance to the NMTCC consortium stakeholders. This letter also included assurances the individual respondent's data would be held in strictest confidence. Details were also provided describing how and where the research would be conducted, the requested return date, and how the results would be reported. Contact persons were also listed should questions arise.

*Survey participants.* The survey participants were from the following groups: (a) JOC members, (b) General Advisory Committee members, (c) NMTCC employees, (d) NMTCC administrators, (e) principals in the NMTCC consortium, (f) guidance counselors in the consortium, (g) special education staff from the sending school districts, and (h) community members. Principals and guidance counselors who participated in the in depth interviews were included in the written survey.

### *Data Collection*

*Surveys.* Completed surveys were sent to Dr. Frederick Loomis at 403 Keller Building, University Park, PA. Participants identified themselves by circling their related identifier (e.g. Principal) located at the bottom of the last page of the questionnaire. A code number for the input of data into the SPSS system identified the survey participants by group.

*In-depth interviews.* Information gleaned from the subjects of the in-depth interviews was codified and original forms maintained by the interviewer(s). A summary sheet was prepared for each interview that outlined the various themes discussed. In-depth interview

participants were the superintendents, high school principals, high school guidance counselors and NMTCC personnel.

### *Mode of Analysis*

*Frequency grouping.* A Likert style scale was utilized to collect respondents' opinions concerning each facility, delivery system, or program related statement. Respondents recorded their opinions by circling one of the following responses for each statement: (a) strongly agree, (b) agree, (c) no opinion, (d) disagree, or (e) strongly disagree. This researcher reported the survey data by using frequencies (i.e., percentages) to represent the variance of opinions expressed within each stakeholder group.

*Supplemental anecdotal data.* In addition, written anecdotal responses recorded in each survey were reported in a table format. Separate tables (see Appendix D) were used to report anecdotal data for the research questions. The anecdotal responses were analyzed to determine whether the written statements recorded under each statement supported the respondents' circled responses.

*Personal interview data.* Nominal data was collected by personal interviews with school superintendents, high school principals, the high school guidance counselors who serve as liaisons with NMTCC, and a sampling of NMTCC administration and staff. The interview was comprised of three open-ended questions.

The interviewees' responses were treated as nominal data and placed into groups by frequency. A descriptive narrative provided in Chapter 4 illustrates the data collected. Table 3 shows the research questions utilized in the personal interview process. The frequency of responses by each group was used to supplement the data gleaned from the NMTCC Stakeholders Survey.

## Chapter 4

### Findings

This chapter summarizes the findings of the North Montco TCC Stakeholders' Survey. The survey was designed to solicit input from NMTCC's major stakeholders pertaining to the facility, the delivery system, and technical course offerings.

The stakeholders were comprised of several subgroups: high school principals (n=8), high school guidance counselors (n=10), Joint Operating Committee members (n=6), district special education staff (n=10), General Advisory Committee (GAC) members (n=8), NMTCC staff (n=59), NMTCC administration (n=4), and community members (n=8).

#### *Anecdotal Responses*

Each question on the NMTCC stakeholders' survey afforded space for each respondent to provide an anecdotal response. This researcher separated the responses by facility, delivery systems, and program offerings. Responses appear in tables 30, 31, and 32 in Appendix D; responses are separated by stakeholder group.

#### *Delivery Systems*

The NMTCC Stakeholders' Survey contained nine questions which dealt with the current and future delivery system needs. The questions related to (a) the adequacy of the delivery system in meeting current instructional needs; (b) the adequacy of the current delivery system to meet the future needs of its stakeholders; and (c) possible solutions to improve the delivery system. Table 5 illustrates the responses to these questions.

*Current delivery system.* Stakeholder survey respondents expressed mixed opinions regarding NMTCC's current educational delivery system (see Table 5). Regarding NMTCC's current delivery system meeting the technical instructional needs of the students, JOC members

are evenly divided. The principals' group responded more positively, with 62.5% agreeing with the statement. The district guidance counselors reacted most positively (30% strongly agree; 50% agree) to the effectiveness of the current delivery system (i.e., three sessions per day). The district special education staff reacted most negatively, with 60% disagreeing or strongly disagreeing.

Table 5

*North Montco TCC's delivery system (i.e., three sessions per day) meets the technical instructional needs of the students.*

Group	Strongly Agree	Agree	No Opinion	Disagree	Strongly Disagree
JOC Member	0.0%	50.0%	0.0%	16.7%	33.3%
Principal	0.0%	62.5%	25.0%	12.5%	0.0%
GAC Member	0.0%	25.0%	50.0%	25.0%	0.0%
District Sp. Ed. Staff	0.0%	20.0%	20.0%	40.0%	20.0%
Guidance Counselor	30.0%	50.0%	20.0%	0.0%	0.0%
NMTCC Staff	6.8%	27.1%	10.2%	47.5%	8.5%
Community Member	0.0%	33.3%	33.3%	33.3%	0.0%
NMTCC Administration	50.0%	0.0%	0.0%	50.0%	0.0%

Anecdotal responses (see Table 30, Appendix D) from the NMTCC staff strongly supported converting from three sessions per day to two longer half-day sessions. Of the numerous opinions expressed, three common topics arose: (a) Three sessions per day is too disruptive, (b) students do not have sufficient instructional time, and (c) the second session (for ninth grade students) is too short.

*Meeting academic instructional needs.* The second statement in the survey pertained to the delivery system. Respondents were asked to judge if NMTCC's delivery system met the academic instructional needs of its students at their respective high schools. JOC members, community members, and NMTCC administration were evenly divided between positive and

negative responses (see Table 6). The principals in the consortium, however, responded more positively, with only 12.5% in disagreement with the statement. District special education staff and guidance counselors were the most positive when combining the *agree* and *strongly agree* categories (60% and 70% respectively).

Table 6

*North Montco TCC's delivery system (i.e., three sessions per day) meets the academic instructional needs of the students at their respective high schools.*

Group	Strongly Agree	Agree	No Opinion	Disagree	Strongly Disagree
JOC Member	0.0%	50.0%	0.0%	16.7%	33.3%
Principal	25.0%	25.0%	12.5%	37.5%	0.0%
GAC Member	0.0%	0.0%	100.0%	0.0%	0.0%
District Sp. Ed. Staff	20.0%	40.0%	0.0%	40.0%	0.0%
Guidance Counselor	10.0%	60.0%	20.0%	0.0%	10.0%
NMTCC Staff	6.8%	28.8%	39.0%	22.0%	3.4%
Community Member	0.0%	33.3%	33.3%	33.3%	0.0%
NMTCC Administration	0.0%	50.0%	0.0%	0.0%	50.0%

Anecdotal responses (see Table 30, Appendix D) to this statement revealed two concerns:

(a) Travel time makes it difficult for NMTCC students to accommodate all of their required academics into their schedules, and (b) the district special education staff indicated their difficulty providing support services for special needs students. Without study halls in their district high school schedules, often identified students cannot easily access support services nor have meaningful contact with their case managers. The NMTCC administration group, conversely, touted the merits of having academics at the respective high schools instead of at NMTCC.

*Continue current delivery system.* The third question regarded the delivery system: NMTCC should continue to operate using its current delivery system (see Table 7). The external



stakeholders (principals, 75%; GAC members, 50%; district special education staff, 60%; guidance counselors, 90%; and community members, 66.7%) responded more positively to this statement when strongly agree and agree categories were combined. NMTCC staff and administration split positive and negative responses more evenly.

Table 7

*North Montco TCC should continue to operate using its current delivery system (i.e., 3 sessions per day).*

Group	Strongly Agree	Agree	No Opinion	Disagree	Strongly Disagree
JOC Member	0.0%	33.3%	16.7%	16.7%	33.3%
Principal	25.0%	50.0%	0.0%	25.0%	0.0%
GAC Member	25.0%	25.0%	25.0%	25.0%	0.0%
District Sp. Ed. Staff	20.0%	40.0%	20.0%	20.0%	0.0%
Guidance Counselor	20.0%	70.0%	10.0%	0.0%	0.0%
NMTCC Staff	8.5%	25.4%	13.6%	39.0%	13.6%
Community Member	0.0%	66.7%	0.0%	33.3%	0.0%
NMTCC Administration	50.0%	0.0%	0.0%	50.0%	0.0%

The anecdotal responses relating to continuing the current delivery system (see Table 30, Appendix D) appear to favor a two session half-day system. The NMTCC staff was the most critical of the three-session day. The major concern voiced by this group was the three sessions were too short in duration to optimize instruction.

*Half-day sessions.* The fourth question under educational delivery systems dealt with changing the current delivery system to two longer half-day sessions. JOC members' responses (see Table 8) were evenly split among positive and negative categories (agree, 33.3%; no opinion, 33.3%; disagree and strongly disagree combined, 33.4%). NMTCC administration was evenly split (agree, 50%; disagree, 50%); GAC members were more supportive of the change (strongly agree, 50%; no opinion, 50%). Principals responded more negatively, with 25% either strongly agreeing or agreeing, and 37.5% either disagreeing or strongly disagreeing. District

special education staff strongly supported changing to two half-day sessions (strongly agree, 40%; agree, 40%).

Table 8

*NMTCC should change its schedule from 3 sessions per day to 2 longer, half-day sessions.*

Group	Strongly Agree	Agree	No Opinion	Disagree	Strongly Disagree
JOC Member	0.0%	33.3%	33.3%	16.7%	16.7%
Principal	12.5%	12.5%	37.5%	12.5%	25.0%
GAC Member	50.0%	0.0%	50.0%	0.0%	0.0%
District Sp. Ed. Staff	40.0%	40.0%	20.0%	0.0%	0.0%
Guidance Counselor	0.0%	10.0%	20.0%	50.0%	20.0%
NMTCC Staff	30.5%	27.1%	18.6%	20.3%	3.4%
Community Member	0.0%	66.7%	0.0%	33.3%	0.0%
NMTCC Administration	0.0%	50.0%	0.0%	50.0%	0.0%

In general, the anecdotal responses (see Table 30, Appendix D) indicated support for a half-day sessions system. The majority of respondents, with the exception of the guidance counselors, indicated that a half-day session would be an improvement over the three-session day currently in operation.

*Alternate delivery systems.* While response was mixed with regard to changing the current delivery system (i.e., three sessions per day) to a half-day system, there appears to be no such confusion regarding the other options mentioned in the survey. The stakeholders oppose changing to a seniors only program, three-week-about system, or a semester about program.

*Seniors only program.* The data (see Table 9) indicate that six of the eight stakeholder groups were opposed to changing to a seniors only program. Only the community members group supported the change, with the NMTCC administration evenly split in their opinions.

Table 9

*NMTCC should change to a full day seniors only program.*

Group	Strongly Agree	Agree	No Opinion	Disagree	Strongly Disagree
JOC Member	16.7%	0.0%	16.7%	50.0%	16.7%
Principal	0.0%	12.5%	12.5%	37.5%	37.5%
GAC Member	0.0%	0.0%	0.0%	25.0%	75.0%
District Sp. Ed. Staff	0.0%	0.0%	20.0%	60.0%	20.0%
Guidance Counselor	0.0%	0.0%	20.0%	10.0%	70.0%
NMTCC Staff	0.0%	1.7%	15.3%	23.7%	59.3%
Community Member	0.0%	66.7%	0.0%	33.3%	0.0%
NMTCC Administration	0.0%	50.0%	0.0%	0.0%	50.0%

Anecdotal responses (see Table 30, Appendix D) reflect the quantitative data. The major concern, raised by the NMTCC staff, was that one year of technical instruction would not be adequate for students to achieve sufficient skills for employment.

*Semester about program.* No majority of any of the stakeholder groups agreed with the statement that NMTCC should change to a semester about program (see Table 10). One group, comprised of district special education staff, had the highest percentage of respondents (20%) who strongly agreed with changing to a semester about delivery system.

Table 10

*NMTCC should change to a semester about program (i.e., students would take one semester of technical training at NMTCC, and 1 semester of academic classes at their respective high schools).*

Group	Strongly Agree	Agree	No Opinion	Disagree	Strongly Disagree
JOC Member	0.0%	16.7%	66.7%	16.7%	0.0%
Principal	0.0%	12.5%	12.5%	50.0%	25.0%
GAC Member	0.0%	0.0%	0.0%	66.7%	33.3%
District Sp. Ed. Staff	20.0%	0.0%	0.0%	40.0%	40.0%
Guidance Counselor	0.0%	0.0%	20.0%	30.0%	50.0%
NMTCC Staff	1.7%	6.8%	23.7%	15.3%	52.5%
Community Member	0.0%	0.0%	66.7%	0.0%	33.3%
NMTCC Administration	0.0%	0.0%	0.0%	0.0%	100.0%

Anecdotal responses (see Table 30, Appendix D) supported the quantitative responses for this statement. Written responses indicated that some of the respondents did not fully understand the statement, lacking information as to what a semester about system entails.

*Three week about system.* Support for a three week about system (see Table 11) was as negative as for the semester about system. Only the community members group indicated any support (33.3%) for the concept, and they were evenly divided among *agree*, *no opinion*, and *disagree* categories. The anecdotal responses (see Table 30, Appendix D) concur with the quantitative data provided.

Table 11

*NMTCC should change to a two or three week about program, in which students would have several weeks of nothing but vocational training followed by an equal amount of time taking academic classes.*

Group	Strongly Agree	Agree	No Opinion	Disagree	Strongly Disagree
JOC Member	0.0%	16.7%	83.3%	0.0%	0.0%
Principal	0.0%	12.5%	0.0%	37.5%	50.0%
GAC Member	0.0%	0.0%	33.3%	33.3%	33.3%
District Sp. Ed. Staff	0.0%	0.0%	0.0%	0.0%	100.0%
Guidance Counselor	0.0%	0.0%	10.0%	40.0%	50.0%
NMTCC Staff	3.4%	1.7%	20.3%	25.4%	49.2%
Community Member	0.0%	33.3%	33.3%	33.3%	0.0%
NMTCC Administration	0.0%	0.0%	0.0%	0.0%	100.0%

*Comprehensive technical school.* The comprehensive technical school option was the only option, other than the half-day session option, which garnered support from several stakeholder groups (see Table 12). Combining the *strongly agree* and *agree* options, all but one of the stakeholder groups supported the comprehensive delivery system, with at least 50% of the participants from each group responding in the affirmative. The high school guidance counselors were the only group that responded negatively (i.e., disagree or strongly disagree). The anecdotal

responses (see Table 30, Appendix D) provided by the stakeholders supported the comprehensive delivery system.

Table 12

*North Montco TCC should change to a full time comprehensive technical school (i.e., NMTCC would offer ALL academic and technical courses at their facility).*

Group	Strongly Agree	Agree	No Opinion	Disagree	Strongly Disagree
JOC Member	0.0%	0.0%	66.7%	16.7%	16.7%
Principal	0.0%	50.0%	12.5%	12.5%	25.0%
GAC Member	25.0%	25.0%	25.0%	25.0%	0.0%
District Sp. Ed. Staff	40.0%	40.0%	0.0%	20.0%	0.0%
Guidance Counselor	20.0%	10.0%	10.0%	40.0%	20.0%
NMTCC Staff	30.5%	33.9%	18.6%	11.9%	5.1%
Community Member	33.3%	33.3%	0.0%	33.3%	0.0%
NMTCC Administration	0.0%	100.0%	0.0%	0.0%	0.0%

The second statement regarding changing to a half-day system (see Table 13) was interjected to determine if the survey participants would respond in a similar fashion to both questions (i.e., questions 13 and 19). Respondents answered both questions in a similar manner.

Table 13

*The three-session delivery system should be changed to two longer sessions per day.*

Group	Strongly Agree	Agree	No Opinion	Disagree	Strongly Disagree
JOC Member	0.0%	50.0%	33.3%	16.7%	0.0%
Principal	0.0%	25.0%	12.5%	25.0%	37.5%
GAC Member	33.3%	0.0%	66.7%	0.0%	0.0%
District Sp. Ed. Staff	40.0%	40.0%	0.0%	20.0%	0.0%
Guidance Counselor	0.0%	11.1%	11.1%	33.3%	44.4%
NMTCC Staff	30.5%	25.4%	16.9%	16.9%	10.2%
Community Member	0.0%	33.3%	33.3%	33.3%	0.0%
NMTCC Administration	0.0%	50.0%	0.0%	50.0%	0.0%

### *Facility*

The NMTCC Stakeholders' Survey has four questions that deal with the current and future facility needs. The questions relate to (a) the adequacy of the facility in meeting current instructional needs; (b) the adequacy of the current facility to meet the future needs of its stakeholders; and (c) possible solutions to expanding enrollment, and curricular changes. Tables 14 through 17 detail the responses to these questions.

*Renovation.* Respondents were divided regarding the adequacy of the current facility to meet the needs of the community (see Table 14). GAC members (75%), district special education staff (100%), NMTCC staff (79.6%), and community members (66.7%) either disagreed or strongly disagreed that the facility meets the needs of the community. JOC members and guidance counselors were almost evenly divided in their opinions.

Table 14

<i>The current physical plant adequately meets the needs of the community, with regard to student enrollment/building capacity, and technical course offerings.</i>					
Group	Strongly Agree	Agree	No Opinion	Disagree	Strongly Disagree
JOC Member	16.7%	33.3%	0.0%	50.0%	0.0%
Principal	0.0%	50.0%	0.0%	50.0%	0.0%
GAC Member	0.0%	25.0%	0.0%	50.0%	25.0%
District Sp. Ed. Staff	0.0%	0.0%	0.0%	60.0%	40.0%
Guidance Counselor	10.0%	30.0%	20.0%	30.0%	10.0%
NMTCC Staff	0.0%	15.3%	5.1%	55.9%	23.7%
Community Member	0.0%	0.0%	33.3%	66.7%	0.0%

Respondents seemed to agree that the current facility should be renovated to address the future needs of the community (see Table 15). Combining stakeholders' positive responses (strongly agreed or agreed) 66.7% of the JOC members, 50% of the principals, 75% of the GAC

members, 80% of the district special education staff, 70.6% of the NMTCC staff, and 100% of the NMTCC administration felt that renovation is necessary.

Table 15

*North Montco TCC's facility should be renovated (i.e., construction of new classrooms) to address the future needs of the community (i.e., adding new technical course offerings, and expanding student enrollment).*

Group	Strongly Agree	Agree	No Opinion	Disagree	Strongly Disagree
JOC Member	0.0%	66.7%	0.0%	0.0%	33.3%
Principal	25.0%	50.0%	0.0%	25.0%	0.0%
GAC Member	75.0%	0.0%	25.0%	0.0%	0.0%
District Sp. Ed. Staff	60.0%	20.0%	20.0%	0.0%	0.0%
Guidance Counselor	40.0%	40.0%	20.0%	0.0%	0.0%
NMTCC Staff	45.8%	35.6%	1.7%	10.2%	6.8%
Community Member	0.0%	66.7%	0.0%	33.3%	0.0%
NMTCC Administration	50.0%	50.0%	0.0%	0.0%	0.0%

In their anecdotal responses (see Table 31, Appendix D), JOC members addressed space issues by suggesting the elimination of a Cosmetology program, as well as any technical programs in which fewer than 12 students were enrolled. Another JOC member suggested the second session should be eliminated. The majority of NMTCC staff responses related to the inadequacy of space and overcrowdedness of classrooms. Community members, district special education staff, guidance counselors, and GAC members affirmed these issues as primary concerns.

*New construction.* The results concerning the construction of a new facility were more ambiguous (see Table 16). JOC members (66.7%) either disagreed or strongly disagreed that a new facility should be built. The majority (66.7%) of community members stated they had no opinion. The principals were almost evenly divided on this issue. GAC members, district special education staff, NMTCC staff, and NMTCC administration responded positively to the

construction of a new facility.

