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ABSTRACT

Vocational education programs conducted by the Cincinnati Public Schools were reviewed to analyze their characteristics and to clarify their mission and goals. The review examined information on demographic and economic trends in the labor market served by the schools and developed information on the purpose, conduct, and outcomes of the vocational programs through school visits, personal interviews, and mail surveys. Participants in interviews and surveys included teachers, principals, guidance counselors, staff, and students at each high school offering vocational programs; parents of students interviewed; employers; directors of community agencies and other community representatives involved with vocational programs; employers of students; and former students. The information developed by these activities provided the basis for development of a questionnaire sent to 187 educators, employers, and other community representatives; 95 responded. Four recommendations resulted from the survey: (1) expand vocational education to give students transferable as well as technical skills; (2) document the skills acquired by vocational graduates; (3) demonstrate school district support for vocational education; and (4) improve the quality of jobs available in the Occupational Work Adjustment and Occupational Work Experience programs. (Twenty-six references, data tables, and instruments are appended.) (YLB)

THE CENTER MISSION STATEMENT

The mission of the Center on Education and Training for Employment is to facilitate the career and occupational preparation and advancement of youth and adults.

The Center fulfills its mission by conducting applied research and using the full range of resources of The Ohio State University in evaluation studies and by providing leadership development, technical assistance, and information services that pertain to—

- the delivery of education and training for work;
- the quality and outcomes of education and training for employment;
- the quality and nature of partnerships with education, business, industry, and labor;
- an opportunity for persons in at-risk situations to succeed in education, training, and work environments;
- the short- and long-range planning for education and training agencies, and
- approaches to enhancing economic development and job creation.

REVIEW OF VOCATIONAL EDUCATION IN THE CINCINNATI PUBLIC SCHOOLS

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FOREWORD

On behalf of the Center on Education and Training for Employment I am pleased to present this report to the Board of Education of the Cincinnati Public Schools for their consideration. The report presents the major findings from a review of the vocational education programs offered by the public schools and offers recommendations for improvement in these programs.

Our nation faces new challenges caused by increased international economic competition, rapid rates of technological change, and increased social problems that the schools must respond to. These challenges have led to a major educational reform effort that has raised questions about the role of secondary vocational education. The Cincinnati Board of Education commissioned this study to assist them in analyzing and responding to these questions.

The Center staff who conducted this study were Morgan Lewis, who served as project director, Joan Friedenberg, Ernest Fields, Gary Grossman, Sandy Pritz, and Paula Kurth. Monyeene Elliott, initially, and then Mary LaBell served as project secretaries. These staff have asked me to express their appreciation for the excellent cooperation they received in the conduct of this study. Everyone--board members, central office staff, school principals, teachers, guidance counselors, students, parents, employers, directors of community agencies, and others concerned with education in Cincinnati--were most generous with their time and made major contributions to the study.

I also wish to thank the directors of vocational/career education in three other large cities who reviewed a preliminary draft of this report: Casmira DiScipio, Cleveland, Ohio; Richard Gabriel, Kansas City, Missouri; and Marion Holmes, Philadelphia, Pennsylvania. Their reviews approved the general approaches used and supported the conclusions and recommendations.

It is the earnest wish of all those associated with this review that it will contribute to the improvement of vocational education in the Cincinnati Public Schools.

Ray D. Ryan
Executive Director
Center on Education and
Training for Employment

EXECUTIVE SUMMARY

This is a report of a review of the vocational education programs conducted by the Cincinnati Public Schools. The review was performed for the public schools by the Center on Education and Training for Employment of The Ohio State University. The review assembled and examined information on demographic and economic trends in the labor market served by the Cincinnati schools and developed information on the purpose, conduct, and outcomes of the vocational programs through school visits, personal interviews, and mail surveys.

The review found that there are significant changes taking place in the labor market served by the Cincinnati schools. Employers and other community representatives consistently reported that the rapid rate of technological change in jobs has increased the need for workers who can continually adapt and learn new skills. Virtually all of these respondents stated it is becoming increasing difficult to hire young people with acceptable communication, computation, and problem solving skills.

The review of the vocational programs conducted by the Cincinnati Public Schools led to the following conclusions:

1. Many students who are deficient in communication and computational skills enroll in vocational programs. Vocational teachers are convinced that higher ability students who are interested in vocational programs are counseled not to enroll in them.

2. Many vocational students leave high school with basic and technical skill levels below those necessary for entry-level employment in the fields for which they were trained. These students have created an impression widely shared by many employers and community leaders that the vocational programs are providing an inadequate education.

3. The job training programs offered by the public schools at the secondary level are serving a portion of their students by preparing them for employment in jobs requiring specialized skills or for postsecondary education or training.

4. Secondary-level job training programs are serving a segment of Cincinnati employers. These employers tend to be small, about half have 25 or fewer employees, and they are primarily service-producing rather than goods-producing firms. They hire the better students and are generally satisfied with their preparation and performance. The

employers who are familiar enough with the job training programs to evaluate them rate all aspects--curriculum, facilities, equipment, and instructors--quite favorably.

5. The Occupational Work Adjustment and Occupational Work Experience programs have most of the features that are needed for dropout prevention, but too often students are placed in jobs with little training or career potential.

6. The Queen City Vocational Center conducts excellent adult training programs whose students are evaluated very favorably by employers.

To respond to the changing nature of the skills needed in the labor market, the following recommendations are proposed to improve the vocational programs offered by the Cincinnati Public Schools. The major recommendations are accompanied by specific action recommendations to facilitate their implementation:

RECOMMENDATION 1: Expand the concept of vocational education to make it a full partner with academic education by developing programs that will enable students to acquire broad transferable skills as well as to prepare for occupations requiring specific skill training. Use the unique instruction features of vocational education to improve communication, computation, and problem solving skills as a fundamental component of teaching all occupational skills.