Table 16

*A new facility should be built to best meet the needs of the students and community.*

Group	Strongly Agree	Agree	No Opinion	Disagree	Strongly Disagree
JOC Member	0.0%	0.0%	33.3%	50.0%	16.7%
Principal	25.0%	25.0%	12.5%	25.0%	12.5%
GAC Member	50.0%	25.0%	25.0%	0.0%	0.0%
District Sp. Ed. Staff	40.0%	40.0%	20.0%	0.0%	0.0%
Guidance Counselor	20.0%	10.0%	60.0%	10.0%	0.0%
NMTCC Staff	53.4%	17.2%	15.5%	13.8%	0.0%
Community Member	0.0%	33.3%	66.7%	0.0%	0.0%
NMTCC Administration	50.0%	50.0%	0.0%	0.0%	0.0%

In their anecdotal responses (see Table 31, Appendix D), stakeholders' reactions were equally divided. JOC members agreed with the need for renovation and expansion, not the construction of a new facility. NMTCC staff members stressed that, if a new facility were built, it should be centrally located within the geographic region. District guidance counselors felt that renovations would be more than adequate; GAC members recognized the need to build a new facility if the existing site proved insufficient for the educational needs of the community.

*Comprehensive delivery system.* JOC members strongly disagreed or disagreed (100%) with the statement that NMTCC should change to a full-time comprehensive technical school (see Table 12). Four of the seven remaining stakeholder groups (GAC members, 75%; district special education staff, 80%; NMTCC staff, 70.6%; and NMTCC administration, 100%) either agreed or strongly agreed that the facility should change to a full-time comprehensive technical school. The principals' responses were divided among all categories. The majority of district guidance counselors and community members stated they had no opinion on this issue.



Stakeholders' anecdotal responses (see Table 31, Appendix D) were interesting, considering how they responded to the previous question regarding the construction of a new facility. JOC members were not as negative to the option of a comprehensive facility. The majority of the NMTCC staff members expressed positive opinions, stating that this would be an ideal alternative. Community members and district special education staff also responded positively; GAC members felt this option would lead to too much duplication of academic training.

*Souderton High School option.* The majority of stakeholder groups (JOC members, 66.7%; Principals, 50%; GAC members, 75%; district special education staff, 60%); district guidance counselors, 60%; and NMTCC staff, 58.9%) disagreed or strongly disagreed that NMTCC should move all or some of its programs to the former Souderton High School facility (see Table 17). Only the community members group (33.3% agreed; 33.3% strongly agreed) favored this option. The NMTCC administration was split in their opinions, with 50% stating they agreed and 50% stating they strongly disagreed with transferring programs to the former Souderton High School.

Table 17

*NMTCC should move all or a portion of its programs to the Souderton High school once they move into their new building.*

Group	Strongly Agree	Agree	No Opinion	Disagree	Strongly Disagree
JOC Member	16.7%	16.7%	0.0%	16.7%	50.0%
Principal	12.5%	0.0%	37.5%	12.5%	37.5%
GAC Member	0.0%	0.0%	25.0%	25.0%	50.0%
District Sp. Ed. Staff	0.0%	20.0%	20.0%	20.0%	40.0%
Guidance Counselor	0.0%	0.0%	40.0%	20.0%	40.0%
NMTCC Staff	3.6%	14.3%	23.2%	25.0%	33.9%
Community Member	33.3%	33.3%	0.0%	33.3%	0.0%
NMTCC Administration	0.0%	50.0%	0.0%	0.0%	50.0%

The stakeholders' anecdotal responses (see Table 31, Appendix D) to the Souderton High School option dealt with two major concerns: (a) Souderton High School is not centrally located in the consortium, which would cause the four other districts to travel even further than they do to the current facility; and (b) Souderton High School would not have the physical plant requirements to house equipment needed for industry related technical programs.

### *Program Offerings*

*Technical program meeting current needs.* Seven of eight stakeholder groups responded positively (i.e., the majority of each group chose either strongly agree or agree options) to the statement regarding the NMTCC course offerings meeting the current needs of the students and businesses in the community (see Table 18). Only the NMTCC administration split their responses evenly between the positive and negative categories.

Table 18

<i>North Montco Technical Career Center's technical course offerings meet the current needs of the students and businesses in our community</i>				
Group	Strongly Agree	Agree	No Opinion	Disagree
JOC Member	0.0%	83.3%	16.7%	0.0%
Principal	12.5%	87.5%	0.0%	0.0%
GAC Member	50.0%	50.0%	0.0%	0.0%
District Sp. Ed. Staff	40.0%	40.0%	20.0%	0.0%
Guidance Counselor	30.0%	60.0%	0.0%	10.0%
NMTCC Staff	23.7%	64.4%	3.4%	8.5%
Community Member	0.0%	100.0%	0.0%	0.0%
NMTCC Administration	0.0%	50.0%	0.0%	50.0%

Survey participants provided suggestions for new technical programs in their anecdotal responses (see Table 32, Appendix D). Child Care and a business course were recommended.

*Technical program meeting future needs.* Seven of the eight stakeholder groups responded positively (i.e., the majority of each group chose either strongly agree or agree options) to the statement regarding the NMTCC course offerings meeting the future needs of the students and businesses in the community (see Table 19). The district special education staff responded more positively (40%) than negatively (20%) to the statement; however, 40% of this group chose the *no opinion* option.

Table 19

*North Montco Technical Career Center's technical course offerings meet the future needs of the students and businesses in our community.*

Group	Strongly Agree	Agree	No Opinion	Disagree
JOC Member	0.0%	66.7%	33.3%	0.0%
Principal	0.0%	100.0%	0.0%	0.0%
GAC Member	0.0%	100.0%	0.0%	0.0%
District Sp. Ed. Staff	0.0%	40.0%	40.0%	20.0%
Guidance Counselor	20.0%	50.0%	0.0%	30.0%
NMTCC Staff	14.0%	57.9%	14.0%	14.0%
Community Member	0.0%	66.7%	33.3%	0.0%
NMTCC Administration	0.0%	50.0%	50.0%	0.0%

Participants suggested several new program options in their anecdotal responses (see Table 32, Appendix D). The district special education staff recommended more programs designed for special needs students.

*Ninth grade program.* All stakeholder groups, with the exception of the JOC members, appear to be satisfied with the NMTCC 9<sup>th</sup> grade program (see Table 20). The majority of JOC members chose the *no opinion* category. Combining *strongly agree* and *agree* responses to the statement “The 9<sup>th</sup> grade program offers an important career exploration component for the students” the majority of the stakeholders support the program, with two-thirds or more of the respondents recording a positive response.

Table 20

*The 9th grade program provides an important career exploration component for the students.*

Group	Strongly Agree	Agree	No Opinion	Disagree
JOC Member	0.0%	16.7%	83.3%	0.0%
Principal	50.0%	25.0%	0.0%	25.0%
GAC Member	25.0%	75.0%	0.0%	0.0%
District Sp. Ed. Staff	60.0%	40.0%	0.0%	0.0%
Guidance Counselor	40.0%	40.0%	10.0%	10.0%
NMTCC Staff	19.0%	50.0%	15.5%	15.5%
Community Member	33.3%	33.3%	33.3%	0.0%
NMTCC Administration	50.0%	50.0%	0.0%	0.0%

Anecdotal responses (see Table 32, Appendix D) from the NMTCC staff expressed two major concerns: (a) The need for ninth grade students to be more mature, and (b) the length of the ninth grade session being too short. The community members, district guidance counselors, and special education staff wrote more positive responses relative to the ninth grade program.

With regard to expanding the 9<sup>th</sup> grade program, the response by the groups was mixed (see Table 21). Likewise, NMTCC stakeholders' opinions were diverse. Only the district special education staff and community members groups recorded a majority of respondents who chose the *strongly agree* or *agree* options.

Table 21

*The 9th grade program should be expanded to include ALL students who wish to participate.*

Group	Strongly Agree	Agree	No Opinion	Disagree	Strongly Disagree
JOC Member	0.0%	33.3%	33.3%	16.7%	16.7%
Principal	0.0%	25.0%	12.5%	62.5%	0.0%
GAC Member	25.0%	0.0%	0.0%	75.0%	0.0%
District Sp. Ed. Staff	60.0%	40.0%	0.0%	0.0%	0.0%
Guidance Counselor	10.0%	40.0%	20.0%	20.0%	10.0%
NMTCC Staff	17.5%	17.5%	19.3%	24.6%	21.1%
Community Member	0.0%	100.0%	0.0%	0.0%	0.0%
NMTCC Administration	0.0%	50.0%	50.0%	0.0%	0.0%

The anecdotal responses (see Table 32, Appendix D) suggested that respondents were confused with regard to the wording of the statement. The statement regarding the expansion of the ninth grade program was included at the request of the NMTCC administration to determine if the stakeholders supported requiring all ninth grade students in the participating districts to participate career exploration at NMTCC. Currently, only interested students participate in the program.

The response by the major stakeholders to the question related to the Pennsylvania Youth Apprenticeship Program (PAYAP) was positive (see Table 22). The majority of respondents from all groups, with the exception of the JOC members and district special education staff, registered positive responses (i.e., strongly agree or agree) to the statement that PAYAP is very important, and should not be changed. The district special education staff split its choices evenly between positive and negative responses. A large majority (66.7%) of the JOC members recorded a *no opinion* response. The anecdotal responses seemed to share a common opinion: The PAYAP program has room to improve.

Table 22

*The Pennsylvania Youth Apprenticeship Program is very important, and should not be changed.*

Group	Strongly Agree	Agree	No Opinion	Disagree	Strongly Disagree
JOC Member	16.7%	16.7%	66.7%	0.0%	0.0%
Principal	25.0%	75.0%	0.0%	0.0%	0.0%
GAC Member	25.0%	25.0%	25.0%	25.0%	0.0%
District Sp. Ed. Staff	0.0%	40.0%	20.0%	40.0%	0.0%
Guidance Counselor	50.0%	30.0%	20.0%	0.0%	0.0%
NMTCC Staff	25.4%	33.9%	13.6%	20.3%	6.8%
Community Member	33.3%	66.7%	0.0%	0.0%	0.0%
NMTCC Administration	50.0%	0.0%	0.0%	0.0%	50.0%

*Cosmetology.* All NMTCC stakeholder groups agreed that Cosmetology should be operated within NMTCC, not offered through the private sector (see tables 23 and 24). All groups, 50% or more of the respondents in each group strongly agreed or agreed with the statement that inferred NMTCC should maintain the program. Conversely, with respect to outsourcing the Cosmetology program to the private sector, the stakeholders responded negatively. More than 50% of all groups recorded a negative response, either disagreeing or strongly disagreeing with this option.

Table 23

*NMTCC's Cosmetology program should continue to be offered, as it always has been, through NMTCC.*

Group	Strongly Agree	Agree	No Opinion	Disagree	Strongly Disagree
JOC Member	0.0%	50.0%	33.3%	0.0%	16.7%
Principal	12.5%	62.5%	12.5%	12.5%	0.0%
GAC Member	25.0%	25.0%	50.0%	0.0%	0.0%
District Sp. Ed. Staff	80.0%	20.0%	0.0%	0.0%	0.0%
Guidance Counselor	40.0%	30.0%	30.0%	0.0%	0.0%
NMTCC Staff	44.6%	39.3%	14.3%	1.8%	0.0%
Community Member	0.0%	100.0%	0.0%	0.0%	0.0%
NMTCC Administration	50.0%	50.0%	0.0%	0.0%	0.0%

Table 24

*Cosmetology should be offered through the private sector (i.e., private beauty academy) instead of being offered through NMTCC.*

Group	Agree	No Opinion	Disagree	Strongly Disagree
JOC Member	0.0%	33.3%	50.0%	16.7%
Principal	0.0%	37.5%	25.0%	37.5%
GAC Member	0.0%	50.0%	25.0%	25.0%
District Sp. Ed. Staff	0.0%	0.0%	60.0%	40.0%
Guidance Counselor	0.0%	10.0%	50.0%	40.0%
NMTCC Staff	1.8%	10.7%	26.8%	60.7%
Community Member	33.3%	0.0%	66.7%	0.0%
NMTCC Administration	0.0%	0.0%	50.0%	50.0%

Anecdotal responses to the Cosmetology program were positive (see Table 32, Appendix D). Stakeholders agreed that the program is very popular; however, several commented that an assessment should be made of the demand for this occupation in the region.

*Interviews with High School Personnel*

In addition to the survey of all major NMTCC stakeholders, this researcher conducted interviews of each sending high school principal/assistant principal and guidance personnel. The results of these interviews are summarized in tables 25 and 26 below.

Table 25

*What are your opinions regarding the current delivery system at NMTCC, and how do you think it can be improved?*

Group	Comprehensive CTC is best option	Half-day sessions is the best option	Keep three sessions per day
Principals	40.0%	40.0%	20.0%
Group	Comprehensive CTC is best option	Half-day sessions is the best option	Keep three sessions per day
Counselors	20.0%	80.0%	0.0%

Table 26

*What is your opinion of the ninth grade program?*

Group	Good program	Time of day is a problem	Difficult to adjust to HS and NMTCC program	No Opinion
Principals	41.7%	41.7%	16.6%	0
Counselors	44.4%	22.2%	22.2%	11.2%

During the interviews, guidance counselors raised concerns about NMTCC making its program accessible to all special needs students, the admissions process for the PAYAP program and the quality of facilities for various programs (e.g., Culinary Arts and Horticulture). High School principals also raised concerns about enrollment patterns and placement rates for various programs (e.g., Cosmetology and Culinary Arts).



The survey also asked respondents to identify program areas that should be developed to respond to the labor market needs of industry. Based upon the survey results the following programs were identified by respondents as needed: (a) emergency medical technician, (b) veterinary assistant, (c) ROTC program, (d) child development, (e) medical/dental assistant, and (f) certified nurse assistant.

#### *JOC Clarification Findings*

JOC members were one of the most important stakeholder groups involved in the NMTCC survey, as they are the governing body that would determine if the curriculum, facility, and/or delivery systems should be changed. In order to clarify the mission given to the Penn State team (i.e., Drs. Gray, Loomis, Walter and this researcher), JOC members were asked to rank order the various goals of the NMTCC. The JOC members ranked the mission goals in the following order of importance:

1. Courses that will prepare students to work full time after high school
2. Courses for students who will attend 1-2 year postsecondary schools for tech education
3. Special needs/at risk of dropping out students
4. Youth Apprenticeship programs
5. Career exploration targeted to 9<sup>th</sup> grade
6. Short technical course for students who will attend a 4 year institution

## Chapter 5

### Summary, Conclusions, and Recommendations

This chapter represented an assessment of the educational delivery system, facility, and programs of the North Montco Technical and Career Center (NMTCC). Its purpose was to summarize the opinions of NMTCC's major stakeholders in order to assist in the development of an implementation plan regarding the educational delivery system, facility, and educational programs. The NMTCC administration needed to know the opinions of each stakeholder group prior to recommending a course of action for changing the educational delivery system; updating the facility through renovation and/or new construction; and updating, adding or eliminating curriculum.

Dr. Frederick D. Loomis, Associate Professor and Director of the Outreach Program Initiative of the Workforce Education and Development at Penn State University undertook the assessment study. Penn State Professors Dr. Kenneth Gray, Professor of Workforce Education and Development, Dr. Richard Walter, Associate Professor and Director of Professional Personnel Development Center in Career and Technical Education and this researcher, a doctoral candidate in Workforce Education and Development, assisted Dr. Loomis.

The methodology used for this study included a review of previous reports and plans; in depth interviews with the five district superintendents, principals, counselors, NMTCC faculty and administrators; and a survey of all NMTCC faculty and administrators and other key stakeholders, including school district personnel, JOC, and GAC members. The report provided options with recommendations and analyzed the potential impact to NMTCC clients, students and stakeholders.

Dr. Loomis interviewed the school superintendents. This researcher collected data in fall 2004 and spring 2005 via paper surveys and in-depth interviews of the high school principals and guidance counselors, including site visits to each of the sending high schools. Three meetings were held with the school superintendents at their Professional Advisory Committee meetings (PAC) to collect data and obtain reactions to preliminary findings.

After discussion with the JOC, school superintendents, and NMTCC administration, the Penn State Team agreed to focus on the information relevant to the educational delivery system for its final presentation at the JOC meeting. For purposes of this study this researcher included the data summaries and recommendations regarding the NMTCC facility and technical course offerings, which could have been part of the final report.

### **Summary of Findings**

Educational administrators need to acknowledge the value of each stakeholder's opinion and how it can affect the development and implementation of proposed changes in a facility. It should be straightforward for the administrative director of a CTC to recognize the importance of school board members' (i.e., JOC members) and school district superintendents' opinions; however, there are other stakeholders, who may not have the political clout of the aforementioned groups, whose views must be considered to achieve successful completion of educational goals. It is extremely important to recognize the opinions of each group and how they might differ from one another.

The opinions of the major stakeholder groups are summarized in the paragraphs that follow. Data gleaned from the high school principals' and guidance counselors' interviews supplement and compliment the findings of the NMTCC Stakeholders' Survey.

### *Personal Interviews*

Personal interviews were conducted with the high school principals and NMTCC liaison counselors. The researcher asked each of the interviewees their opinions regarding preferred educational delivery system (e.g., comprehensive technical school v. half-day system), the ninth grade career exploration program, the effectiveness of NMTCC's current technical course offerings, and new programs for future consideration. The researcher categorized the frequency of their responses, and reported these in Table 27.

### *Delivery Systems*

There are only three delivery system options listed in Table 27, as the interviewees did not mention the other options (e.g., seniors only program). Three of the individuals interviewed felt that a comprehensive technical school would be the best delivery option; however, they also stated that their second choice was a half-day delivery system. Six interviewees stated that the half-day delivery system would be their first choice. One interviewee preferred to keep the current delivery system.

The majority of principals and counselors (80%) agreed that the half-day delivery option would not pose any problems with the attainment of graduation credits. The consensus of opinion, however, was that NMTCC would have to offer a minimum of one academic course per student per year to ensure that the technical students would have sufficient academic credits to graduate.

### *Ninth Grade Program*

Interviewees were pleased with the ninth grade career exploration program. They felt it was effective and important for those students interested in pursuing a technical education. The

one complaint mentioned by 80% of the respondents was that the time of day allotted for the program caused several problems:

1. Students returning to the high schools are unruly, and this often results in disciplinary infractions.
2. It is difficult to schedule student classes around this time frame, especially when taking bus travel time into consideration.
3. Students traveling to and from NMTCC during the middle of the day results in a greater number of discipline problems than during the beginning or end of the day.

Table 27

**Personal Interview Responses by NMTCC's High School Principals and Counselors**

*I. Delivery systems*

Group	Preferred delivery system			Problem going to half day system	
	Comp.	Half-day	3 sessions	Yes	No
HS Principals	40.0%	40.0%	20.0%	20.0%	80.0%
HS Counselors	20.0%	80.0%	0.0%	20.0%	80.0%

*II. Opinion of 9th grade program*

Group	Good	Time of day problem	Difficulty adjusting	No opinion
HS Principals	100.0%	100.0%	20.0%	0.0%
HS Counselors	80.0%	40.0%	40.0%	20.0%

*III. NMTCC's current programs*

Group	Adequate	Different programs needed
HS Principals	100.0%	0.0%
HS Counselors	100.0%	0.0%

*IV. Preferences for new programs*

Group	Child Developmet	Travel & Tourism	Aviation Mechanic	EMT	Dental Asst	Vet Asst	ROTC
HS Principals	1	1	1	3	1	2	3
HS Counselors	2	2	2	2	2	1	1
Total	3	3	3	5	3	3	4

### *NMTCC Program Offerings*

All interviewees agreed that NMTCC's current technical course offerings met the needs of their students. There appeared to be no consensus with regard to preferences for future programs.