RECOMMENDATION 1A: Develop a structured series of professional development activities to enable vocational instructors to add to their skills in the following areas:

- Teaching and reinforcing basic communication and computational skills in vocational classrooms and laboratories.
- Working effectively with Applied Academics instructors.
- Working with at-risk students and others with special needs.

We further recommend that teachers be paid for their participation in these professional development activities.

RECOMMENDATION 1B: Include instructional materials designed to strengthen communication, computation, and problem solving skills in all curriculum development and revision for vocational programs.

RECOMMENDATION 1C: Strengthen the Applied Academics program. Institute standardized pre- and posttesting in English and mathematics for all vocational programs that have Applied Academics

RECOMMENDATION 2: Increase the accountability of vocational programs by establishing methods to verify and document that program completers can demonstrate the skills they have studied.

RECOMMENDATION 2A: Administer the Ohio Vocational Education Achievement Tests in all programs for which tests are available.

RECOMMENDATION 2B: Include a record of the skills that a student has successfully demonstrated as part of the certificate of completion for a program. Include the student's senior year scores on the Ohio Vocational Education Achievement Test.

RECOMMENDATION 2C: Develop a management information system for storage and retrieval of competency achievement data that can be used for planning, curriculum revision, and evaluation.

RECOMMENDATION 3: Communicate through specific actions that the Cincinnati Public Schools view vocational education as a positive educational opportunity.

RECOMMENDATION 3A: Establish a 2+2, tech prep, program as a separate alternative program to be offered initially at Woodward High School, and if successful, expanded to other schools.

RECOMMENDATION 3B: Encourage students and instructors to participate actively in the student organizations for their vocational areas.

RECOMMENDATION 3C: Conduct inservice programs for guidance counselors to provide them with increased information about the vocational programs available throughout the city.

RECOMMENDATION 3D: Increase career education activities, especially in the ninth and tenth grades to make students and their parents more aware of the vocational programs available to them. Provide inservice training and curriculum materials to assist elementary and junior/middle school teachers to infuse more career awareness content into their curriculum.

RECOMMENDATION 3E: Publicize the adult training programs available at the Queen City Vocational Center.

RECOMMENDATION 4: Improve the quality of jobs made available to students in the Occupational Work Adjustment and Occupational Work Experience programs.

RECOMMENDATION 4A: OWA/OWE should provide opportunities for skill training and career potential that are superior to those in the kinds of jobs students can obtain without school assistance.

RECOMMENDATION 4B: Do not release OWA/OWE students from school who do not have jobs or work assignments to go to.

Future job growth in the Cincinnati labor market is expected to be primarily in retail and service industries. Services industries include a wide variety of occupations. Two sectors within this industry with special promise are health and business services. The new alternative high school in health and computer professions established at Hughes should be in a good position to serve the anticipated growth in these sectors. The public schools should consider establishing 2+2 programs for the final two years of these schools, in addition to preparation for baccalaureate programs.

The new alternative high schools could also serve as a model for the expanded concept of vocational education presented in recommendation 1. Much of education, whatever its label, is preparation for employment. From all of the information developed and examined for this report, the most pressing needs of employers are not occupational skills but basic skills. A more closely integrated approach for teaching both types of skills will better serve students and their future employers.

CHAPTER 1

INTRODUCTION

School districts throughout the country are asking questions about their high school vocational programs. In light of the many changes taking place in the economy, the characteristics of students, and in education, itself, what is the purpose of secondary level vocational education and how well is this purpose being accomplished? These are the questions that the Cincinnati Public Schools asked the Center on Education and Training for Employment to examine, and this report presents the information that was developed to answer them.

Background

The main influences that caused Cincinnati school officials to initiate the review of their vocational programs are familiar to educators everywhere in the United States. Among the major influences have been changes in enrollment patterns. In the late 1960s, during the peak of the baby boom enrollments, the public schools sold the facility that had served Cincinnati as its full-time vocational high school. The funds from that sale, together with state building funds, were used to build vocational annexes at many of the neighborhood high schools. Now total enrollment is about half of its peak, and it has been necessary to drop some programs and consolidate others. A large percentage of the current students come from economically disadvantaged homes.

Technological changes, many of them resulting from applications of microelectronics, are changing the types of skills needed in the work force. As in the nation as a whole, structural changes in the economy of Cincinnati have caused most job growth to occur in firms that provide services, not in those that produce goods. Many of these firms are small. Vocational education administrators in Cincinnati say that it is the small firms with little training capacity that hire most of their program completers.

The Cincinnati schools are in the midst of a major effort to improve the academic performance of their students and to prepare more of them to go on to postsecondary education. The Cincinnati Youth Collaborative, a joint project of the private sector, the city government, and the city schools, is assisting this effort. Changes in graduation requirements have made it difficult to satisfy both college preparatory and vocational education requirements.

Objectives

Officials of the Cincinnati Public Schools asked the Center to assist them in determining the implications of these influences for the vocational programs currently offered in the schools. A review was designed that had the following objectives:

- To analyze community socioeconomic conditions and trends
- To analyze characteristics of the regional workplace in the context of its changing nature
- To analyze the characteristics of Cincinnati Public school vocational education programs
- To clarify the mission and goals of vocational education with a future perspective

The tasks that were carried out to accomplish these objectives are reported in the separate chapters of this report. Chapter 2 presents the information on trends in the community and in the workplace. The information in this chapter was assembled from a variety of sources, primarily data published by the U.S. Bureau of the Census, the U.S. Department of Labor, and the Ohio Bureau of Employment Services. To provide another perspective on these trends, the Center entered into a subcontract with the Institute for the Future, a research organization that specializes in anticipating trends and issues that will impact our society. The report which they prepared is included as an appendix to chapter 2.

To analyze the characteristics of the vocational programs in the Cincinnati Public Schools and to clarify their mission and goals, considerable original data were collected. Each high school offering vocational programs, except Hughes, was visited. During these visits classes were observed and interviews were conducted with teachers, principals, guidance counselors, other staff, and students. Follow-up telephone interviews were conducted with the parents of students interviewed.

Personal interviews were also conducted with employers, the directors of community agencies involved in the preparation of people for employment, and other community representatives who have contact with vocational programs. A synthesis of the major issues arising from these interviews is presented in chapter 3.

To provide additional perspectives on the performance of the vocational programs, mail surveys were conducted with employers who hire students from these programs and former students. Chapter 4 presents the results from these surveys.

The information developed by these activities provided the basis for the development of a questionnaire to test the desirability and feasibility of various policies that could be

implemented to improve vocational education. This questionnaire was sent to a selected sample of educators, employers and other community representatives. When most of the questionnaires had been returned, a preliminary analysis was conducted and the results discussed with a small group of educators and community representatives. The results of the survey and a summary of the meeting are discussed in chapter 5.

The final chapter contains the conclusions derived from the information presented in the other chapters and recommendations for improving vocational education. The recommendations focus on developing an expanded concept of vocational education that includes the reinforcement of communications and computational skills as an integral component of vocational education, increasing accountability, and communicating through concrete action that vocational education is viewed in the Cincinnati Public Schools as an equal partner with general education.

What Could Vocational Education Be?

Before presenting any data, however, it may be useful to describe what the staff from the Center on Education and Training for Employment see as the potential for vocational education in Cincinnati. This is presented as a concept, or vision, that the city may wish to move toward. This concept is rooted in the position that the division between vocational and general, or academic, education is an arbitrary one. Basic educational skills, the ability to read, write and compute, are important in virtually all occupations, and becoming increasingly so. Vocational education, in turn, while teaching occupational skills, can reinforce the learning of basic skills by demonstrating their applications in meaningful contexts.

Unfortunately, the manner in which general and vocational education have developed in American education has prevented each component from truly enriching the other. Academic education as preparation for college has become the preferred route; vocational education has come to be seen as the the second choice for those judged to be lacking the ability or interest to prepare for college.

These perceptions and the practices that have produced them are deeply ingrained in American society. We give lip service to the value and dignity of all honest work, but not all occupations receive the same respect. The harsh fact is that jobs vary widely in their status and rewards, and society needs a means that is perceived as fair and equitable for allocating the scarce, desired jobs among the many who would like to fill them. Public education has become the primary means of performing this function.

In 1988, The William T. Grant Commission on Work, Family and Citizenship published its report, The Forgotten Half, in which it

documented the decline in the economic position of young people who do not continue their education beyond high school. All of the structural and technological changes in the economy mentioned above have combined to depress the wages of young people who enter the labor market directly after high school graduation, or worse yet, after dropping out.

The challenge these development pose to education is to offer opportunities to young people that maintain their options. Fundamental to future options is a sold grounding in basic skills. This is the foundation on which all future career development rests. This does not mean, however, that standards should be set for vocational education that would require students to demonstrate proficiency in basic skill as a condition for enrollment. Setting such standards would deny these programs to many who need them most and are most likely to benefit from participation.

Young people choose vocational education for many reasons. Some have clear occupational goals and take training that will help them achieve those goals. For a sizeable proportion, their goals require education beyond high school, and nationwide almost two-thirds (64 percent) of vocational graduates do continue their education at the postsecondary level (Laughlin 1986).[1] Some students are less clear in their career direction and use vocational courses to explore the nature of different occupations. Still others come to vocational education primarily to avoid academic classes that they find boring and frustrating.

A curriculum that more closely integrated general and vocational education should be able to accommodate these diverse needs and interests. It should provide learning experiences designed to increase career awareness and facilitate occupational exploration. It should identify basic skill deficiencies that students bring to vocational classes and plan instruction--directly tied to the occupational skills being studied--to remediate these deficiencies. It should provide occupational training that gives its students an advantage in the competition for jobs that require specialized skills. And it should ensure that the students who wishes to continue their education beyond high school have the academic foundations to do so.

Our review of the vocational programs in Cincinnati found all of these activities taking place to some degree, but at varying levels of emphasis and effectiveness. The one school that came closest to achieving them all deserves special mention. That was the School for the Creative and Performing Arts. Here we found that the vocational courses were so integrated into the total

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[1]Results to a follow-up survey conducted for this study are presented in chapter 4. These show 39 percent of Cincinnati students who completed vocational job training programs in June 1988 attended postsecondary institutions in the first year after leaving high school.

activities of the school that they virtually disappeared as identifiable entities.

At SCPA it was not apparent, even to experienced observers, who were the academic and who were the vocational students. What we saw instead were small groups of students carrying out different tasks and learning different skills to achieve shared goals. Some of these students designed and set up sound and lighting equipment, constructed scenery, or managed the business functions, and from the administrative perspective, these were considered vocational students. To the students and the teachers, however, this label had little meaning. All those involved in preparing for a production had a common goal, to produce high quality, entertaining performances, and the backstage, technical crews were as important to achieving this goal as the singers, dancers, and musicians.