*Additional comments.* One common theme throughout the interviews of the principals and guidance counselors was summarized in this comment: "NMTCC staff are very accommodating. We have a very collegial relationship with them. We share the same goals. They do a good job with what they have to work with." The principals and counselors were very pleased with the working relationship they have with NMTCC staff and administration in matters of student discipline and counseling. Their overall impression of NMTCC was extremely positive and supportive of the Center.

### *NMTCC Stakeholders' Survey*

The survey was designed to solicit input from NMTCC's major stakeholders pertaining to the facility, the delivery system, and technical course offerings. The stakeholders were comprised of several groups: high school principals, high school guidance counselors, Joint Operating Committee members, district special education staff, General Advisory Committee members, and community members. Figures 1 – 20 represent the opinions of each stakeholder group.

### *Delivery Systems*

Based on data presented in Figure 1 the stakeholder groups were divided regarding the statement that "North Montco TCC's delivery system (i.e., three sessions per day) meets the technical instructional needs of the students." JOC members were equally divided between positive and negative responses, as were community members and NMTCC administration; the

principals were much more positive; GAC members divided their responses equally between agree and disagree, with the largest percentage of them expressing no opinion. District special education staff and NMTCC staff members recorded more negative than positive responses.

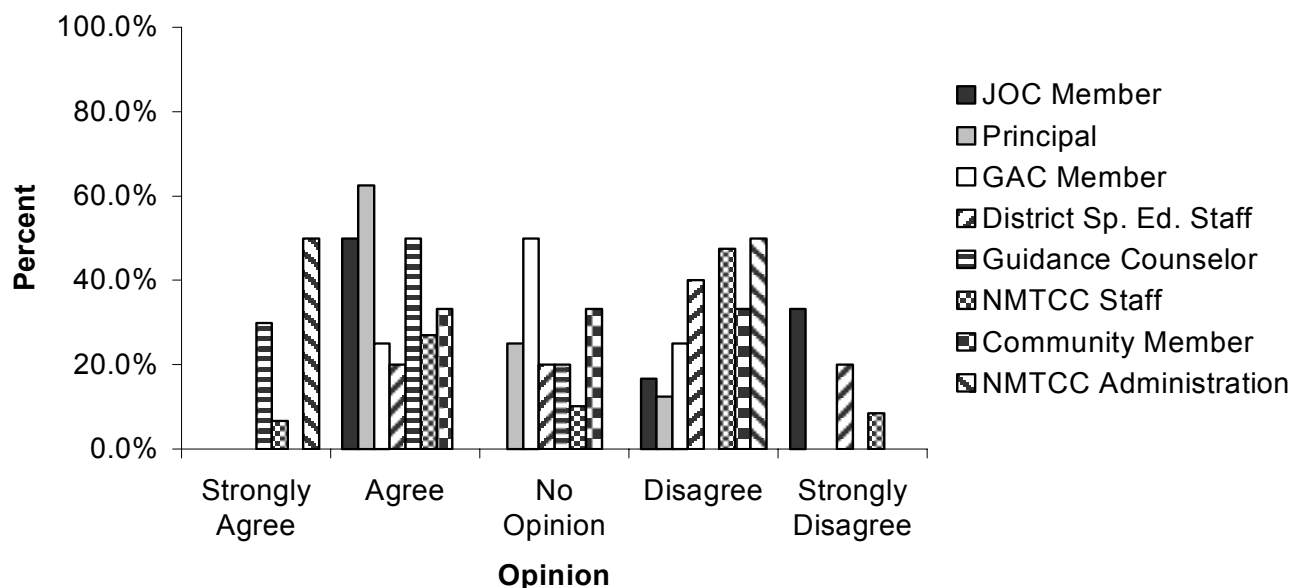
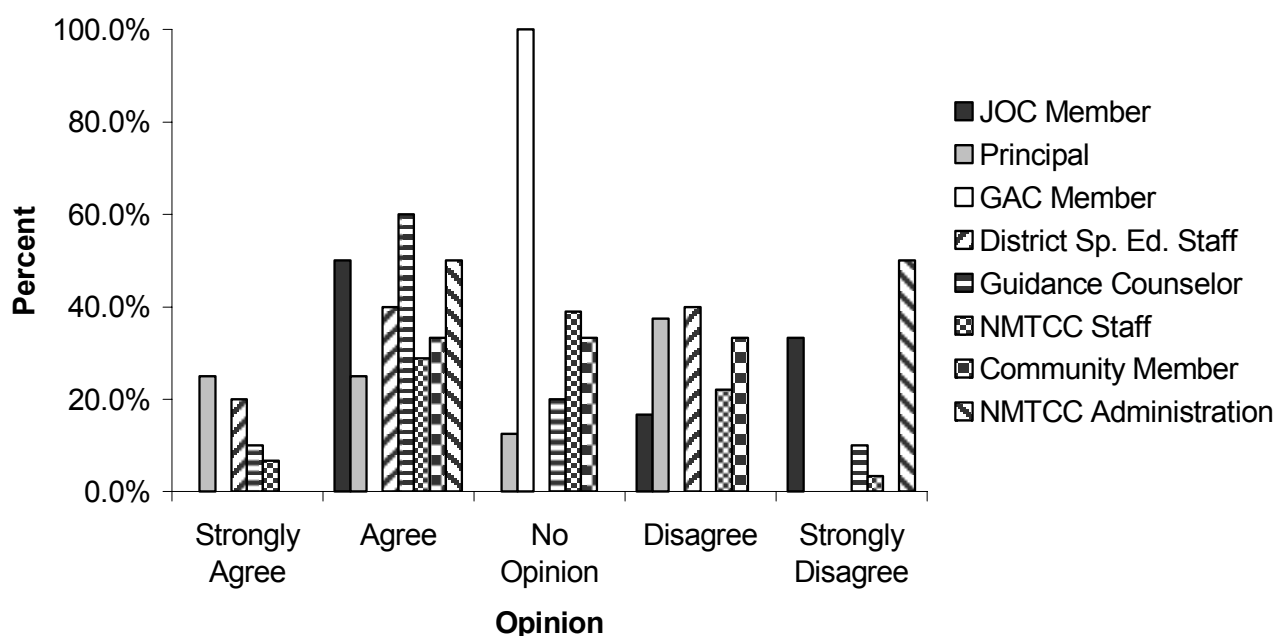


Figure 1. NMTCC stakeholders' responses to the statement "North Montco TCC's delivery system (i.e., three sessions per day) meets the technical instructional needs of the students."

Based on data presented in Figure 2 it appears that the stakeholder groups recorded mixed opinions regarding the statement "North Montco TCC's delivery system (i.e., three sessions per day) meets the academic instructional needs of the students at their respective high schools." JOC members were evenly divided between positive and negative responses (i.e., strongly agree/agree and disagree/strongly disagree); principals were slightly more positive. All GAC members chose the *no opinion* category; district special education staff members were more positive. The guidance counselors recorded the most positive reaction to this statement, while community members and NMTCC administration were evenly divided in their opinions.





*Figure 2.* NMTCC stakeholders' responses to the statement "North Montco TCC's delivery system (i.e., three sessions per day) meets the academic instructional needs of the students at their respective high schools."

Stakeholders' opinions were more positive (see Figure 3) to the statement "North Montco TCC should continue to operate using its current delivery system (i.e., 3 sessions per day)." The guidance counselor, principal, and community member groups were the most supportive of the current system. The NMTCC administration was evenly split; NMTCC staff members and JOC members were more negative than positive.

NMTCC stakeholders' responses (see Figure 4) were mixed with reference to the statement "NMTCC should change its schedule from 3 sessions per day to 2 longer, half-day sessions." District special education staff and community members were the most supportive of the idea, with a majority in both groups responding that they agreed or strongly agreed. The NMTCC staff and GAC members were less supportive than the special education staff and community members, but responded more positively than negatively. The principals and NMTCC administration were evenly divided in their opinions.

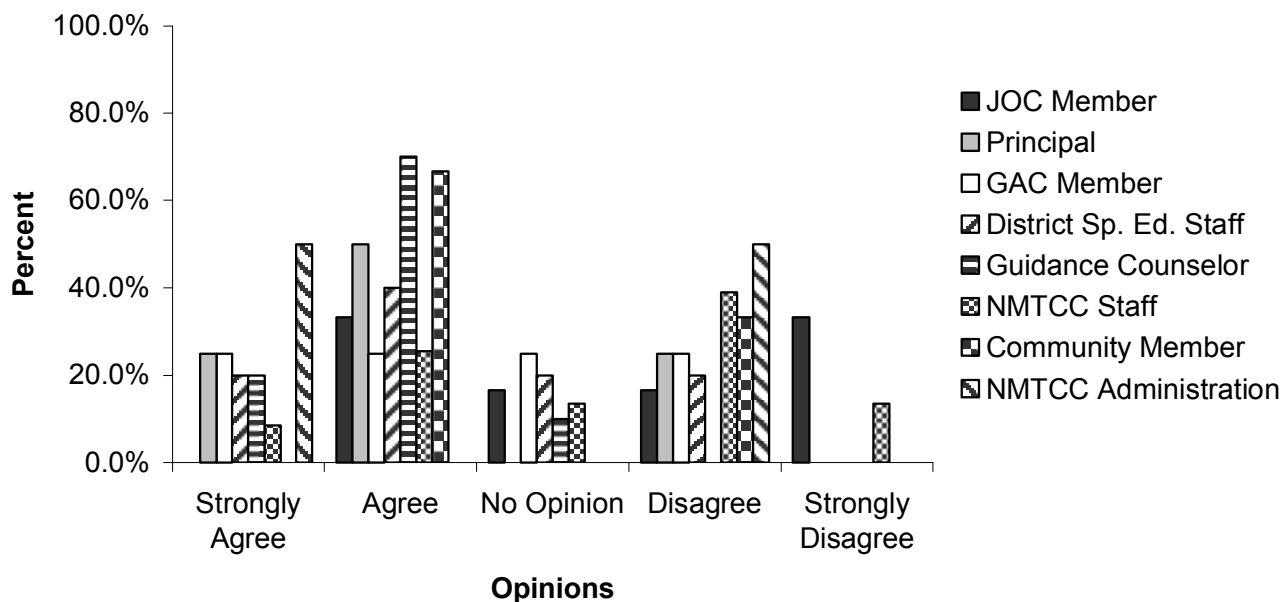


Figure 3. NMTCC stakeholders’ responses to the statement “North Montco TCC should continue to operate using its current delivery system (i.e., 3 sessions per day).”

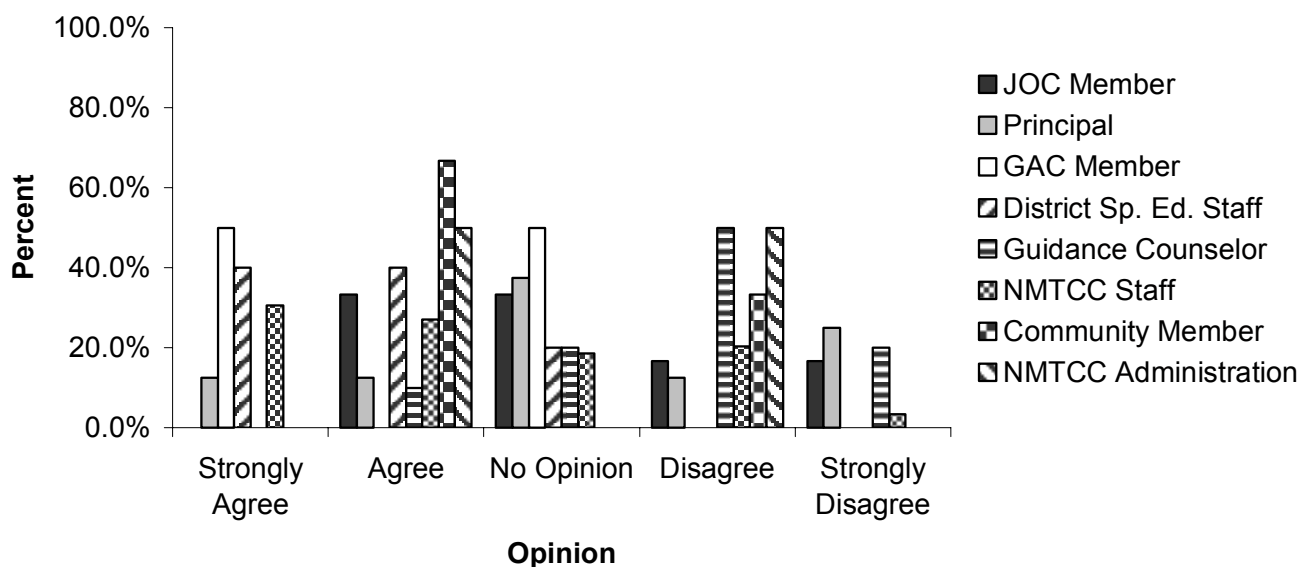


Figure 4. NMTCC stakeholders’ responses to the statement “NMTCC should change its schedule from 3 sessions per day to 2 longer, half-day sessions.”

Unlike the previous statements in the survey that addressed educational delivery issues, the majority of the NMTCC stakeholders’ groups’ responses to the statements regarding

changing to full-day seniors only program (Figure 5), a semester about program (Figure 6), or a two- or three-week about program (Figure 7) were decidedly negative. There appeared to be little or no interest in these educational delivery options.

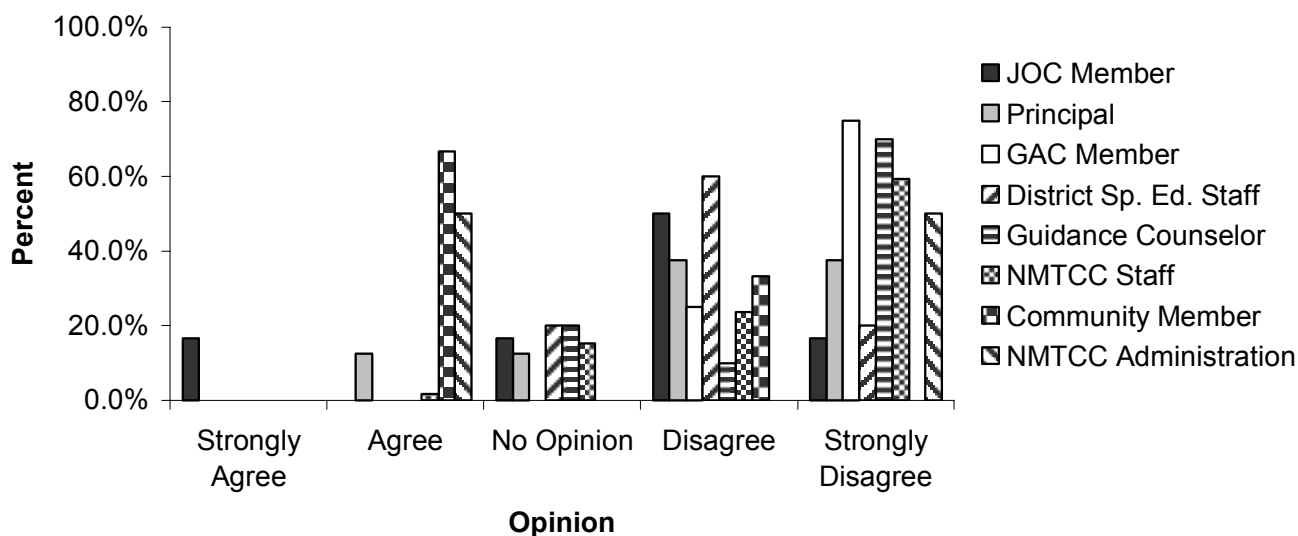


Figure 5. NMTCC stakeholders' responses to the statement "NMTCC should change to a full day seniors only program."

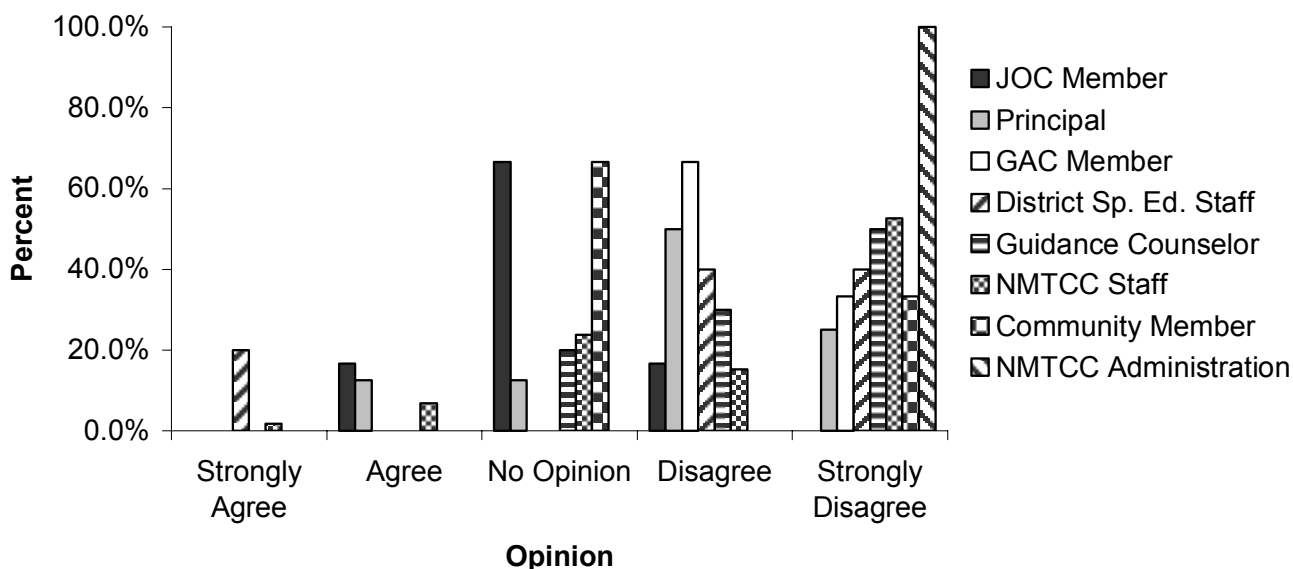
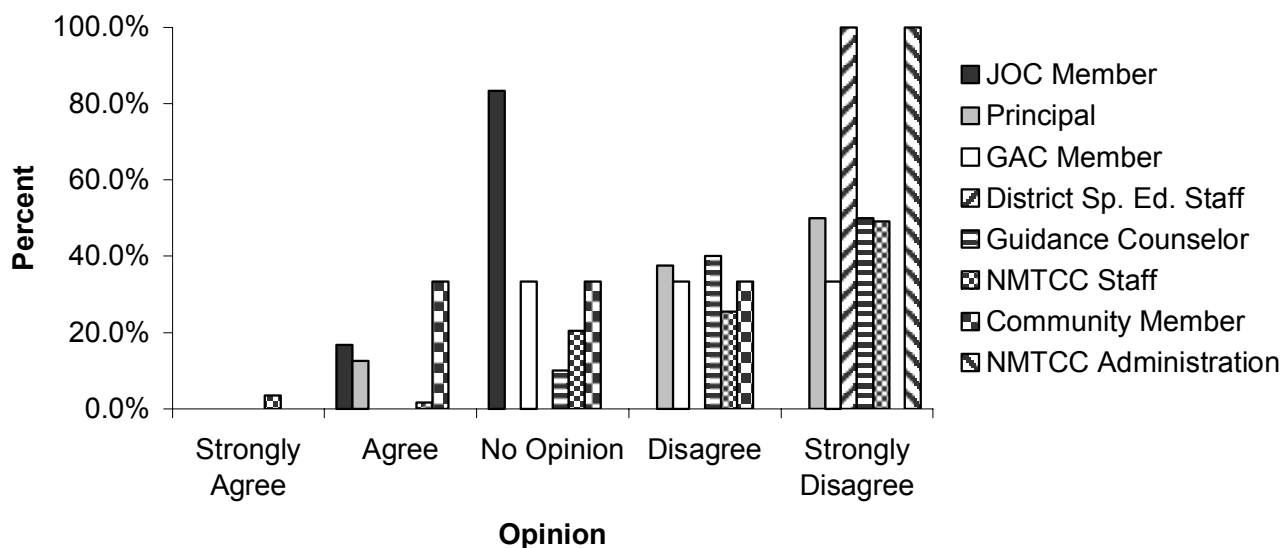


Figure 6. NMTCC stakeholders' responses to the statement "NMTCC should change to a semester about program (i.e., students would take one semester of technical training at NMTCC, and 1 semester of academic classes at their respective high schools)."