We recognize the difficulty of attempting to duplicate what we saw at SCPA in comprehensive high schools. Nevertheless, the example it sets of a highly integrated curriculum is a model toward which all secondary education should aspire. In a paper titled, New Directions for Vocational Education at the Secondary Level, two leaders of vocational education, James Kadamus and Willard Daggett (1986), summarized the changes they are attempting to bring about in New York State:

> The mission of vocational education clearly needs to be redefined. Its traditional role--training a high school student to do a specific job--is no longer viable. This paper proposes a new role for vocational education--the development of balanced occupational programs that enable students to acquire, in addition to job specific skills, broad, transferable skills for employment and personal use that will help them adapt to changing workplace requirements and benefit from lifelong education and retraining opportunities. The most unique aspect of vocational instruction--"hands-on" learning--will be a major asset in this new curriculum. Vocational education can integrate academic concepts and teach them through vocational applications.
>
> This new direction will require modification in vocational institutions and delivery systems, including--
>
> - a decrease in emphasis on specialized training;
> - less expenditures on specialized equipment and more on staff development;
> - change in emphasis from trade and industrial to information and service occupations;

- o new linkages with business and industry, and
- o a closer relationship with general education for a coordinated, integrated curriculum. (Kadamus and Daggett 1986, p. viii)

The Kadamus and Daggett paper was published by our Center and it reflects well the position of the those of us who wrote the present report. We feel Cincinnati has all the ingredients needed to move vocational education in this new direction. In fact, we feel the new alternative high schools in communication, computer, and health professions housed at Hughes High School are already moving in this direction. The report is presented with the hope that it will suggest some additional ways to facilitate this movement.

CHAPTER 2

DEMOGRAPHIC AND LABOR MARKET DATA

School systems, in large measure, are a reflection of the communities in which they reside. To change an educational system, one must first understand the context in which it operates so that any attempted alterations are appropriate ones. For example, general population characteristics can reveal potential problems that may occur if the school system does not respond in a realistic, meaningful, and honest manner. A large influx of nonEnglish-speaking adults and children into a community would introduce different needs that the educational system must respond to. Poverty also creates educational needs that are just as real as a difference in language.

The value in which education is held influences the level of support it receives from the community. Frequently, the higher the educational attainment of a population, the more that population is willing to support education financially and otherwise. The financial resources of a community can also affect support for education. High unemployment, low wages, and loss of industry are some of the fiscal factors that can result in decreased financial support even if the citizens believe in and support education. The type of jobs available in the community and surrounding area will also affect education. The emphases in curriculum and programs frequently reflect the opportunities for employment in the surrounding area.

Demographic and labor market data, then, can provide a great deal of contextual information pertinent to the functioning of a school system. The tables and discussion below will provide a picture of the background in which the Cincinnati Public Schools operate. To provide an independent view of these trends in Cincinnati, the Center on Education and Training for Employment subcontracted with the Institute for the Future. Their report is presented as an appendix to this chapter.

This chapter does not attempt to describe many of the social conditions that affect student performance, including positive factors such as the increasing number of teenage parents who are choosing to continue their education, and negative factors such as child abuse and substance abuse. These situations are encountered every day by school officials everywhere; there is little need for a recounting of those conditions of which they are knowledgeable.

Demographic Data

A number of sources were consulted to gain as accurate a picture as possible of the major demographic factors that should be considered when determining the paths that education in

Cincinnati should take in the coming years. The picture this data presents is one of a city that has experienced and is continuing to experience changes in population and employment characteristics.

Population

Between 1979 and 1986, the population of Cincinnati dropped by 42,814, or 10.38 percent. During the same period, the population of the county as a whole dropped by 35,184 inhabitants, or 3.91 percent. However, if one examines the change in population for Hamilton County, excluding Cincinnati, one finds that the population of that area grew by 1.56 percent. Cincinnati is losing population and the surrounding county gaining population, albeit slowly. See table 2.1.

TABLE 2.1

POPULATION

	Cincinnati		All of Hamilton County		Hamilton County Minus Cincinnati	
	1986	1975	1986	1970	1986	1970
Total population	369,750	412,564	865,100	900,284	495,350	487,720

U.S. Bureau of the Census 1988.
U.S. Bureau of the Census 1978.

Population Characteristics

Table 2.2 displays information about the population living in Hamilton County. Data is broken out by the overall county, the county minus Cincinnati, and Cincinnati itself. By examining the population in this manner, one can compare and contrast the changes in population over time.

Between 1970 and 1980, the overall population in Hamilton County dropped 8.45 percent. Cincinnati experienced a population decrease for the same time period of 15.02 percent. If one examines the loss of population in Hamilton County minus the figures for Cincinnati, the decrease is 0.17 percent, a very small amount.

Also in this time period, the number of whites living in Cincinnati dropped by 23 percent; for the rest of Hamilton County,

the white population dropped only 5.62 percent. The number of blacks living in Cincinnati increased by 4.23 percent; at the same

TABLE 2.2

POPULATION CHARACTERISTICS

	Cincinnati		All of Hamilton County		Hamilton County Minus Cincinnati	
	1980	1970	1980	1970	1980	1970
Total population	385,409 (-15.02 percent lower than 1970)	453,514	857,000 (-8.45 percent lower than 1970)	925,944	471,591 (-0.17 percent lower than 1970)	472,430
White (percent)	251,094 65.15 (-23 percent lower than 1970)	326,076 71.9	678,315 79.15 (1984)	778,718 84.1	427,221 90.60 (-5.62 percent lower than 1970)	452,642 95.81
Black (percent)	130,461 33.85 (+4.23 percent higher than 1970)	125,169 27.6	178,684 20.85 (1984)	147,225 15.9	48,223 10.23 (2.19 percent higher than 1970)	22,056 4.67

U.S. Bureau of the Census 1988.
U.S. Bureau of the Census 1977.

time, the number of blacks living in the rest of Hamilton County increased by 2.19 percent.

Hamilton County and Cincinnati are both experiencing shifts in population and racial composition, but Cincinnati's has been much more extreme. As mentioned above, the city experienced "white flight" between 1970 and 1980 to the tune of a 23 percent decrease in white population. This becomes even more significant when one examines other figures for income, etc., which will be discussed later.

It is interesting to note that the racial/ethic composition of middle, junior high, and senior high schools in Cincinnati do not reflect that of the city. Nearly 60 percent of students attending these schools are black (Timmons 1987).

Average Daily Membership

Over the four school years from 1984-85 through 1987-88, total district membership increased by 829 students. The increase has been erratic, however, rather than steady. In addition, the upward trend in elementary school membership appears to be weakening (Timmons 1987).

The racial composition of the Cincinnati Public Schools appears stable. Districtwide, the percentage of black students increased from 59.02 (1986-87) to 59.65 (1987-88). During that same period, the percentage of white students decreased from 39.82 to 39.19, and the percentage of students of all other races remained nearly the same (1.17 for 1987-88) Timmons 1987).

The "weakening of the upward trend in elementary school membership" (Timmons 1987, n.p.) is one that should be watched closely because of its implications for programs and staffing.

Housing

Between 1970 and 1980, Cincinnati did not do as well on various measures related to housing as did the rest of the county. The percentage of total housing units that were occupied in Cincinnati in 1980 was 91.32 percent; the figure for the rest of Hamilton County was 96.42 percent. Table 2.3 shows that the number of year-round housing units in Cincinnati barely increased between 1970 and 1980, although 2,855 new private housing units building permits were issued to city residents between 1980 and 1986. The median value of occupied housing units is lower in Cincinnati than in the surrounding county. This pattern holds true for both 1970 and 1980.

One can assume from these figures that more people are moving out of Cincinnati than are moving in, that the more affluent population is moving to the suburbs, and that, possibly, the houses left vacant represent a major financial loss to the owners.

TABLE 2.3

HOUSING

	Cincinnati		All of Hamilton County		Hamilton County Minus Cincinnati	
	1980	1970	1980	1970	1980	1970
Total units	172,659	—	343,322	—	170,663	—
Number year-round housing units	172,571	172,556	—	311,069		138,513
Percentage of year-round housing units occupied	91.37	92.65				
Occupied housing units	157,677	159,870	322,238	295,279	164,561	135,399
Percentage of total units occupied	91.32		93.89		96.42	
Percentage owner occupied	38.5	38.5	57.8	56.3		
Median value of occupied units	$40,900		$48,800			
Median value, owner-occupied single family		$16,618		$18,710		

U.S. Bureau of the Census 1988.
U.S. Bureau of the Census 1978.

TABLE 2.4

INCOME

	Cincinnati			All of Hamilton County		
	1969	1979	1985	1969	1979	1985
Per capita income[1]	4,517 (1974 $)	10,187 (constant 1985 $)	10,247	4,863 (1974 $)	11,665 (constant 1985 $)	11,608
Median household income	8,894	NA	NA	10,485	17,446	
Percent of all families living below poverty level	12.8	16.0	NA	8.3	8.7	NA
Percent of all persons living below poverty level	NA	19.7	NA	NA	11.3	NA

U.S. Bureau of the Census 1988.
U.S. Bureau of the Census 1978.

[1]Based on population July 1, 1975.

Income

The percentage of families in Cincinnati living below the poverty level may have increased as more affluent families moved out of the city and the population of the city decreased (see table 2.4). As this phenomenon occurs, the percentage of families living below the poverty level may increase without the total number of families substantially increasing. This, however, does not appear to be the case for Cincinnati. Approximately 13,000 more Cincinnati families were living in poverty in 1979 than in 1969. The number of families living below the poverty line in 1979 was considerably lower in Hamilton County as a whole than in Cincinnati.

Comparing per capita income for the years 1979 and 1985 in terms of 1985 constant dollars, only a slight real increase in income was enjoyed by Cincinnati residents, and Hamilton County residents actually lost financial ground.

Levels of Educational Attainment

Because the figures for Cincinnati are included in those for all of Hamilton County, the percentages of persons 25 years of age and over who have completed 12 years or more of schooling and 16 years or more of schooling are probably, in reality, higher for Hamilton County minus Cincinnati than the figures might indicate. See table 2.5. This is another indication that the more educated middle-class family has left Cincinnati for the suburbs of Hamilton County or, if moving into the area, has selected the surrounding area in which to live rather than the city itself.

TABLE 2.5

LEVELS OF EDUCATIONAL ATTAINMENT

	Persons 25 Years and Over 1980	
Location	12 Years or more of schooling (%)	16 Years of more of schooling (%)
Cincinnati	57.9	17.6
Hamilton County	65.0	18.7

U.S. Bureau of the Census 1988.
U.S. Bureau of the Census 1987.

Business and Industry

The number of manufacturing concerns located within Cincinnati decreased by 7.5 percent while the number for the rest of Hamilton County increased by nearly 5.5 percent between 1972 and 1982 (see table 2.6). Figure 2.1 shows that employment in manufacturing, after evidencing a major decline in number of employees between February 1979 and February 1983, is rising in the Cincinnati PMSA.

Between 1972 and 1982, Cincinnati's number of wholesale trade establishments declined by 20.37 percent and the rest of Hamilton County experienced an increase of 22.96 percent in wholesale establishments. The dollar amount of sales increased at a greater rate in Hamilton County than in Cincinnati, as shown in table 2.6. And, in 1982, although Cincinnati still had a greater number of paid workers in the wholesale trade than did the rest of Hamilton County, Cincinnati lost 11.84 percent of such workers between 1972 and 1982, while the rest of the county gained (23.68 percent increase). The Cincinnati PMSA, as shown in Figure 2.1, experienced a slight decline in the number of workers employed in the wholesale trade between February 1979 and February 1983.