*Figure 7.* NMTCC stakeholders’ responses to the statement “NMTCC should change to a two or three week about program, in which students would have several weeks of nothing but vocational training followed by an equal amount of time taking academic classes.”

The issue of changing to a full-time comprehensive technical school yielded a higher percentage of positive responses from stakeholder groups than did any other educational delivery change option (see Figure 8). The stakeholders did not, however, support the comprehensive technical school option more than maintaining the current delivery system (i.e., three sessions per day).

The responses to the educational delivery system options were mixed. Stakeholders did not overwhelmingly support any of the options presented to them in the survey. Based on the responses recorded for the full-day seniors only, semester about, and two or three week about programs, one could definitely state that these options received little if no support. Support was divided, based on stakeholder groups, for the current delivery system (see Figure 3) and the half-day session option (see Figure 9).

The JOC and school superintendents later dismissed the full-time comprehensive option as an alternative. This was not due to the results of the survey, but rather due to the cost of

building a new facility (the Administrative Director provided an estimate of \$67,000,000 for this purpose).

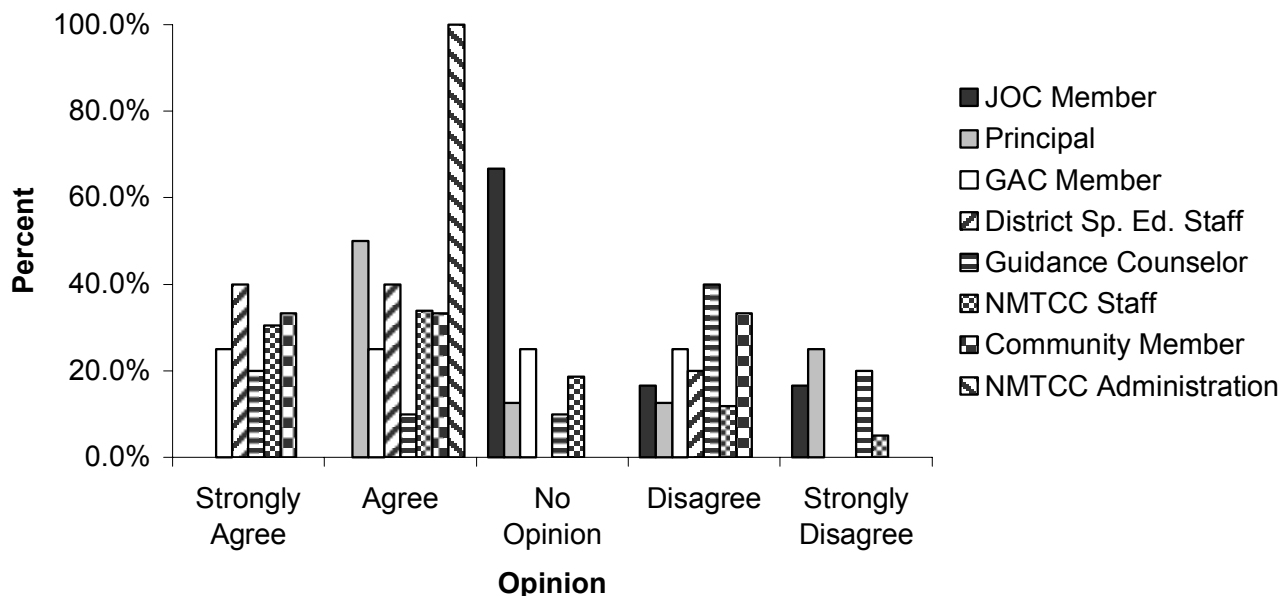


Figure 8. NMTCC stakeholders' responses to the statement "North Montco TCC should change to a full-time comprehensive technical school (i.e., NMTCC would offer ALL academic and technical courses at their facility)."

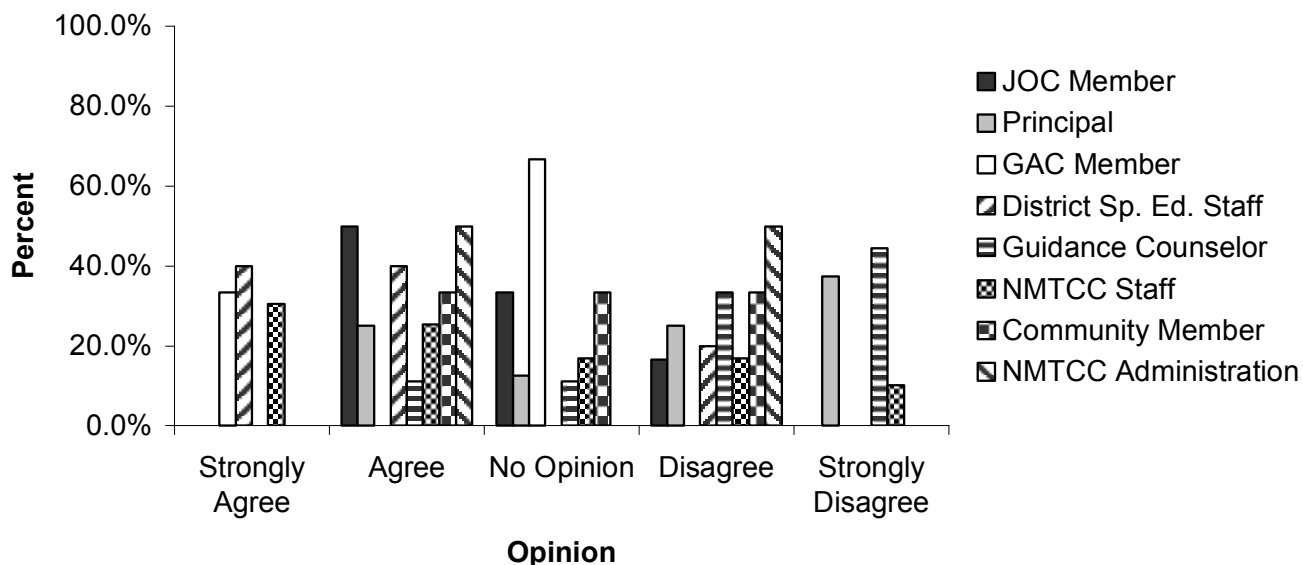
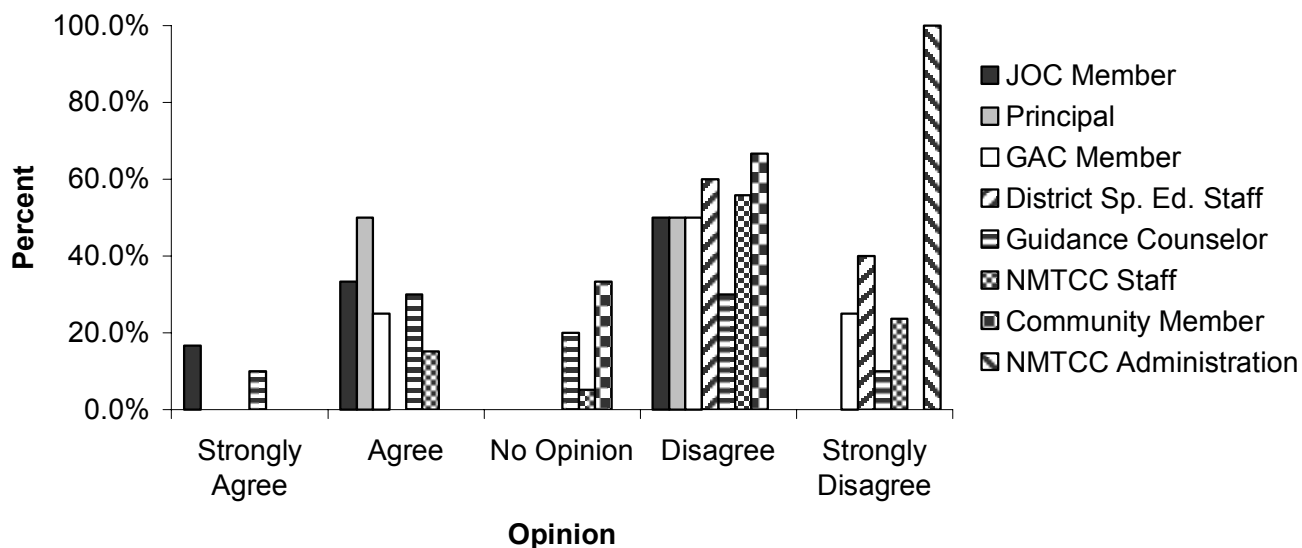


Figure 9. NMTCC stakeholders' responses to the statement "The three-session delivery system should be changed to two longer sessions per day."

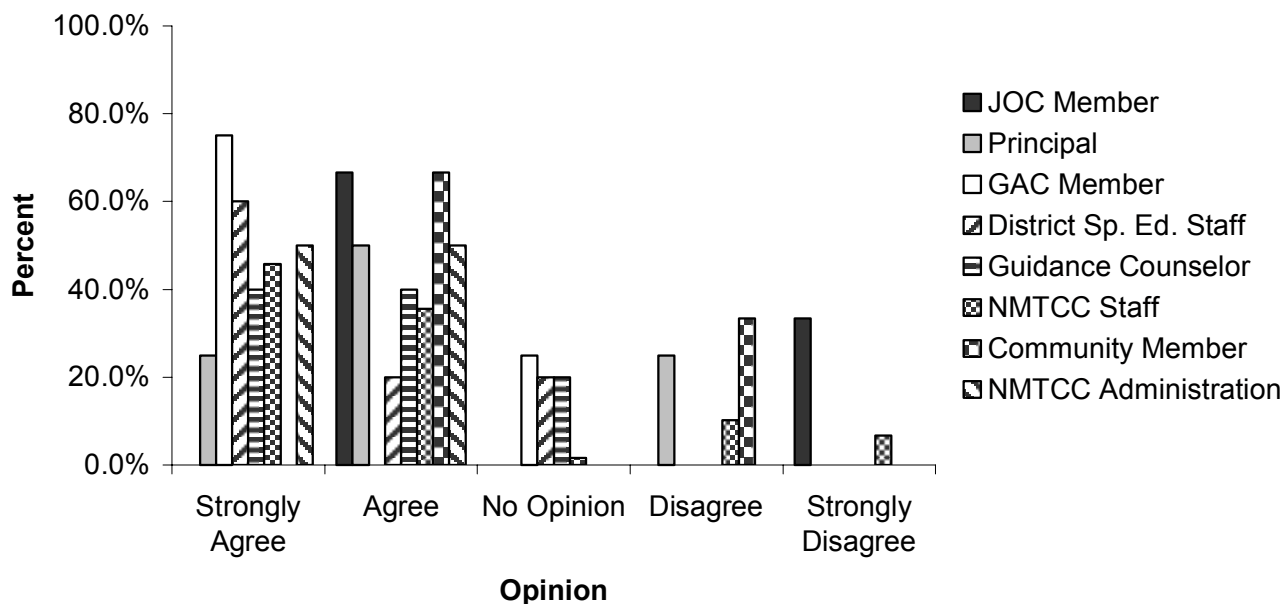
## Facility

The NMTCC Stakeholders' Survey had four questions that dealt with the current and future facility needs. The questions related to (a) the adequacy of the facility in meeting current instructional needs; (b) the adequacy of the current facility to meet the future needs of its stakeholders; and (c) possible solutions to expanding enrollment, and curricular changes.

*Renovation.* Respondents were divided regarding the adequacy of the current facility to meet the needs of the community (see Figure 10). GAC members, district special education staff, NMTCC staff, and community members responded negatively to the adequacy of the current structure to meet the needs of the community. JOC members and guidance counselors were almost evenly divided in their opinions. Respondents seemed to agree that the current facility should be renovated (see Figure 11) to address the future needs of the community. Combining stakeholders' positive responses, the majority within all stakeholder groups supported the need for renovation of the facility.



*Figure 10.* NMTCC stakeholders' responses to the statement "The current physical plant adequately meets the needs of the community, with regard to student enrollment/building capacity, and technical course offerings."



*Figure 11.* NMTCC stakeholders' responses to the statement "North Montco TCC's facility should be renovated (i.e., construction of new classrooms) to address the future needs of the community (i.e., adding new technical course offerings, and expanding student enrollment)."

*New construction.* The results concerning the construction of a new facility were more ambiguous (see Figure 12). JOC members did not support the idea of building a new facility. The majority of community members stated they had no opinion. The principals were almost evenly divided on this issue. GAC members, district special education staff, NMTCC staff, and NMTCC administration responded positively to the construction of a new facility.

*Souderton High School option.* The majority of stakeholder groups disagreed or strongly disagreed that NMTCC should move all or some of its programs to the former Souderton High School facility (see Figure 13). Only the community members group favored this option; the NMTCC administration was split in their opinions.

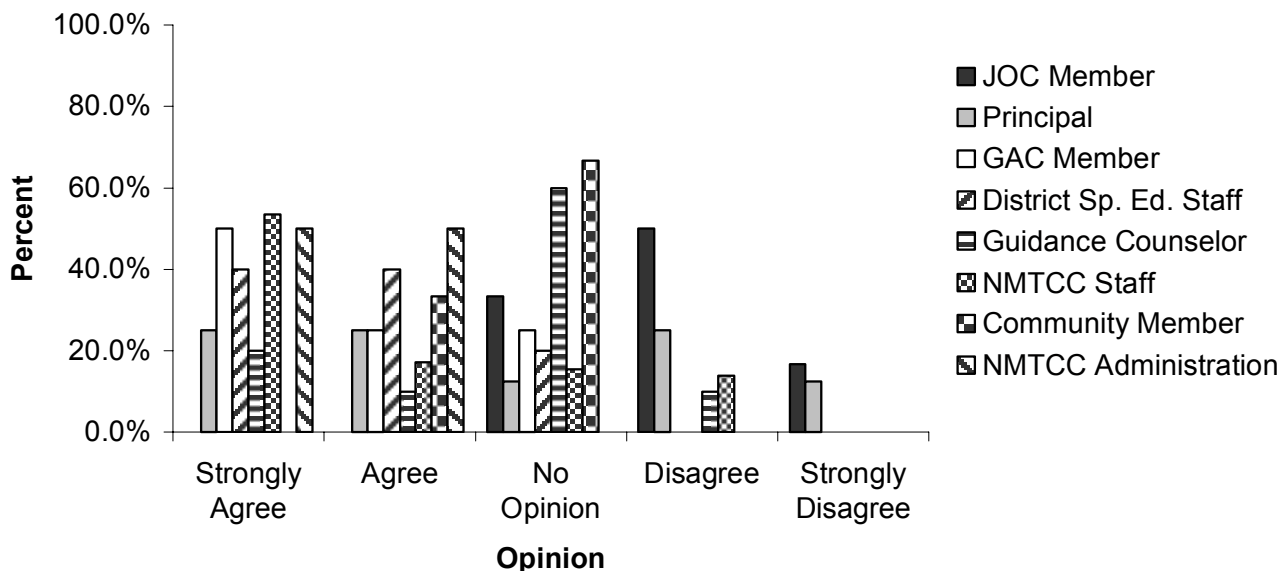


Figure 12. NMTCC stakeholders’ responses to the statement “A new facility should be built to best meet the needs of the students and community.”

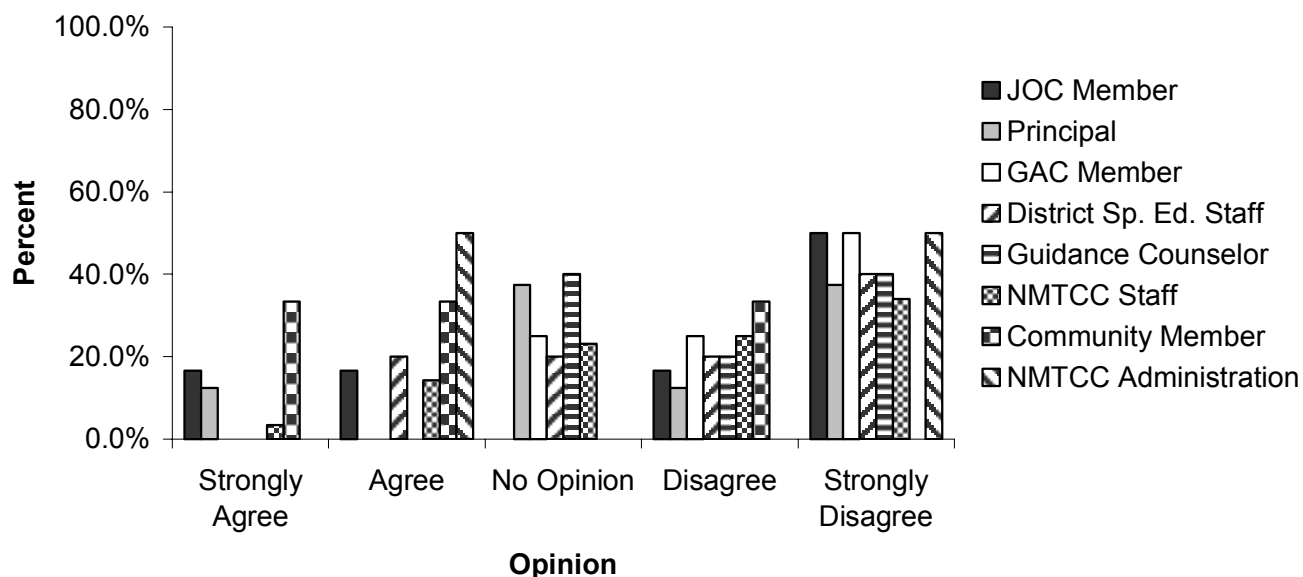


Figure 13. NMTCC stakeholders’ responses to the statement “NMTCC should move all or a portion of its programs to the Souderton High school once they move into their new building.”