Cincinnati suffered a 23.87 percent decline in the number of retail trade establishments between 1972 and 1982. The number of paid workers employed in Cincinnati declined by 4.95 percent between 1972 and 1982, and increased by 28.3 percent in the rest of the county. For the Cincinnati PMSA, the number of employees in the retail trade has increased dramatically between 1979 and 1989 (see figure 2.1).

Surprisingly, both Cincinnati and the remainder of the county saw a drop in the number of taxable service establishments; 26.63 percent and 17.18 percent, respectively. However, both areas increased in the number of paid employees in the taxable services industry (Cincinnati increased 74.27 percent; the rest of the county, 139.8 percent). The number of employees in the services industry has been increasing for the Cincinnati PMSA, also, as shown in figure 2.1. So, although some losses have occurred in manufacturing, wholesale, and retail, the service sector in Cincinnati is growing.

Employment

Between 1970 and 1986, the civilian labor force in Cincinnati grew by 7,495 persons, or 4.08 percent. During that same time period, the civilian labor force in Hamilton County grew by 80,673, or 21.94 percent. However, if one subtracts the Cincinnati labor force from the overall Hamilton County labor force, one finds that the increase in labor force for Hamilton County exclusive of Cincinnati is 73,178 persons, or 39.75 percent. Thus, one

TABLE 2.6

MANUFACTURES WHOLESALE TRADE, RETAIL TRADE, AND TAXABLE SERVICES

	Cincinnati		Hamilton County		Hamilton County - Cintinnati	
	1982	1972	1982	1972	1982	1972
Manufacturers						
Number of establishments	887	960	1,636	1,670	749	710
Variance (%) from 1972	-07.60		-02.03		+05.49	
Percent employing 20 or more workers	39.8	42.3		42.8		
Number of establishments 100+			218	224		
Percent of establishments 100+			13.3	13.4		
Number of paid employees	62,000	60,200	1,273,000	1,374,000	1,211,000	1,313,800
Value added by manufacturer		1,030,300				
Wholesale Trade						
Number of establishments	985	1,237	2,072	2,121	1,087	884
Variance (%) from 1972	-20.37		-02.31		+22.96	
Amount of sales ($)	7,521,800,000	4,263,250,000	16,719,400,000	6,973,800,000	9,197,600,000	2,710,550,000
Number of paid employees	17,488	19,836	31,844	30,906	14,356	11,070
Variance (%) from 1972	-11.84		+3.04		+29.68	
Annual payroll	245,100,000	152,684,000	665,400,000	319,503	308,019	116,387
Retail Trade						
Number of establishments	2,892	3,799	6,608	7,651	3,716	3,852
Variance (%) from 1972	-23.87		-13.63		-03.53	
Amount of sales	1,792,500,000	1,030,060,000	4,350,100,000	2,204,668,000	2,557,600,000	1,174,608,000
Number of paid employees	29,132	30,648	66,452	59,735	37,320	29,087
Variance (%) from 1972	-04.95		+11.24		+28.30	
Annual payroll	245,100,000	152,684,000	558,300,000	295,081,000	313,200,000	142,397,000

Table 2.6--(continued)

	Cincinnati		Hamilton County		Hamilton County - Cincinnati	
	1982	1972	1982	1972	1982	1972
Taxable Services						
Number of establishments	2;965	4,025	5,404	6,970	2,439	2,945
Variance (%) from 1972	-26.63		-22.47		-17.18	
Receipts	1,396,300,000	424,252,000	2,176,700,000	603,945,000	780,400,000	179,693,000
Number of paid employees	39,813	22,846	62,047	32,118	22,234	9,272
Variance (%) from 1972	+74.27		+93.18		+139.80	
Annual payroll	572,600,000	133,921,000	859,500,000	190,008,000	286,900,000	56,087,000
Increase in annual payroll, not allowing for inflation						

U.S. Bureau of the Census 1988.
U.S. Bureau of the Census 1978.

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can see that Hamilton County is growing at a much faster rate than Cincinnati in labor force availability.

Cincinnati experienced almost no growth in employment (0.49 percent) between 1970 and 1986. Hamilton County, exclusive of Cincinnati, however, increased the number of people employed by 37.06 percent. The best that can be said about employment in Cincinnati during this period is that growth in employment was stagnant and did not keep up with the increase in the available labor force.

As shown in table 2.7, unemployment in Cincinnati in 1986 was 8.1 percent, but only 1.21 percent in the rest of Hamilton County. In February 1989, the unemployment rate in the Cincinnati PMSA was 4.6 percent. However, it is important to look at the wider employment area to determine the overall labor market picture.

Labor Market Information

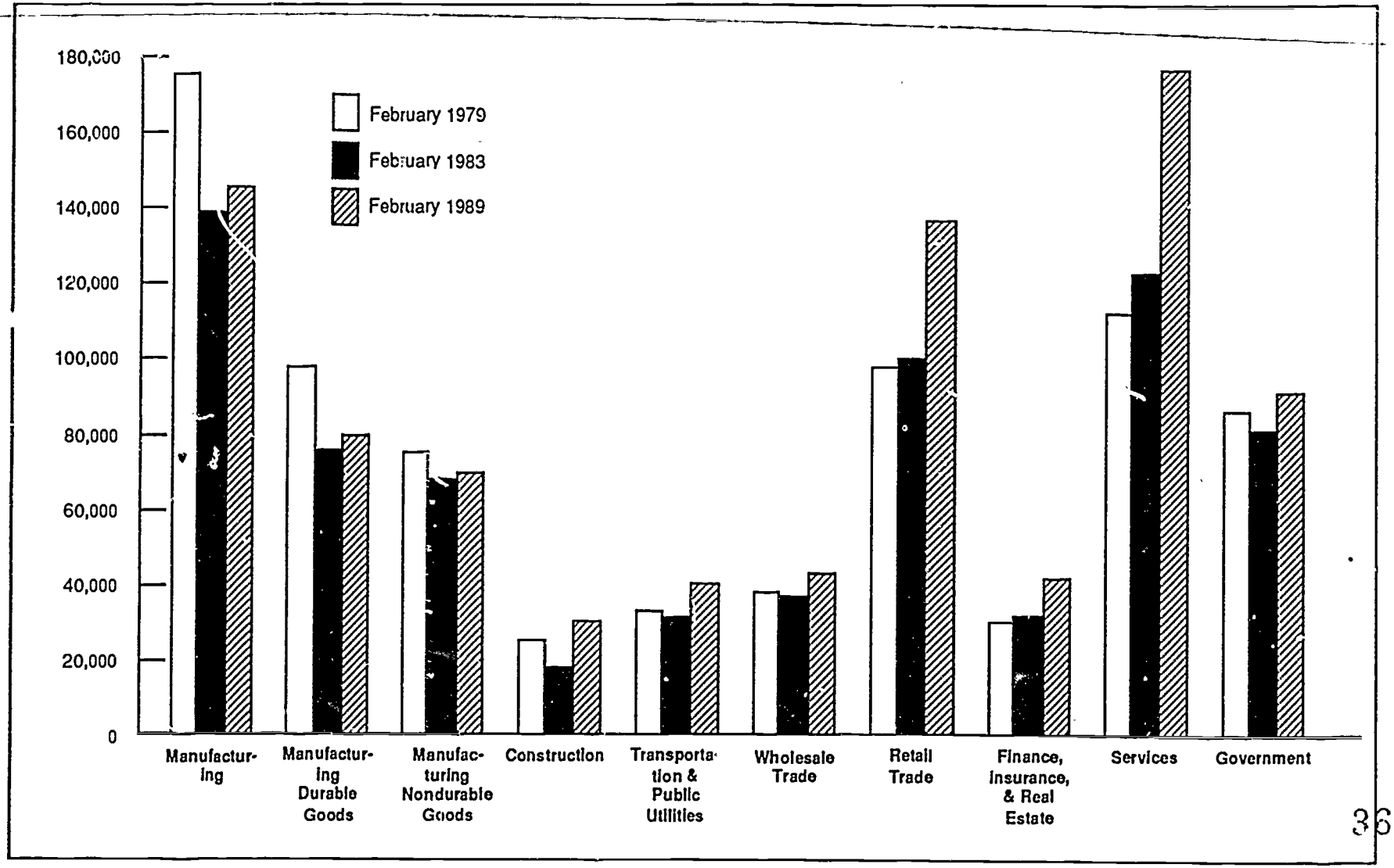
Between 1960 and 1985, the population living in the Cincinnati metropolitan area (including counties in Kentucky and Indiana) grew by only 11.3 percent, while total nonagricultural employment grew by 79.5 percent. It is important to note that "...the growth in employment resulted primarily from people entering the work force from the existing population base, rather than from population growth" (Burgess 1988, n.p.). The percentage of manufacturing jobs has remained stable in relationship to the total population; it has decreased when examined in comparison with the growth in other segments of the labor market. Between 1985 and 2000, "...most of the jobs will be generated by the service sector, especially medical and business services" (Burgess 1988, n.p.). Two other sectors that are also predicted to grow are retail trade and finance, insurance, and real estate. The manufacturing sector will continue to employ the same percentage of the population, although not of the workforce (Burgess 1988).

Eventually, however, "...technology improvements in production processes are expected to reduce the amount of labor required to produce a unit of output" (Common Bonds, Divergent Paths 1986, p 10). In addition to fewer employees being needed to produce the same amount of work, the manufacturing sector will require highly skilled labor (Common Bonds, Divergent Paths 1986).

The Ohio Bureau of Employment Services predicts that between 1986 and 1995, SDA 7/8 (Cincinnati and Hamilton County) will lose 6,970 workers in the manufacturing sector (Labor Market Projections: SDA 7/8 n.d.), although overall employment will grow by 10.8 percent (Labor Market Projections: Cincinnati PMSA n.d.). In the Cincinnati PMSA, the manufacturing share of the labor market will fall to 19.8 percent, " ...all of the job losses will be in durable goods producing industries, while employment in nondurable goods will show slight gains" (Labor Market

Figure 2.1

EMPLOYMENT IN MANUFACTURING AND NONMANUFACTURING INDUSTRIES
CINCINNATI PRIMARY METROPOLITAN STATISTICAL AREA



Source: Ohio Bureau of Employment Services 1989, p. 3

TABLE 2.7

EMPLOYMENT

	Cincinnati		All in Hamilton County		Hamilton County Minus Cincinnati		Cincinnati PMSA
	1986	1970	1986	1970	1986	1970	February 1989
Total civilian labor force	191,156	183,661	448,431	367,758	257,275	184,087	771,000
Total employed civilian labor force	175,764	174,900	420,911	353,757	254,147	178,857	735,900
Percent of total civilian labor force unemployed	8.1	4.8	6.1	3.8	1.21	2.85	4.6

U.S. Bureau of the Census 1988.
U.S. Bureau of the Census 1987.
Ohio Bureau of Employment Services 1989.

Projections: Cincinnati PMSA n.d., p. 1). Business, health, legal, and transportation services will be the most rapidly growing industries. Health and business services and eating and drinking places will add the largest number of new jobs. "Employment in the broad occupational categories that require the most educational preparation, such as managerial and professional, paraprofessional, and technical workers, will grow faster than average" (Labor Market Projections: Cincinnati PMSA n.d., p. 1). However, the largest number of jobs in the Cincinnati area through 1995 will still be in production, operation, and maintenance positions. Jobs in occupational categories such as mechanics, installers, and repairers; construction workers; and transportation workers will grow in number. The following tables (2.8-2.11), taken from Labor Market Projections: Cincinnati PMSA (n.d., pp. 7-9), provide a summary of projected growing and declining occupations.