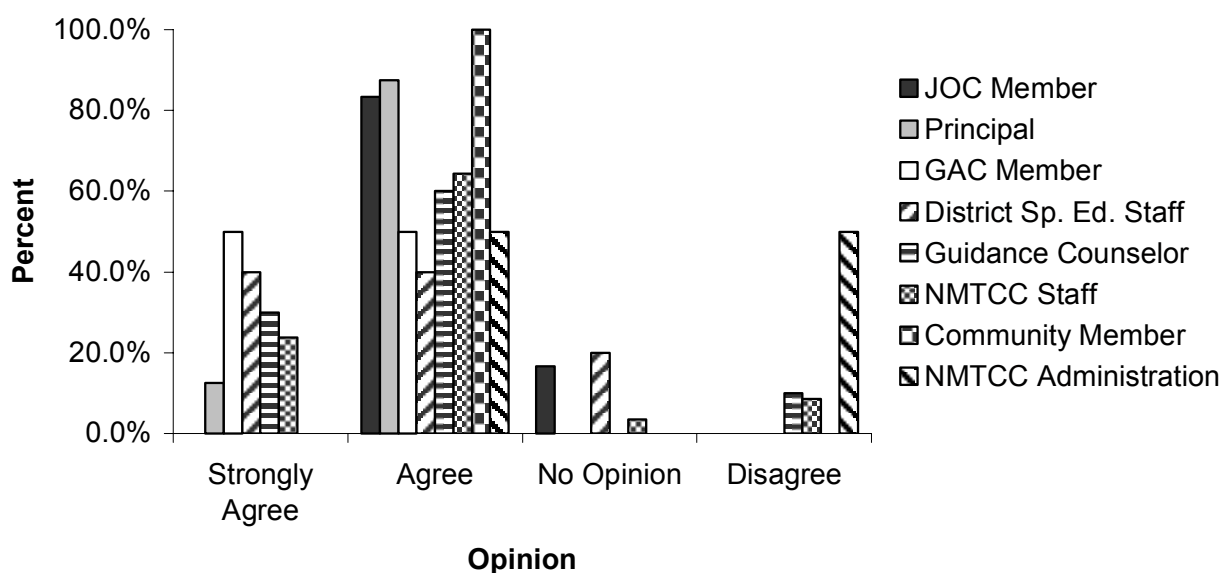
The stakeholder groups’ responses to the questions regarding the facility reflected the need to renovate the current structure rather than build a new facility. The cost of new construction versus renovation of the current facility appeared to influence the responses made by the JOC members and high school principals.



The option to move part or all of its programs from NMTCC to the former Souderton High School was not supported by the stakeholders. Several of the anecdotal responses reflected the major concerns individuals had with moving programs to Souderton: (a) The location would require longer travel for all the other participating high schools; (b) NMTCC is currently located next to its largest provider of students (North Penn High school); and (c) Souderton High School would require many renovations and updates to accommodate the equipment used in a technical school.

### *Program Offerings*

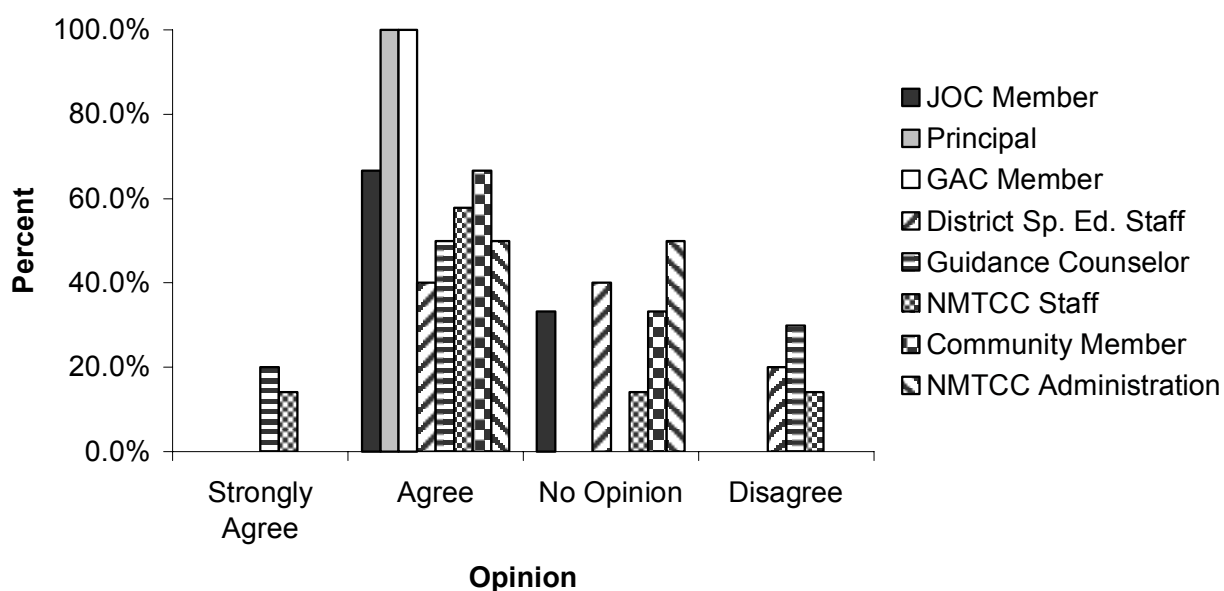
*Technical program meeting current needs.* Seven of eight stakeholder groups responded positively to the statement regarding the NMTCC course offerings meeting the current needs of the students and businesses in the community (see Figure 14). Only the NMTCC administration split their responses evenly between the positive and negative categories.



*Figure 14.* NMTCC stakeholders' responses to the statement "North Montco Technical Career Center's technical course offerings meet the current needs of the students and businesses in our community."

*Technical program meeting future needs.* Seven of the eight stakeholder groups responded positively to the statement regarding the NMTCC course offerings meeting the future needs of the students and businesses in the community (see Figure 15). The district special education staff responded more positively than negatively to the statement; however, a substantial segment of this group chose the *no opinion* option.

*Ninth grade program.* All stakeholder groups, with the exception of the JOC members, appear to be satisfied with the NMTCC ninth grade program (see Figure 16). The majority of JOC members chose the *no opinion* category. The majority of the stakeholders support the ninth grade program, with two-thirds or more of the respondents recording a positive response.



*Figure 15.* NMTCC stakeholders' responses to the statement "North Montco Technical Career Center's technical course offerings meet the future needs of the students and businesses in our community."

With regard to expanding the 9<sup>th</sup> grade program (see Figure 17), the response by the groups was mixed. Likewise, NMTCC stakeholders' opinions were diverse. Only the district special education staff and community members groups recorded a majority of respondents who

chose the *strongly agree* or *agree* options. The anecdotal responses (see Appendix D, Table 3) suggested that respondents were confused with regard to the wording of the statement.

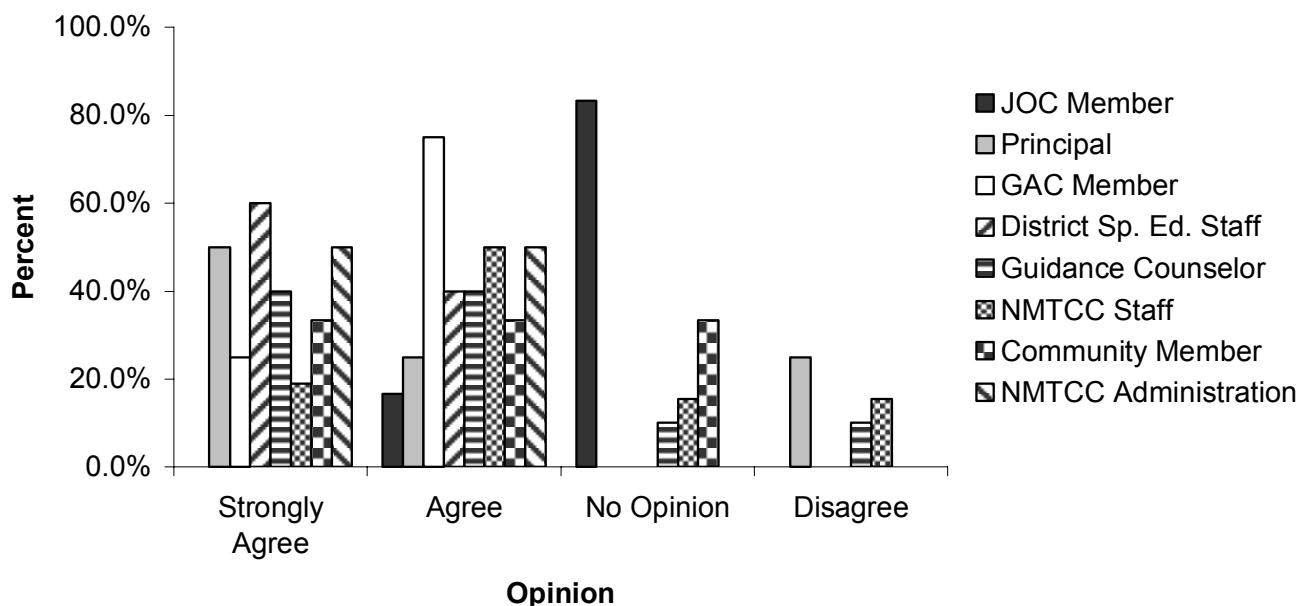


Figure 16. NMTCC stakeholders’ responses to the statement “The 9th grade program provides an important career exploration component for the students.”

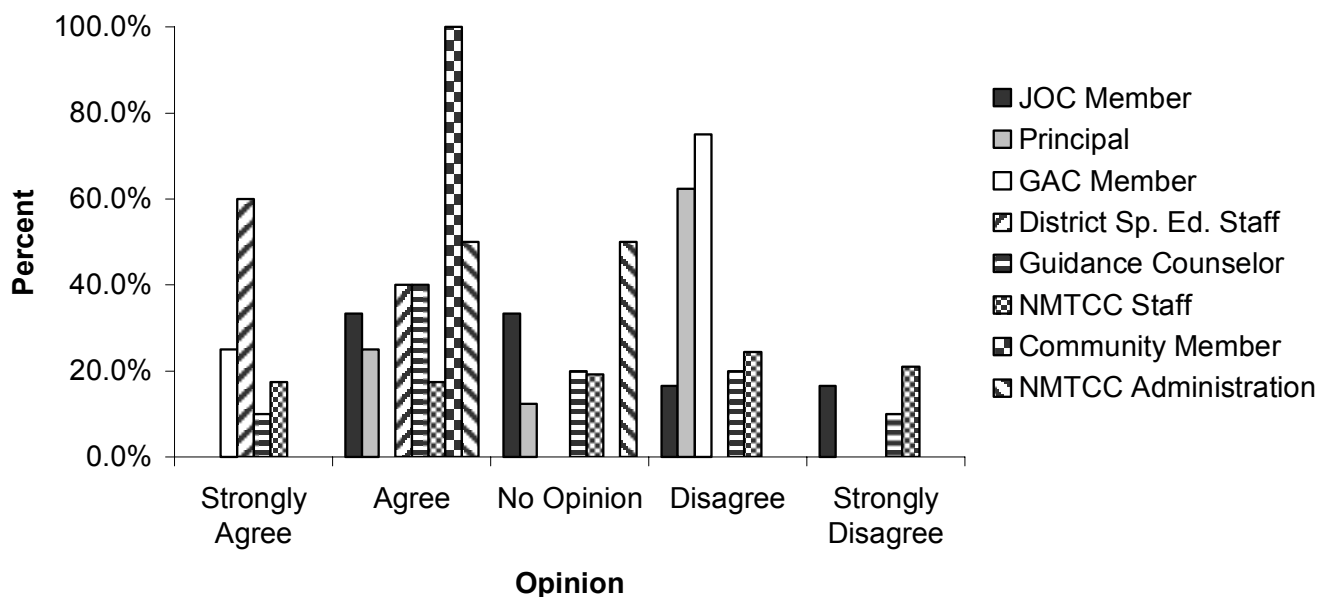


Figure 17. NMTCC stakeholders’ responses to the statement “The 9th grade program should be expanded to include ALL students who wish to participate.”

The response by the major stakeholders to the question related to the Pennsylvania Youth Apprenticeship Program (PAYAP) was positive (see Figure 18). The majority of respondents from all groups, with the exception of the JOC members and district special education staff, registered positive responses to the statement that PAYAP is very important, and should not be changed. Anecdotal responses indicated that many survey participants felt there is room for improvement in this program.

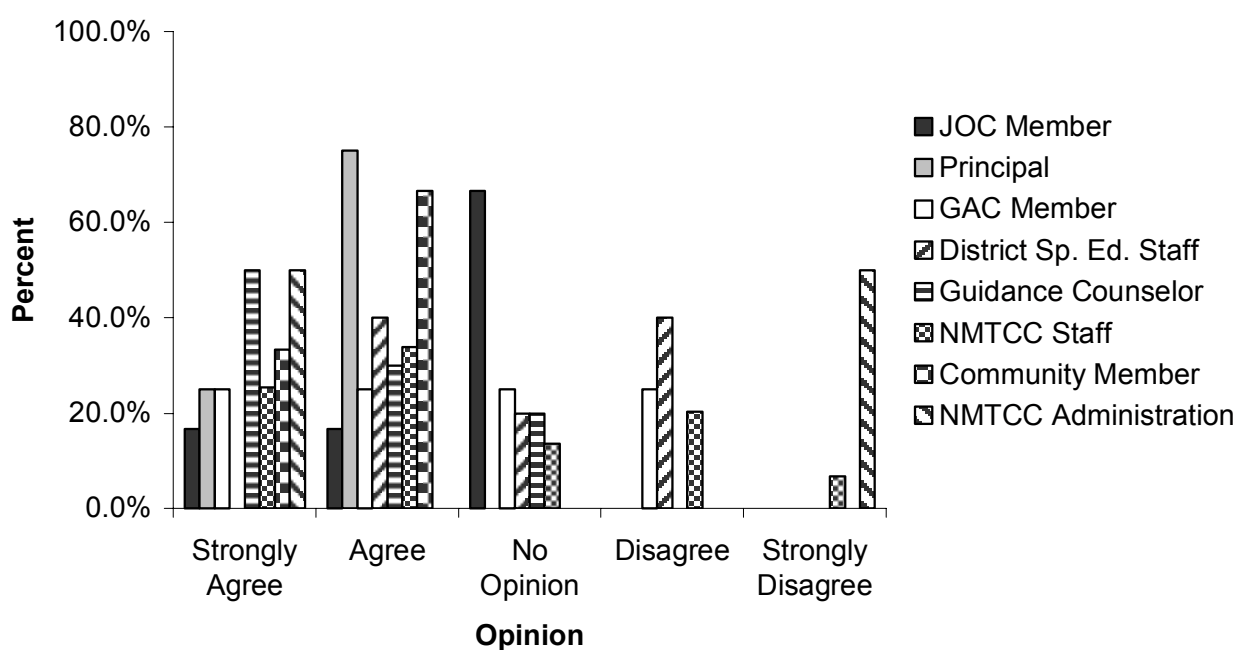


Figure 18. NMTCC stakeholders' responses to the statement "The Pennsylvania Youth Apprenticeship Program is very important, and should not be changed."

*Cosmetology.* All NMTCC stakeholder groups agree that Cosmetology should be operated within NMTCC, not offered through the private sector (see Figure 19). The majority of all groups supported the idea that NMTCC should maintain the program. Conversely, with respect to outsourcing the Cosmetology program to the private sector (see Figure 20), the stakeholders responded negatively.

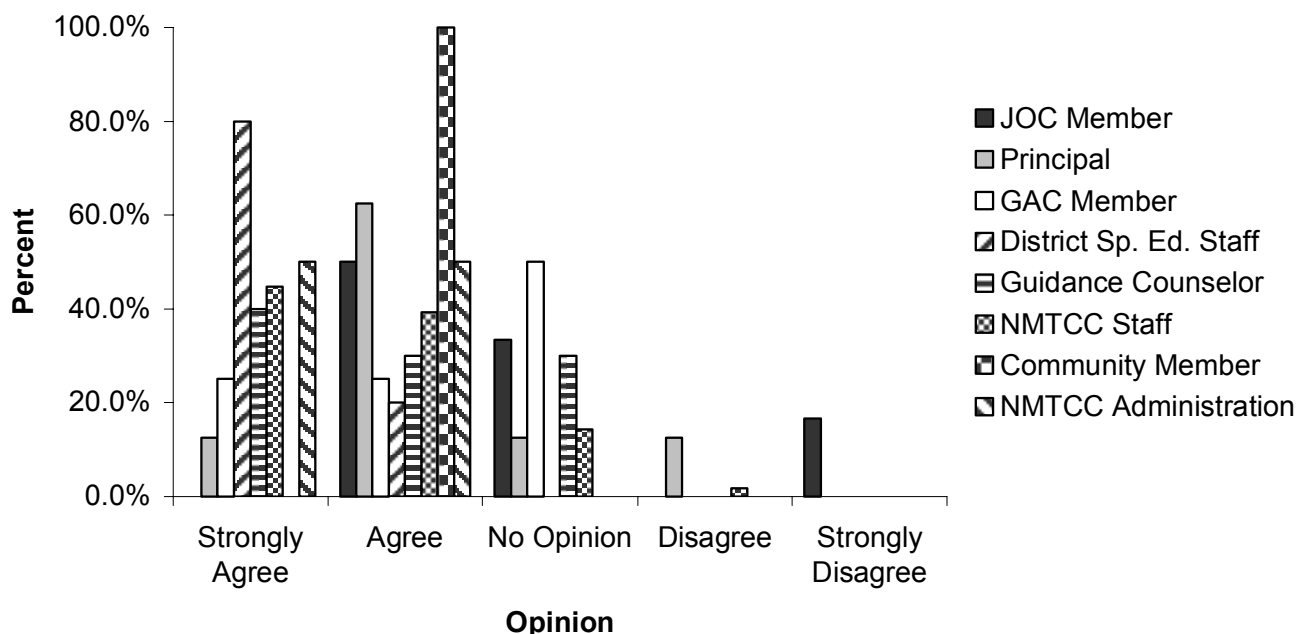


Figure 19. NMTCC stakeholders' responses to the statement "NMTCC's Cosmetology program should continue to be offered, as it always has been, through NMTCC."

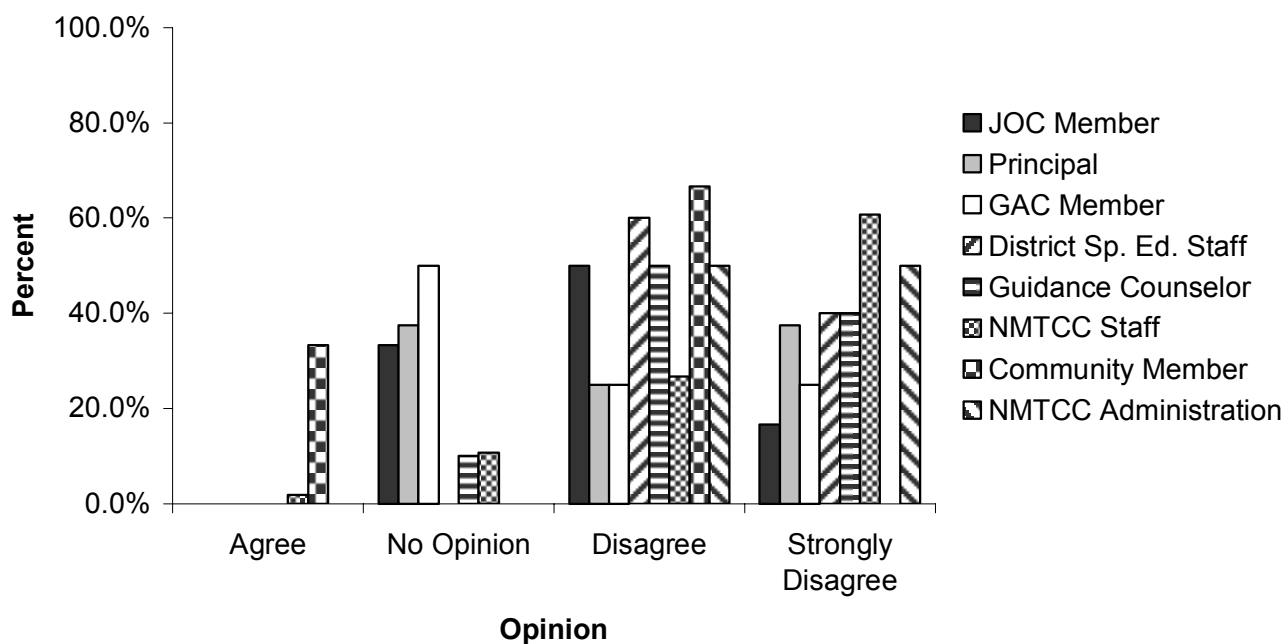


Figure 20. NMTCC stakeholders' responses to the statement "Cosmetology should be offered through the private sector (i.e., private beauty academy) instead of being offered through NMTCC."

The majority of survey participants felt NMTCC has good technical programs that meet the current and future needs of its students and community. Information gleaned from their anecdotal responses on the survey and the personal interviews this researcher conducted with high school principals and guidance counselors, support is indicated for several new programs: (a) Child Care, (b) ROTC, (c) Nanotechnology, (d) Biotechnology, (e) Veterinary Assistant, (f) Emergency Medical Technician, (g) Medical/Dental Assistant, and (h) Certified Nursing Assistant.

Survey respondents supported PAYAP and Cosmetology programs. They felt that PAYAP needed to be kept as a program, but improved. They felt that NMTCC should continue to operate Cosmetology from its facility and not be outsourced to the private sector.

### **Conclusions**

The North Montco Technical Career Center is at an educational crossroad. Its enrollment is steadily increasing to a point where, in the near future, the consortium school districts will have to address several concerns. The facility is dated and will require renovation and additional space to meet the instructional needs of the students. While attempting to meet the instructional and scheduling needs of all of the sending districts, the current delivery system does not address the Pennsylvania Department of Education's 990 clock hours per student per year instructional requirement.

The ninth grade career exploration program, while considered a worthwhile program by students, NMTCC staff and sending school personnel, is scheduled in the middle of the instructional day, which makes it difficult for sending schools to schedule around. The high school principals also shared their concern that the majority of discipline problems occur on the ninth grade busses. The NMTCC staff were concerned that the session is too brief to adequately

teach anything, and it detracts from the length of instruction provided for the tenth through twelfth grade students.

### *Delivery System Options*

After a review of the NMTCC stakeholders' survey and notes from personal interviews with the high school principals and guidance counselors, respondents felt that the current delivery system meets the unique needs of the NMTCC consortium districts. However, the same respondents thought that either a comprehensive technical school or half-day delivery system would be more beneficial for the students.

Based on the findings gathered from the NMTCC stakeholders' survey and the personal interviews conducted with the high school principals and guidance counselors, all but three delivery options were eliminated as viable educational delivery systems for the North Montco Technical Career Center. Therefore, only these three options are reviewed in Table 28, providing a list of advantages and concerns for each alternative.

Table 28

### **Advantages and Concerns of NMTCC Delivery System Options**

Delivery system	Advantages	Concerns
Three sessions per day	<ul style="list-style-type: none"> <li>• Current schedule caters to specific needs of school districts in consortium</li> <li>• PAYAP provides opportunities for work oriented students to be employed during school hours</li> <li>• 9<sup>th</sup> grade program meets needs for in-depth career exploration</li> <li>• Full-time options provide alternatives for students</li> </ul>	<ul style="list-style-type: none"> <li>• Students cannot attain 990 clock of hours instruction per year (PDE requirement)</li> <li>• School districts must transport students 3 times per day</li> <li>• 9<sup>th</sup> grade students' schedules disrupted by program being in midday session</li> <li>• Regular Cosmetology students cannot earn required hours to take State board exam</li> </ul>

Half-day system	<ul style="list-style-type: none"> <li>• Students have more clock hours of instruction per day in technical program</li> <li>• Students are transported 2 times per day</li> <li>• Regular Cosmetology students can earn required hours for State board exam</li> <li>• Students offered academic class during 10<sup>th</sup> &amp; 11<sup>th</sup> grade years</li> <li>• Students may take technical program and remain in contact with peers at HS</li> </ul>	<ul style="list-style-type: none"> <li>• Careful monitoring of graduation credits must occur</li> <li>• 9<sup>th</sup> grade program would have to be incorporated into 1 of 2 sessions, unless offered separately</li> </ul>
Comprehensive	<ul style="list-style-type: none"> <li>• Academic and technical courses offered under one roof</li> <li>• Easier to integrate academics and technical instruction</li> <li>• Transportation to/from TCC only once per day</li> </ul>	<ul style="list-style-type: none"> <li>• Difficult for students to commit full time to TCC and lose contact with HS peers and social activities</li> <li>• Construction costs to build or add to new facility</li> <li>• Must employ additional staff (e.g., academic and special education teachers)</li> </ul>

While the current delivery system (i.e., three sessions per day) caters to the needs of the districts in the consortium, several disadvantages are apparent. The number of instructional hours (990) required by PDE for each student is not met by this delivery system. Travel time to and from NMTCC is too long, and the high schools' schedules are not coordinated with NMTCC. This results in a lack of instructional time available to technical school students.

The stakeholders felt the comprehensive technical school option was a viable alternative to the present system of delivery. There are numerous advantages to having technical and academic curricula in one facility. The one major concern, the cost of constructing a new facility, overrode the advantages. All of the districts were involved in new construction projects during the time the survey and interviews were conducted. JOC members and superintendents opposed



the comprehensive technical school option, as they felt they could not ask their residents to pay for the construction of a new career and technical center.

The half-day session option solves some of NMTCC's problems regarding instructional time and bussing. The ninth grade program could be incorporated into the morning session, allowing more instructional time in the schedule for all students. The two sessions would be approximately three hours in length.

### **Recommendations**

After reviewing the educational delivery systems implemented by Pennsylvania's career and technology centers and gathering input from the major stakeholders involved in this study, the Pennsylvania State University (PSU) team of researchers made the following recommendations for North Montco TCC:

1. NMTCC should change from a three-session day to a half-day system.
2. Students enrolled in the 9<sup>th</sup> grade program should be incorporated into the morning session with NMTCC 10<sup>th</sup> grade students, taking one academic course at NMTCC.
3. Eleventh and 12<sup>th</sup> grade students should attend NMTCC in the afternoon.
4. The facility should be renovated and expanded to allow for increasing enrollment and the addition of 9<sup>th</sup> grade students to the morning session.

*Advantages.* Changing to a half-day system would provide expanded opportunities for technical instruction. Transportation to and from NMTCC and the sending schools would be decreased to twice daily. Students would be able to receive the required 990 clock hours of instruction per year.

Should North Penn School District choose to offer their students all academic courses on their high school campus, this could be accomplished through creative scheduling. North Penn

students could attend NMTCC at the beginning or end of each session for two hours instead of three, taking academics either before or after their technical programs.

*Concerns.* Incorporating 9<sup>th</sup> grade students into the morning session would limit new enrollment. The PSU team recommended that the NMTCC facility be expanded and renovated to address the problem of limited enrollment.

#### *Consideration of School District and Grade Level Attendance Patterns*

This researcher would make an additional recommendation regarding which students should attend the A.M. and P.M. sessions. The NMTCC administration and sending school districts should consider enrolling students based on their school district rather than by their grade level. More experienced students (i.e., 11<sup>th</sup> and 12<sup>th</sup> graders) could serve as mentors for the 10<sup>th</sup> and 9<sup>th</sup> graders.

Arranging enrollment by school districts would decrease the districts' transportation costs, as their students would only travel to NMTCC once per day. North Penn School District would be the exception; their students could attend either session, thus balancing student enrollment between the two sessions. This could make more enrollment openings available for each session.

#### *Additional Delivery Option*

In addition to the PSU team recommendation regarding an educational delivery system, this researcher has developed an alternative educational delivery option. The second option allows NMTCC to maintain its three-session delivery system, which the major stakeholders feel is as viable an option as the half-day delivery system. The delivery system would operate as follows:

1. NMTCC would continue to operate its three-session delivery system.

2. Ninth grade students could attend the first or third sessions of the day. They could be grouped with 10<sup>th</sup>, 11<sup>th</sup>, or 12<sup>th</sup> grade students.
3. Ninth grades students would be assigned to a career cluster, rotating among the technical programs within the cluster for the first marking period. These students would choose a specific technical program from within their career cluster, and enroll in this program for the remainder of the school year.
4. All academics would be taught at the high schools in the consortium, allowing students to have a full two hours per day of technical instruction.
5. Students enrolled in the PAYAP and Cosmetology programs would also take all academics at their respective high schools.

#### *Additional Recommendations for Second Option*

Nine rooms are currently used for academic instruction. Eliminating academics at NMTCC would make space available for several new technical programs identified through the NMTCC Stakeholders' Survey and in-depth personal interviews. This would minimize the expense of new construction.

The North Penn High School students could attend any of the three sessions, due to the proximity of the High School to the NMTCC campus. By distributing the North Penn students evenly among all three sessions, additional students could be accepted in each technical program. Increasing student enrollment would reduce the per pupil rate, thus making NMTCC a more cost effective option for the sending school districts.

#### *Personnel*

Though not originally part of this study, the PSU team researched the number of administrative personnel per technical center based on student population. Schools having a

similar enrollment size and delivery system commonly have one of two administrative configurations: (a) an administrative director, assistant director, principal, and assistant principal; or (b) an administrative director, principal, and two assistant principals. The team recommends that a minimum of one additional administrator be employed.

### *Facility Options*

Based on personal interviews with the administration of the sending school districts, building a new facility is not an option at this time. It would require the acquisition of real estate and the construction of a completely new facility. Additional staff, including academic teachers, special education personnel and administrators, would have to be employed to meet the educational needs of the students.

The NMTCC consortium districts must recognize that, in order to address the challenge of increasing enrollment, they need to consider expanding the current facility to accommodate the ever-growing student population. NMTCC has been very flexible in accepting students despite enrollment caps in specific programs. Should the consortium choose not to expand and renovate the facility, the only other option available would be to limit new enrollees through the implementation of an admissions policy.

*Ninth grade wing.* Students enrolled in NMTCC's 9<sup>th</sup> grade program could be housed in a separately constructed wing, with technical instructors providing occupational exploration via a career cluster instructional model. This would allow more 10<sup>th</sup> grade students to be accepted, at least partially alleviating the problem of overcrowding in the technical areas.

Alternatively, the consortium could explore leasing property off site to house the 9<sup>th</sup> grade program. This would require, at a minimum, employing one additional administrator and counselor to provide discipline and guidance to the students.

### *Program Offerings*

Although most NMTCC survey respondents felt that NMTCC's technical course offerings meet the current and future needs of the students and community, new programs should be considered based on the labor market needs of the community and its environs. Respondents in the survey and personal interviews recommended several programs which should be researched as to their feasibility in the region: (a) Child Care; (b) Medical, Dental, Veterinary, and Nursing Assistant; (c) Emergency Medical Technician; (d) ROTC; (e) Nanotechnology, and (f) Biotechnology.

NMTCC should continue to operate its own Cosmetology program; however, operating two Cosmetology programs (one part-time and the other full-time) may not be cost efficient. Likewise, many stakeholders consider the PAYAP program very important. The JOC and NMTCC administration should research the cost effectiveness of both programs, as six additional teachers are employed to provide academic instruction to the students in this program. If NMTCC changes to a half-day delivery system, PAYAP and all Cosmetology students should be able to participate in both their high schools and NMTCC.

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## APPENDIX A

### CORRESPONDENCE TO SURVEY PARTICIPANTS

- COVER LETTER
- INFORMED CONSENT LETTER

# PENNSSTATE

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November 16, 2004

**Frederick D. Loomis, Ph.D.**  
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Dear Colleague:

You are being asked to participate in a survey of major stakeholders concerning the future directions of the North Montco Technical Career Center (NMTCC). This survey will provide important information regarding what steps need to be taken in order to provide the most effective and efficient educational delivery system for NMTCC students.

Penn State University is conducting this survey on behalf of the administration of North Montco Technical Career Center. The questionnaire should be completed and returned in the enclosed envelope. Penn State will process and keep secure all data obtained from this survey. The survey is voluntary and your responses will be confidential.

The results of the survey, as well as additional research to be conducted by the Penn State team, will be used to make recommendations to the leadership of North Montco Technical Career Center.

**Please complete the survey and return it no later than December 4, 2004.**

If you have any questions, please contact me at the phone number or email address above. Thank you for your participation.

Sincerely,

Frederick D. Loomis  
Enclosure

You are being asked to participate in a survey of major stakeholders concerning the future of the North Montco Technical Career Center. This survey will provide important information regarding what steps to take in order to provide the most effective and efficient educational delivery system for its students.

North Montco TCC is providing a technical education to 1200 - 1300 students in the Methacton, North Penn, Perkiomen Valley, Souderton and Wissahickon school districts. Enrollment continues to grow rapidly, and the administration is investigating possible solutions, including changing the current delivery system (i.e., three student sessions per day) and/or construction, to alleviate the future overcrowding of the school. It is vital that they hear the opinions of all major stakeholders (i.e., JOC members, General Advisory Committee members, school district administration, principals, guidance counselors, and NMTCC administration and staff).

The Pennsylvania State University is conducting this survey on behalf of the North Montco Technical Career Center. This questionnaire should be returned to the address listed below. PSU will process and keep secure all data obtained from this survey.

Thank you in advance for taking the time to complete this survey. Your opinions will be shared with the NMTCC administration, JOC members and school district administrators. This survey is voluntary and your responses are completely confidential. You may decline to respond to any question. There are no codes or markings to identify you personally on this survey. Only group data will be reported. There is, however, one identifier at the end of the survey that signifies to the researchers to which group a respondent belongs (i.e., JOC member, guidance counselor).

Completing and returning this questionnaire imply your consent for participation in this survey. For additional information regarding your rights as a research participant, contact the Office for Research Protections, 212 Kern Graduate Building, University Park, PA 16802, (814) 865-1775.

**Please return all survey forms to:**

Dr. Frederick Loomis  
Workforce Education and Development  
The Pennsylvania State University  
403 Keller Building  
University Park, PA 16802

**This project is supported by:**

North Montgomery County Technical Career Center  
1265 Sumneytown Pike  
Lansdale, PA 19446

The Pennsylvania State University  
College of Education  
University Park, PA 16802

**Questions regarding this project should be directed to:**

Dr. Frederick D. Loomis  
Workforce Education and Development  
The Pennsylvania State University  
403 Keller Building University Park, PA 16802  
Office (814) 865 6696  
E-mail: [floomis@psu.edu](mailto:floomis@psu.edu)

Kevin Lacey  
Doctoral Candidate  
Workforce Education and Development  
The Pennsylvania State University  
Cell Phone (717) 856-4705  
E-mail: [kr1153@psu.edu](mailto:kr1153@psu.edu)

APPENDIX B  
SURVEY INSTRUMENT

**Study of North Montco Technical and Career Center (NMTCC)  
A Survey of NMTCC Stakeholders**

**Assessment of Current Facility**

**Directions:** Please respond to each question by circling the number that corresponds to the response that best describes your opinion. If you do not feel that you have adequate background information regarding a particular question, please circle the number 3, which signifies that you have *No Opinion*. There is space provided below each question if you wish to expand or explain your response.

1. North Montco Technical Career Center's technical course offerings meet the current needs of the students and businesses in our community.

Strongly Agree	Agree	No Opinion	Disagree	Strongly Disagree
5	4	3	2	1

Comments:

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2. North Montco Technical Career Center's technical course offerings meet the future needs of the students and businesses in our community.

Strongly Agree	Agree	No Opinion	Disagree	Strongly Disagree
5	4	3	2	1

Comments:

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3. The current physical plant adequately meets the needs of the community, with regard to student enrollment/building capacity, and technical course offerings.

Strongly Agree	Agree	No Opinion	Disagree	Strongly Disagree
5	4	3	2	1

Comments:

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4. North Montco TCC's delivery system (i.e., three sessions per day) meets the technical instructional needs of the students.

Strongly Agree	Agree	No Opinion	Disagree	Strongly Disagree
5	4	3	2	1

Comments:

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5. North Montco TCC's delivery system (i.e., three sessions per day) meets the academic instructional needs of the students at their respective high schools.

Strongly Agree	Agree	No Opinion	Disagree	Strongly Disagree
5	4	3	2	1

Comments:

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6. The 9<sup>th</sup> grade program provides an important career exploration component for the students.

Strongly Agree	Agree	No Opinion	Disagree	Strongly Disagree
5	4	3	2	1

Comments:

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7. The Pennsylvania Youth Apprenticeship Program is very important, and should not be changed.

Strongly Agree	Agree	No Opinion	Disagree	Strongly Disagree
5	4	3	2	1

Comments:

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8. NMTCC's Cosmetology program should continue to be offered, as it always has been, through NMTCC.

Strongly Agree	Agree	No Opinion	Disagree	Strongly Disagree
5	4	3	2	1

Comments:

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9. Cosmetology should be offered through the private sector (i.e., private beauty academy) instead of being offered through NMTCC.

Strongly Agree	Agree	No Opinion	Disagree	Strongly Disagree
5	4	3	2	1

Comments:

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10. North Montco TCC's facility should be renovated (i.e., construction of new classrooms) to address the future needs of the community (i.e., adding new technical course offerings, and expanding student enrollment).

Strongly Agree	Agree	No Opinion	Disagree	Strongly Disagree
5	4	3	2	1

Comments:

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11. A new facility should be built to best meet the needs of the students and community.

Strongly Agree	Agree	No Opinion	Disagree	Strongly Disagree
5	4	3	2	1

Comments:

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12. North Montco TCC's should continue to operate using its current delivery system (i.e., 3 sessions per day).

Strongly Agree	Agree	No Opinion	Disagree	Strongly Disagree
5	4	3	2	1

Comments:

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13. NMTCC should change its schedule from 3 sessions per day to 2 longer, half-day sessions.

Strongly Agree	Agree	No Opinion	Disagree	Strongly Disagree
5	4	3	2	1

Comments:

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14. NMTCC should change to a full day seniors only program.

Strongly Agree	Agree	No Opinion	Disagree	Strongly Disagree
5	4	3	2	1

Comments:

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15. NMTCC should change to a semester about program (i.e., students would take one semester of technical training at NMTCC, and 1 semester of academic classes at their respective high schools).

Strongly Agree	Agree	No Opinion	Disagree	Strongly Disagree
5	4	3	2	1

Comments:

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16. NMTCC should change to a two or three week about program, in which students would have several weeks of nothing but vocational training followed by an equal amount of time taking academic classes.

Strongly Agree	Agree	No Opinion	Disagree	Strongly Disagree
5	4	3	2	1

Comments:

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17. North Montco TCC should change to a full time comprehensive technical school (i.e., NMTCC would offer **ALL** academic and technical courses at their facility).

Strongly Agree	Agree	No Opinion	Disagree	Strongly Disagree
5	4	3	2	1

Comments:

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18. The 9<sup>th</sup> grade program should be expanded to include ALL students who wish to participate.

Strongly Agree	Agree	No Opinion	Disagree	Strongly Disagree
5	4	3	2	1

Comments:

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19. The three-session delivery system should be changed to two longer sessions per day

Strongly Agree	Agree	No Opinion	Disagree	Strongly Disagree
5	4	3	2	1

Comments:

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20. All 9<sup>th</sup> grade students from the five sending districts should be exposed to a career exploration experience at NMTCC. (This experience would last 9 weeks.)

Strongly Agree	Agree	No Opinion	Disagree	Strongly Disagree
5	4	3	2	1

Comments:

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21. NMTCC should move all or a portion of its programs to the Souderton High school once they move into their new building.

Strongly Agree	Agree	No Opinion	Disagree	Strongly Disagree
5	4	3	2	1

Comments:

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## ***Future Programs***

**Directions:** We would like your input concerning the need for additional technical programs at NMTCC. Listed below are several programs that we are currently investigating to determine if they would address the educational training needs of our students and the businesses in our community. Please number the programs in order of your preference, starting with **1** for your most preferred program. If you have additional programs that you would like to include, please list them in the space(s) provided. If you feel that the current program offerings are sufficient, please check the appropriate space below.

_____ Occupational Child Development	_____ Current programs are adequate
_____ Travel and Tourism/Hotel/Restaurant Management	
_____ Dental Assistant	_____ ROTC
_____ Internet Web Design	_____ Veterinary Assistant
_____ Turf Management	_____ Medical Assistant
_____ Residential Remodeling	_____ Cabinetmaking
_____ Emergency Medical Technician	_____ Aviation Mechanics
_____ Marketing	

**Additional Programs not Listed Above:**

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**Identifier:** *Please circle the description below that best identifies your role in this survey.*

**JOC Member**

**GAC Member**

**NMTCC Employee**

**NMTCC Administration**

**Principal**

**Guidance Counselor**

**Community Member**

**Special Education Staff**

APPENDIX C  
SCHEDULING PATTERNS AT PENNSYLVANIA  
CAREER AND TECHNICAL CENTERS

Table 29

**Scheduling Patterns at Pennsylvania Career and Technical Centers**

NAME OF AVTS	TYPE OF SCHOOL		PROGRAM SEQUENCE					PROGRAMS OFFERED				STUDENT ATTENDANCE			STUDENT ROTATION SCHEDULE		
	COMP	OCCUP	4	YEAR			1	COMP	OCCUP	ADULT	1/3 DAY	1/2 DAY	FULL DAY	3	WEEKS		
				2	3	4									9	18	36
A W Beattie AVTS		X		X					X								
Admiral Peary AVTS		X		X				X	X								
Beaver County AVTS		X		X													
Bedford County Technical Center		X	X					X	X								
Berks CTC-East Campus		X		X				X	X								
Berks CTC-West Campus		X		X				X	X								
Bethlehem AVTS		X		X				X	X								
Bucks County Technical HS	X		X					X	X			X					
Butler County AVTS		X				X		X	X		X						
Carbon County AVTS	X			X				X	X			X					
Career Institute of Technology		X		X				X	X			X					X
Center for Arts & Technology-Brandywine		X		X				X	X			X					X
Center for Arts & Technology-Pickering	X			X				X	X			X					X
Center for Technical Studies of Montgomery County		X		X				X	X			X					
Central PA Institute of Science & Technology		X		X				X	X			X					
Central Westmorland CTC		X	X	X				X	X			X					X
City of Erie Regional Career & Technical School	X		X					X	X			X					
Clarion County Career Center		X		X				X	X			X					
Clearfield County CTC		X		X				X	X			X					
Columbia-Montour AVTS	X		X					X	X			X					
Crawford County AVTS		X		X				X	X			X					
CTC of Lackawanna County		X		X				X	X			X					
Cumberland-Perry AVTS		X		X				X	X			X					
Dauphin County AVTS	X		X					X	X			X					
Delaware County Technical HS-Aston		X		X				X	X			X					
Delaware County Technical HS-Folcroft		X		X				X	X			X					
Eastern Center for Arts & Technology		X		X				X	X			X					
Eastern Westmoreland CTC		X		X				X	X			X	X				X
Erie County Technical School		X		X				X	X			X					
Fayette County AVTS		X		X				X	X			X					X
Forbes Road CTC		X	X					X	X			X					X

NAME OF AVTS	TYPE OF SCHOOL		PROGRAM SEQUENCE				PROGRAMS OFFERED			STUDENT ATTENDANCE			STUDENT ROTATION SCHEDULE					
	COMP	OCCUP	YEAR				COMP	OCCUP	ADULT	1/3 DAY	1/2 DAY	FULL DAY	WEEKS					
			4	3	2	1							3	9	18	36		
Franklin County CTC		X	X					X			X				X			
Fulton County AVTS		X	X					X			X							
Greater Altoona CTC		X	X					X			X							
Greater Johnstown AVTS		X	X					X			X							
Greene County AVTS		X	X					X			X							X
Hazleton Area Career Center		X	X					X			X							
Huntingdon County CTC		X	X					X			X							
Indiana County Technology Center		X	X	X			X				X							
Jefferson County-DuBois AVTS	X		X					X			X							
Keystone Central AVTS		X	X				X				X							
Lancaster County CTC-Brownstown		X	X	X			X			X	X							X
Lancaster County CTC-Mount Joy		X	X	X			X			X	X							X
Lancaster County CTC-Willow Street		X	X	X			X			X	X							X
Lawrence County AVTS	X		X					X			X							
Lebanon County CTC		X	X					X			X							
Lehigh CTE		X	X					X			X							X
Lenape AVTS	X		X					X			X							
Lycoming CTC		X	X	X				X			X							
McKeesport Area Technology Center		X	X					X			X							
Mercer County Career Center		X	X				X				X							
Middle Bucks Institute of Technology		X	X					X			X							
Mifflin-Juniata CTC		X	X					X			X							
Mon Valley CTC		X	X					X			X							
Monroe CTE		X	X	X				X			X							
North Fayette County AVTS		X	X					X			X							
North Montco TCC		X	X	X				X			X							
Northern Tier Career Center		X	X					X			X							
Northern Westmoreland County AVTS		X	X					X			X							
Northumberland County AVTS		X	X					X			X							
Parkway West AVTS		X	X					X			X							
Philadelphia-Bok Technical HS	X		X					X			X							
Philadelphia-Dobbin AVT HS	X		X					X			X							
Philadelphia-Mastbaum AVTS	X		X					X			X							
Philadelphia-Randolph AVT HS	X		X					X			X							
Philadelphia-Saul Agricultural School	X		X					X			X							
Philadelphia-Swenson Arts & Technology HS	X		X					X			X							
Reading-Muhlenberg AVTS		X	X					X			X							

NAME OF AVTS	TYPE OF SCHOOL		PROGRAM SEQUENCE				PROGRAMS OFFERED			STUDENT ATTENDANCE			STUDENT ROTATION SCHEDULE				
	COMP	OCCUP	4	YEAR			COMP	OCCUP	ADULT	1/3 DAY	1/2 DAY	FULL DAY	WEEKS				
				1	2	3							4	5	9	18	36
Schuylkill Technology Centers-North		X	X					X			X				X		
Schuylkill Technology Centers-South		X	X					X			X				X		
Seneca Highlands AVTS		X	X	X	X			X		X							
Somerset County Technology Center		X	X	X	X			X		X					X		
Steel Center AVTS		X	X					X		X							
SUN Area CTC		X				X		X			X						X
Susquehanna County CTC		X	X			X		X		X							X
Upper Bucks County AVTS		X	X			X		X		X							
Venango Technology Center		X	X					X		X							
Warren County AVTS		X	X	X	X			X		X							
West Side AVTS	X		X	X			X				X						
Western Area CTC		X	X					X		X							
Western Center for Technical Studies		X	X	X	X		X	X			X						X
Wilkes-Barre AVTS		X	X				X	X		X							
York County School of Technology	X		X	X	X		X	X			X						
<b>TOTALS</b>	17	66	22	69	30	24	24	66	6	61	34	1	1	5	12		



APPENDIX D  
ANECDOTAL RESPONSES TO  
NMTCC STAKEHOLDERS' SURVEY

Table 30

*Anecdotal Responses by Stakeholders to Delivery Systems Questions in NMTCC Survey*  
*NMTCC's delivery system (i.e. three sessions per day) meets the technical instructional needs of the students*

Group	Response(s)
JOC Members	<ul style="list-style-type: none"> <li>• Positively not.</li> </ul>
NMTCC Administration	<ul style="list-style-type: none"> <li>• Hours not being met in our current delivery system.</li> </ul>
NMTCC Staff	<ul style="list-style-type: none"> <li>• 2 sessions/day would give more time with students. 1st session -2nd yr and new students. 2nd session-3rd and 4th yr students.</li> <li>• There should be 2 sessions. This provides more time for concentration and less confusion.</li> <li>• Two sessions please.</li> <li>• A lot of time between sessions.</li> <li>• I feel that two sessions would best meet the needs of the students.</li> <li>• It seems that students should spend full days here on longer time.</li> <li>• Some home schools cheat their students of instructional time by insisting their students leave early in order to meet the home school's class schedule. Second session is short instructional time because of lunch. Not enough of professional staff to meet the needs of our special needs students.</li> <li>• But allows 9th graders to attend which helps enrollment. 1st yr should be spent by 9th graders spending 1 full MP in each class within a cluster.</li> <li>• Very disruptive - too much lost time changing classes etc.</li> <li>• 2nd session 10:15-11:30 is too short. However it is a good break-in year for 9th grade.</li> <li>• 2 sessions.</li> <li>• Return to two longer sessions.</li> <li>• 2nd session is too short. Some students get an hour or less of instructional time.</li> <li>• There is not enough time with three sessions. No sooner do they come in then it's time to go.</li> <li>• Session 2 is much too brief to conduct effective technical training.</li> </ul>
Community Members	<ul style="list-style-type: none"> <li>• Ask students.</li> </ul>
District Sp. Ed. Staff	<ul style="list-style-type: none"> <li>• Sessions should be longer; only two sessions.</li> </ul>

- Guidance Counselors
- The teachers at NMTCC need to make this decision with the technical instructional goals that they need to cover.
  - Not sure.
  - I wish PV [Perkiomen Valley] could have 2nd sessions.
- GAC Members
- The longer half day sessions would be more appropriate.

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*NMTCC's delivery system (i.e. three sessions per day) meets the academic instructional needs of the students at their respective high schools.*

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Group	Response(s)
JOC Members	<ul style="list-style-type: none"> <li>• Positively not.</li> </ul>
NMTCC Administration	<ul style="list-style-type: none"> <li>• Academic would be best suited at the sending school for the following reasons: cost: number of teachers to ratio of students; hours: students taken out of tech programs; we are a tech school-not comprehensive.</li> </ul>
NMTCC Staff	<ul style="list-style-type: none"> <li>• I wouldn't know.</li> <li>• I don't know.</li> <li>• I think students need to receive more academics but are unable to because of our schedule Lansdale Catholic doesn't send many for this reason. Also students need more languages here.</li> <li>• Don't know.</li> <li>• Too much travel time. Not enough time at tech for math, health, p.e.</li> <li>• PYAP meets the needs.</li> <li>• 2nd session is too short. Some students get an hour or less of instructional time.</li> <li>• I'm not in a position to judge this.</li> </ul>
Community Members	<ul style="list-style-type: none"> <li>• Can't say for sure but it seems to make sense.</li> </ul>
District Sp. Ed. Staff	<ul style="list-style-type: none"> <li>• It's difficult to work with SN students when they attend Vo-Tech; their schedules don't permit study halls.</li> <li>• Hard to coordinate support services for SN students when they go to NMTCC.</li> </ul>
Guidance Counselors	<ul style="list-style-type: none"> <li>• This is not applicable to 9th grade students as they have instruction for academic courses at the home school.</li> <li>• The students in the class of 2008 will need an additional math or science credit to graduate from NPHS - I am concerned about how that will fit</li> </ul>

- GAC Members
- I'm not familiar with the home school schedules. They probably differ greatly

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*NMTCC should continue to operate using its current delivery system (i.e. three sessions per day).*

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Group	Response(s)
JOC Members	<ul style="list-style-type: none"> <li>• Need to evaluate # hours</li> <li>• 2nd session is wasteful, possibly first session is.</li> </ul>
NMTCC Staff	<ul style="list-style-type: none"> <li>• No time to really teach. 5 sending schools, 5 bell schedules.</li> <li>• Half days would be better.</li> <li>• Sessions are too short.</li> <li>• Two sessions and more comprehensive.</li> <li>• I don't think three sessions work well. Too short in the am to get much accomplished.</li> <li>• As long as jobs are not lost should remain the same but teacher/student day should be lengthened in AM. Montco needs a county yearly school calendar - too many wasted days when all schools are not in attendance.</li> <li>• 2 sessions.</li> <li>• No break time for vocational teachers with 3 sessions. too much busing of students wastes time.</li> <li>• I think we should just have two longer periods.</li> <li>• 3 session place a strain on effective curriculum delivery. I would prefer 2 sessions. Also the varied arrival and dismissal times that must be scheduled to accommodate individual school districts wreaks havoc on classroom management. Two sessions may eliminate the problem.</li> <li>• Academics have at NMTCC 1/2 day.</li> </ul>
Community Members	<ul style="list-style-type: none"> <li>• Would like to know what students and teachers think</li> </ul>
District Sp. Ed. Staff	<ul style="list-style-type: none"> <li>• Too confusing with 3 sessions</li> <li>• Students travel too much; sessions should be longer.</li> </ul>
Guidance Counselors	<ul style="list-style-type: none"> <li>• The 3rd session for our 9th graders is the best. Our students return from NMTCC excited to discuss what they have learned with teachers and also as reported by parents.</li> </ul>

- GAC Members
- Should be changed to meet the needs of each trade area in conjunction with the business and industry community needs.
  - 2 session, half day would be better. It provides much more continuous instruction time with less starting and stopping.

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*NMTCC should change its schedule from three sessions per day to two longer, half-day sessions.*

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Group	Response(s)
JOC Members	<ul style="list-style-type: none"> <li>• Need to evaluate # hours</li> <li>• Maybe other change options</li> </ul>
NMTCC Staff	<ul style="list-style-type: none"> <li>• The students could accomplish much more with longer periods.</li> <li>• The 9th grade session gives an exploratory option to kids and improves the cost effectiveness of vocational education - 2 sessions = 50 kids per teacher. 3 sessions = 75 kids per teacher.</li> <li>• It's an option to look into.</li> <li>• Yes.</li> <li>• Academics at NMTCC</li> </ul>
Community Members	<ul style="list-style-type: none"> <li>• I like the sound of this.</li> </ul>
District Sp. Ed. Staff	<ul style="list-style-type: none"> <li>• This would be better than current arrangement.</li> <li>• Longer sessions more beneficial to students.</li> </ul>
Guidance Counselors	<ul style="list-style-type: none"> <li>• For 9th graders.</li> <li>• The middle session is perfect for 9th graders.</li> </ul>
GAC Members	<ul style="list-style-type: none"> <li>• As long as it meets the needs of the community at large, school, business, and students.</li> </ul>

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*NMTCC should change to a full day seniors*

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Group	Response(s)
JOC Members	<ul style="list-style-type: none"> <li>• A full time program is available - do not like seniors only approach. Don't want to be only anything.</li> </ul>
NMTCC Administration	<ul style="list-style-type: none"> <li>• This is an option to deal with student growth and programs</li> </ul>

NMTCC Staff	<ul style="list-style-type: none"> <li>• Enrollment will decrease.</li> <li>• This wouldn't work for seniors only. People need training earlier. Maybe full day 10-12 grade or 11-12 grade.</li> <li>• No way!</li> <li>• It's an option to look into.</li> <li>• Students need more than one year to accomplish proficiency in shop.</li> <li>• It has been tried in this area and it didn't work.</li> <li>• To achieve curriculum goals and industry standards students need to study for more than 1 year.</li> </ul>
Community Members	<ul style="list-style-type: none"> <li>• Possibly if seniors are certain of their career goals.</li> </ul>
District Sp. Ed. Staff	<ul style="list-style-type: none"> <li>• Our students need more than a year of instruction to be successful.</li> <li>• Too short a period of time</li> <li>• Students need to explore careers before 12<sup>th</sup> grade.</li> </ul>
Guidance Counselors	<ul style="list-style-type: none"> <li>• Tech school has a great integrated program that keeps kids interested and engaged from 9th on.</li> </ul>

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*NMTCC should change to a semester about program (i.e. students would take one semester of technical training at NMTCC and one semester of academic classes at their respective high schools).*

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Group	Response(s)
JOC Members	<ul style="list-style-type: none"> <li>• Need more info</li> <li>• Not sure - may solve PV's transportation issues.</li> </ul>
NMTCC Staff	<ul style="list-style-type: none"> <li>• Academics should be integrated with technical training, not distinct.</li> <li>• No continuity!</li> <li>• Would need more details about this.</li> <li>• Continuity in both areas would be lost and much time would be spent on review/refresher course work before new material could be taught.</li> <li>• No way!</li> <li>• Disrupts learning process in technical</li> <li>• If no academics here.</li> </ul>
Community Members	<ul style="list-style-type: none"> <li>• I feel I don't have enough knowledge to answer this.</li> </ul>
District Sp. Ed. Staff	<ul style="list-style-type: none"> <li>• Our students would have difficulty retaining information.</li> <li>• Our students need regular remediation in Reading.</li> </ul>
Guidance Counselors	<ul style="list-style-type: none"> <li>• The blend works well to inspire students to blend their technical and academic worlds. They are integrated and should be taught concurrently</li> </ul>

- GAC Members • Would need more information. Does not always work.

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*NMTCC should change to two or three week about program, in which students would have several weeks of nothing but vocational training followed by an equal amount of time taking academic classes.*

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Group	Response(s)
JOC Members	<ul style="list-style-type: none"> <li>• Need more info</li> <li>• Not sure how this would mix with sending HS needs and limitations.</li> </ul>
NMTCC Staff	<ul style="list-style-type: none"> <li>• Should be consistent vocational training for school year.</li> <li>• That would be great - especially for the PYAP program.</li> <li>• Maybe AM in academic and PM in technical classes.</li> <li>• Without a gym or library at their current facility the students would not be able to have a full comprehensive education comparable to other area HS.</li> <li>• No way!</li> <li>• No continuity of instruction</li> <li>• I'd need to see how similar programs work and if they're successful to and for students.</li> </ul>
Community Members	<ul style="list-style-type: none"> <li>• There should be a clear integration of vocational and academic preparation.</li> <li>• I feel I don't have enough knowledge to answer this.</li> </ul>
District Sp. Ed. Staff	<ul style="list-style-type: none"> <li>• This would make all vo-tech students take classes together at their HS.</li> <li>• Same problems as semester program.</li> </ul>
GAC Members	<ul style="list-style-type: none"> <li>• Would need more information. A lot of time lapses between training.</li> </ul>

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*NMTCC should change to a full time comprehensive technical school (i.e. NMTCC would offer ALL academic and technical courses at their facility).*

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Group	Response(s)
JOC Members	<ul style="list-style-type: none"> <li>• This sounds like it might be a good idea. I would need more information before agreeing.</li> <li>• All viable options should be explored. I think we serve a need for part time students.</li> </ul>
NMTCC Administration	<ul style="list-style-type: none"> <li>• If option was to have a sixth school and increase budget would be a growing concern.</li> </ul>

- |                        |   |
|------------------------|---|
| NMTCC Staff            | <ul style="list-style-type: none"> <li>• This would be a challenge well worth the effort!</li> <li>• If we had the space!</li> <li>• This would be beneficial if and only if a highly qualified person set up the program and time was given for development.</li> <li>• Would be a good alternative.</li> <li>• Would be a good alternative.</li> <li>• If we could get the numbers for this it would be great and create a sense of unity. Unfortunately some sending school counselors do not promote us. This is a big complaint of the parents.</li> <li>• Only students who meet entrance requirements should be accepted whether it be 9, 10, 11, or 12 graders.</li> <li>• This would be ideal but would require new building.</li> <li>• Only if 11 was done.</li> <li>• Students thrive with their own school. less busing of students. better academics relevant to shop.</li> <li>• PYAP teachers should be utilized at comprehensive HS.</li> <li>• I have very mixed feelings on this.</li> <li>• PYAP teachers utilized as academic teachers at comprehensive HS.</li> <li>• This proposal is most appealing. It helps to keep the students focused on their educational and career goals. Common arrival and departure times would improve instruction. Perhaps PYAP teachers could teach the academics.</li> </ul> |
| Community Members      | <ul style="list-style-type: none"> <li>• This sounds like it would be more efficient-at least in reducing travel time.</li> </ul>   |
| District Sp. Ed. Staff | <ul style="list-style-type: none"> <li>• This would be best for the students; easier to work with academics and vocational classes taught in same building.</li> </ul>  |
| Guidance Counselors    | <ul style="list-style-type: none"> <li>• For 10th -12th.</li> <li>• Some need that and some don't</li> </ul>  |
| GAC Members            | <ul style="list-style-type: none"> <li>• I believe this would lead to too much duplication of academic training. It would be like home schools who try to compete with NMTCC for technical instruction</li> </ul>   |

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*The three-session delivery system should be changed to two longer sessions per day.*

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Group	Response(s)
JOC Members	<ul style="list-style-type: none"> <li>• possibly</li> <li>• need more info</li> <li>• Same as previous question.</li> </ul>
NMTCC Staff	<ul style="list-style-type: none"> <li>• If this is our only choice.</li> <li>• It's an option to look into.</li> </ul>



District Sp. Ed. Staff • Two longer sessions seem better.

Guidance Counselors • 9th graders need the middle session at the length it is.

GAC Members • This seems to be the same as 13.

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*Source.* North Montco Technical Career Center Survey (2004).

Table 31

*Anecdotal Responses to Facility Questions by Stakeholder Group in NMTCC Survey*  
*The current physical plant adequately meets the needs of the community, with regard to student enrollment/building capacity, and technical course offerings*

Group	Response(s)
JOC Members	<ul style="list-style-type: none"> <li>• The physical plant will need to be updated and more space will be needed.</li> <li>• Changes are required. Reduce Cosmo program or eliminate; Eliminate 2nd session; Fulltime or half time sessions; eliminate courses with less than 10 students, 12 in 2004.</li> <li>• Need to address space issues</li> </ul>
NMTCC Administration	<ul style="list-style-type: none"> <li>• Building is old in every aspect-electrical, plumbing, air. Classrooms are too small for amount of students.</li> </ul>
NMTCC Staff	<ul style="list-style-type: none"> <li>• Remove adult education from the daytime school hours. The ABC Company currently utilizes space in the facility. Remove them and utilize the space.</li> <li>• Many shops need more space</li> <li>• Air quality/ventilation is poor. There is insufficient classroom space-many teachers are asked to teach classes simultaneously in the same space.</li> <li>• Some areas are adequate, others are not.</li> <li>• I believe that our school is too old to.</li> <li>• The building is too small to meet the needs of the students and courses.</li> <li>• More room needed.</li> <li>• Capacity is a problem.</li> <li>• overcrowded in some shops. Not enough space for meetings, lunch, assemblies, phys. training, academics, etc.</li> <li>• With courses added.</li> <li>• Some labs are overcrowded-there is no place to put new programs.</li> </ul>
Community Members	<ul style="list-style-type: none"> <li>• From what I recall of some classrooms there is need for improvement. e.g. the protective services classroom.</li> </ul>
District Sp. Ed. Staff	<ul style="list-style-type: none"> <li>• Building is too small; need more programs for SN students.</li> </ul>
Guidance Counselors	<ul style="list-style-type: none"> <li>• We need more space for a growing population of students.</li> </ul>
GAC Members	<ul style="list-style-type: none"> <li>• As service and Technology vocations grow the current facility will</li> </ul>

not (and does not) provide for near future classroom needs related to growing curriculum and new curriculum.

- Appears they are outdated and overcrowded.

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*NMTCC's facility should be renovated (i.e. construction of new classrooms) to address the future needs of the community (i.e. adding new technical class offerings, and expanding student enrollment).*

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Group	Response(s)
JOC Members	<ul style="list-style-type: none"> <li>• Not sure of funding to support this.</li> </ul>
NMTCC Administration	<ul style="list-style-type: none"> <li>• Classroom sizes and equipment very old and building was not meant to service the programs in them or the number of people in the building.</li> </ul>
NMTCC Staff	<ul style="list-style-type: none"> <li>• Remove adult education from the daytime school hours. The ABC Company currently utilizes space in the facility. Remove them and utilize the space.</li> <li>• Enlarge; open a restaurant to the public. Bigger classes.</li> <li>• Every year we receive more students. WE cannot expand because of local government regulation. Renovating is putting a band aid on an arterial flood!</li> <li>• Need a new bigger school.</li> <li>• Centrally located within 5 sending schools.</li> <li>• Renovations are costly. In the past changes to the building strained aging HVAC and electrical systems. Also, modifications to the existing structure is an option with extreme limits on size and design.</li> </ul>
Community Members	<ul style="list-style-type: none"> <li>• Ask students.</li> </ul>
District Sp. Ed. Staff	<ul style="list-style-type: none"> <li>• Need to expand to allow more SN students to attend.</li> </ul>
Guidance Counselors	<ul style="list-style-type: none"> <li>• Classroom-academic classes-space is needed.</li> </ul>
GAC Members	<ul style="list-style-type: none"> <li>• Yes, if it is possible to accommodate the need for anticipated curriculum within the existing site.</li> </ul>

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*A new facility should be built to best meet the needs of the students and the community.*

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Group	Response(s)
JOC Members	<ul style="list-style-type: none"> <li>• While I agree with the renovation or expansion I do not believe a new facility is needed.</li> <li>• May be true but not a practical option.</li> </ul>

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- Renovation only.

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NMTCC Staff	<ul style="list-style-type: none"> <li>• If renovations are too extensive then new facility should be considered.</li> <li>• Update.</li> <li>• It would depend on location.</li> <li>• Without the ability to expand here the only two viable solutions are new construction or a second campus.</li> <li>• Something needs to be done, either 10 or 11.</li> <li>• if renovations are cost prohibitive a new facility is a MUST.</li> <li>• Should be built centrally within the sending school's district.</li> <li>• Centrally located within 5 sending schools.</li> <li>• A new building could certainly meet the needs of the future. However a new building must be centrally located for all sending school districts.</li> </ul>
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Community Members	<ul style="list-style-type: none"> <li>• Not enough information to answer this</li> </ul>
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Guidance Counselors	<ul style="list-style-type: none"> <li>• The improvements are more than adequate.</li> </ul>
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GAC Members	<ul style="list-style-type: none"> <li>• Yes, if the existing site will not accommodate the educational need.</li> </ul>
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*NMTCC should move all or a portion of its programs to the Souderton High School once they move into their new building.*

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Group	Response(s)
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JOC Members	<ul style="list-style-type: none"> <li>• Distance issue with NP and Wiss</li> <li>• No way. Who approved a new building? Building new school buildings and school board members' approval are a way of life in the SE PA region.</li> <li>• There are 100 places they can conduct programs-why here. No way. PV Trappe building is ok though.</li> </ul>
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NMTCC Staff	<ul style="list-style-type: none"> <li>• Possible. But busing of NP students would be costly.</li> <li>• New programs?</li> <li>• I don't believe a regular HS would be equipped to host a vocational school.</li> <li>• Maybe?</li> <li>• Don't think this could be feasible - would add to NP's busing costs too. Would only want all of the programs in one building.</li> <li>• It is a possible long term solution but does not address the short term problems!</li> <li>• Again, whichever options works. Space is needed.</li> </ul>
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- What is the thinking here?
  - NMTCC should stay as it is now instead of moving to an old worn out building
  - Good idea!
  - As long as we have all programs in one building.
  - Souderton is not centrally located to all sending school districts.
- Community Members
- Perhaps duplicate some programs but not wholesale moving of complete programs.
  - I believe all day at one facility would increase learning: technical and academic all at the same time.
  - If facilities are much better than current.
- Guidance Counselors
- Selfishly-NMTCC is great for the largest student pop-NPHS.
- GAC Members
- The Souderton facility would not work well for the industrial vocation instruction. Until the proper facility was created through new construction and renovation it would probably cost more than a new facility.

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*Source.* North Montco Technical Career Center Survey (2004).

Table 32

*Anecdotal Responses by Stakeholders to Program Offerings Questions in NMTCC Survey  
North Montco Technical Career Center's (NMTCC) technical course offerings (refer to  
brochure) meet the current needs of the students and businesses in our community.*

Group	Response(s)
NMTCC Administration	<ul style="list-style-type: none"> <li>• Need childcare, dental asst, entrepreneurships.</li> </ul>
NMTCC Staff	<ul style="list-style-type: none"> <li>• There could be more technical needs represented here. Also childcare should be addressed as well as broadcasting &amp; video production.</li> <li>• Could use new programs to meet current needs of community.</li> <li>• But they could also do more for applied females in the building.</li> <li>• But they could also do more for applied females in the building.</li> <li>• Teach excavation classes.</li> <li>• Offer business and childcare course.</li> <li>• There is inadequate space in the building to achieve this goal. New programs cannot be offered and current ones cannot be expanded.</li> </ul>
District Sp. Ed. Staff	<ul style="list-style-type: none"> <li>• Not enough courses geared to lower ability students</li> <li>• Not all courses open for SN students to take</li> </ul>
Guidance Counselors	<ul style="list-style-type: none"> <li>• Our area has many jobs available to technically trained students. There are not enough students to fill the need.</li> <li>• Most of my students can find areas that interest them</li> </ul>

*NMTCC's technical course offerings (refer to brochure) meet the future needs of the students and businesses in our community.*

Group	Response(s)
JOC Members	<ul style="list-style-type: none"> <li>• Generally agree but need to emphasize more technology driven fields.</li> </ul>
NMTCC Administration	<ul style="list-style-type: none"> <li>• Need childcare, dental asst, entrepreneurships.</li> </ul>
NMTCC Staff	<ul style="list-style-type: none"> <li>• NMTCC has always monitored and conferred with community/business to keep current and flex to maintain offerings meeting community needs. Hopefully will continue to do so.</li> <li>• May need to add new courses.</li> <li>• More CNC machines</li> <li>• Offer business and childcare course.</li> <li>• With courses added.</li> <li>• If student population continues to increase then situation will be even</li> </ul>

- worse than it is at present. If we can't meet current needs how can we meet future ones?
- |                       |   |
|-----------------------|---|
| Community Members     | <ul style="list-style-type: none"> <li>• Yes, as well as we can perceive future needs i.e. biotech, nanobiotech, etc.</li> </ul>                          |
| District Sp.Ed. Staff | <ul style="list-style-type: none"> <li>• NMTCC should investigate programs that SN students can succeed in.</li> </ul>                                    |
| GAC Members           | <ul style="list-style-type: none"> <li>• I agree to the point that one can anticipate future trends of service, manufacturing, and technology.</li> </ul> |

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*The 9th grade program provides an important career exploration component for the students.*

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Group	Response(s)
JOC Members	<ul style="list-style-type: none"> <li>• Needed or not I cannot say.</li> <li>• Not sure.</li> </ul>
NMTCC Staff	<ul style="list-style-type: none"> <li>• Students in the 9th grade are too immature to handle technical subjects.</li> <li>• Not long enough to explore. Some students don't want to explore.</li> <li>• I have mixed feelings about this item.</li> <li>• I have mixed feelings about this item.</li> <li>• It probably does but it may be hard to teach all students in the time slot allowed.</li> <li>• This could be accomplished in 1st session without a middle session for 9th graders.</li> <li>• 9th grade doesn't meet the maturity level necessary for patient care.</li> <li>• Should be tested for maturity. Some are too immature.</li> <li>• 9th grade does not meet the maturity level necessary for patient care.</li> <li>• Based on personal experience 9th graders are not emotionally or socially ready for training in my field (health care).</li> <li>• One quarter/year</li> </ul>
Community Members	<ul style="list-style-type: none"> <li>• Exploration is very important</li> </ul>
Guidance Counselors	<ul style="list-style-type: none"> <li>• As a middle school counselor I see my students being successful at NMTCC. Tolerating the academic subjects at the home school until they can attend NMTCC full time.</li> </ul>
District Sp.Ed. Staff	<ul style="list-style-type: none"> <li>• My students need this to make good occupational choices.</li> <li>• Very beneficial.</li> </ul>

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*The Pennsylvania Youth Apprenticeship Program is very important, and should not be changed.*

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Group	Response(s)
JOC Members	<ul style="list-style-type: none"> <li>• There is always room for improvement.</li> <li>• Anything can be improved but this program is a good one.</li> </ul>
NMTCC Administration	<ul style="list-style-type: none"> <li>• Lack of employers; close to half of the students do not have jobs (cosmo)</li> </ul>
NMTCC Staff	<ul style="list-style-type: none"> <li>• There should be regular changes to the program.</li> <li>• PYAP is a wonderful program that offers innovative, integrated curricula - like most programs it has room to grow and improve.</li> <li>• Good program but needs more attention.</li> <li>• I think it is good but needs to grow and offer more languages. Needs tweaking but it is great.</li> <li>• It is important but it can be improved.</li> <li>• More collaboration needed between academic and vocational staff to come up with better and more practical projects. Social studies should deal with history of trades and development of work force. English should be business English with emphasis on writing letters and more presentations of projects and public speaking techniques. Math-again shop teachers can provide practical trade related problems.</li> <li>• Expanded.</li> <li>• PYAP teachers should be utilized at comprehensive HS.</li> <li>• It needs to be restructured to meet the needs of the students. Academic classes should be taught at the student's level.</li> <li>• Not all fields of work can train on the job. Some require certifications or proof of expertise before hiring. Therefore not all programs should be expected to have apprentices.</li> </ul>
Guidance Counselors	<ul style="list-style-type: none"> <li>• Expanded only.</li> </ul>
District Sp.Ed. Staff	<ul style="list-style-type: none"> <li>• Good program for my students.</li> <li>• Some employers are not very patient with my students.</li> </ul>

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*NMTCC's Cosmetology program should continue to be offered*

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Group	Response(s)
JOC Members	<ul style="list-style-type: none"> <li>• Perhaps less students</li> <li>• At reduced class sizes.</li> <li>• Too many students. Not reflective of job market. Develop alternatives to better serve needs of the target group.</li> </ul>



	<ul style="list-style-type: none"> <li>• But need to assess demand.</li> </ul>
NMTCC Staff	<ul style="list-style-type: none"> <li>• Cosmo is the heartbeat of the school. It has the highest enrollment and attracts many students into the building.</li> <li>• Maybe limit the size of how many openings there would be.</li> <li>• The numbers are so high - obviously people want this.</li> <li>• Surveys show this is being more of a hobby than a profession for a majority of the students.</li> <li>• It meets the needs of many students!</li> <li>• Based on the large number of students in this program cosmetology is a popular offering. It therefore meets the needs and desires of the community.</li> </ul>
Community Members	<ul style="list-style-type: none"> <li>• Yes it should be offered as those are jobs available. Cannot comment if it should be offered in its present format.</li> <li>• Only if enrollment supports it. There is a cosmetology school very close by in Lansdale that could perhaps be used.</li> </ul>
Guidance Counselors	<ul style="list-style-type: none"> <li>• My students love the program!!</li> <li>• This program is phenomenal and the only way that most of the cosmo students will get their hours.</li> </ul>
District Sp.Ed. Staff	<ul style="list-style-type: none"> <li>• Great program; too difficult for some of my students to pass board exam.</li> </ul>

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*Cosmetology should be offered through the private sector (i.e. private beauty academy) instead of being offered through NMTCC.*

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Group	Response(s)
JOC Members	<ul style="list-style-type: none"> <li>• Two examples of money waste and not PDE qualified private school teachers were explained by Penn State person.</li> <li>• Not sure-not the ultimate solution to the problem.</li> </ul>
NMTCC Staff	<ul style="list-style-type: none"> <li>• Private sector could not handle students' special needs.</li> <li>• Private Schools could not handle IEP student - nor would environment be good for them - also it would be discriminatory by limiting female choices at North Montco.</li> <li>• Private Schools could not handle IEP student - nor would environment be good for them - also it would be discriminatory by limiting female choices at North Montco.</li> <li>• Private schools would not serve the learning needs of special needs students.</li> <li>• Private schools would not serve the learning needs of special needs students.</li> <li>• It would be too costly for most people to go to a private school.</li> <li>• Private industry will NEVER be able to meet the needs of our</li> </ul>

students with IEP. Removing cosmetology will give better choices to female students.

- Based on the large number of students in this program cosmetology is a popular offering. It therefore meets the needs and desires of the community.
- More cost, less appropriate to needs of students.

Community  
Members

- There is room for both.
- Only if enrollment supports it. There is a cosmetology school very close by in Lansdale that could perhaps be used

Guidance  
Counselors

- Not equally accessible to all students.

District Sp.Ed.  
Staff

- Private schools wouldn't want to work with special needs students.
- Private companies won't make accommodations for students' disabilities.

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*The 9th grade program should be expanded to include ALL students who wish to participate.*

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Group

Response(s)

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JOC Members

- Don't know what ALL means. As I understand it PV does not send 9th grade students due to transportation issues.

NMTCC Staff

- Don't understand
- What about numbers? Need more staff if enrollment is increased.
- 9th grade program is great but it takes time from 10-12.
- Isn't it open to everyone now?
- Screen incoming students better with respect to discipline.
- I had always been under the impression that all 9th grade students who wished to participate had been included.
- This would be great is time and space permitted.
- Participate in what? Tech classes? Academics? All school districts currently send 9th grade students.
- Should be tested for maturity. Some are too immature.
- Based on personal experience 9th graders are not emotionally or socially ready for training in my field (health care)

Community  
Members

- Possible 3 sessions for 9th grade only.

Guidance  
Counselors

- It does.
- Many 9th graders are disappointed they can't start right away.

District Sp.Ed. Staff • Our students should all be included in the 9<sup>th</sup> grade program to explore various occupations.

GAC Members • That may be a great idea but would be too inflexible. There still are many 9th grade students who are not ready for vocational training.

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*Source.* North Montco Technical Career Center Survey (2004).

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<b>Objective</b>	To complete the Workforce Education doctoral program		
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<b>Professional Experience</b>	2006	York County School of Technology York, PA	
	<b>Director of Student Services</b>		
	1988 – 2006	Cumberland Perry AVTS Mechanicsburg, PA	
	<b>Assistant Principal/Director of Student Services</b>		
	2000	Cumberland Valley School District Camp Hill School District	
	1979 – 1987	Mechanicsburg Area School District	Mechanicsburg, PA

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<b>Education</b>	1994	Shippensburg University	Shippensburg, PA
	<b>Master's of Education – Educational Administration</b>		
	1985	Shippensburg University	Shippensburg, PA
	<b>Master's of Education – Secondary Counseling</b>		
	1976	Kutztown University	Kutztown, PA

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<b>Certifications</b>	2002	Pennsylvania State University	University Park, PA
	<b>Vocational Administrative Director</b>		
	2000	Shippensburg University	Shippensburg, PA
	<b>Superintendent's Letter of Eligibility</b>		
	1994	Shippensburg University	Shippensburg, PA
	<b>Principal's Certificate</b>		
	<b>Supervisor of School Guidance Services</b>		
	1985	Shippensburg University	Shippensburg, PA

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	<b>Secondary Counseling</b>		
	1976	Kutztown University	Kutztown, PA

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	<b>Secondary Education – German &amp; Russian</b>		
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