The Ohio Occupational Information Coordinating Committee combines the projections of occupational demand prepared by the Bureau of Employment Services with information on the number of students completing training programs supplied by the Department of Education and the Board of Regents. A computer program has been developed by the National Occupational Information Coordinating Committee the matches similar occupational and educational codes into related job clusters. The information provided by this system allows comparisons of projected demand and supply for workers in specific occupations.

Table 2.12 presents comparisons for some of the vocational programs offered by the Cincinnati Public Schools. The comparisons are based on projections of the anticipated annual demand for workers to the year 1995 and reported completions in 1986 for training programs related to the occupations listed in the table. The data are based on all of Hamilton County, not just the Cincinnati Public Schools. The comparisons, therefore, should be used only as a very rough indicat of the degree to which the programs offered by the Cincinnati Public Schools match the anticipated yearly demand for workers in these occupations.

The ratios reported in the table were calculated by dividing the projected annual demand by the number of 1986 completions at both the secondary and postsecondary levels. A ratio of 1.00 means demand exactly equals supply. Ratios over 1.00 mean that it is anticipated there will be more jobs available than job seekers, and ratios less than 1.00 mean there will be more job seekers than jobs. In table 2.12, ratios of 2.00 or more were defined as demand exceeds supply. Ratios of 1.99 to .51 were defined as supply and demand in balance, and ratios less than .50 were defined as supply exceeds demand

It appears that most of the training programs offered by the Cincinnati Public Schools are in occupations with high to average anticipated demand for workers in Hamilton County. Three of the

TABLE 2.8

Cincinnati PMSA Occupational Employment Projections, 1986-1995
Major Occupational Categories

Occupation Title	1986 Annual Empl.	1995 Projected Empl.	Percent Change 1986-1995	Total Annual Openings	Annual Separation Openings	Annual Growth Openings
Total, All Occupations	651,200	721,500	10.8	30,601	22,785	7,816
Managerial and Mgt. Related Occupations	47,150	53,460	13.4	2,640	1,939	701
Professional, Paraprofess., Tech.	122,630	142,770	16.4	6,312	4,074	2,238
Sales and Related Occupations	72,810	81,740	12.3	4,282	3,290	992
Clerical & Admin. Support Occupations	118,950	128,420	8.0	4,983	3,931	1,052
Service Occupations	105,020	125,860	19.8	6,499	4,183	2,316
Agriculture, Forestry, Fishing	4,220	4,790	13.5	247	184	63
Production, Oper., Maintenance	180,430	184,500	2.3	5,636	5,184	452

TABLE 2.9

Cincinnati PMSA Occupational Employment Projections, 1986-1995
Fastest Growing Occupations

Occupation Title	1986 Annual Empl.	1995 Projected Empl.	Percent Change 1986-1995	Total Annual Openings	Annual Separation Openings	Annual Growth Openings
Paralegal Personnel	210	330	57.1	22	9	13
Dental Assistants	980	1,490	52.0	74	17	57
Dental Laboratory Technicians	270	410	51.9	25	9	16
Dentists	580	880	51.7	85	52	33
Dental Hygienists	610	910	49.2	37	4	33
Medical Assistants	820	1,200	46.3	65	23	42
Medical Secretaries	1,300	1,890	45.4	110	44	66
Nursing Aides and Orderlies	7,470	10,810	44.7	643	272	371
Physical Therapists	280	400	42.9	19	6	13
Physical Assistants	400	570	42.5	28	9	19

TABLE 2.10

Cincinnati PMSA Occupational Employment Projections, 1986-1995
Rapidly Declining Occupations

Occupation Title	1986 Annual Empl.	1995 Projected Empl.	Percent Change 1986-1995	Total Annual Openings	Annual Separation Openings	Annual Growth Openings
Forging Machine Setter/Oper., M/P	190	120	-36.8	-5	3	-8
Stenographers	960	660	-31.3	-5	28	-33
Painters, Transportation Equip.	280	200	-28.6	-4	5	-9
Rail Yard Engineers, Dinkey Operator	110	80	-27.3	1	4	-3
Railroad Brake, Signal, Switch	340	260	-23.5	-2	7	-9
Teleph. Station Install. & Repair	470	360	-23.4	-6	6	-12
Machine Forming Operators, M/P	1,500	1,160	-22.7	-7	31	-38
Rail-Track Laying Equip. Operator	310	240	-22.6	-2	6	-8
Machine Tool Cutting Oper., M/P	1,930	1,500	-22.3	-2	46	-48
Railroad Conductors, Yard-masters	270	210	-22.2	2	9	-7

TABLE 2.11

Cincinnati PMSA Occupational Employment Trends, 1986-1995
Occupations with Largest Projected Number of New Jobs

Occupation Title	1986 Annual Empl.	1995 Projected Empl.	Percent Change 1986-1995	Total Annual Openings	Annual Separation Openings	Annual Growth Openings
All Other Managers & Admin.	18,860	22,740	20.6	1,265	334	431
Registered Nurses	10,520	14,310	36.0	715	294	421
Nursing Aides and Orderlies	7,470	10,810	44.7	643	272	371
Cashiers	12,740	15,570	22.2	659	345	314
Janitors and Cleaners, Exc. Maids	14,780	17,400	17.7	1,086	795	291
All Other Secretaries	17,080	19,270	12.8	746	503	243
Truck Drivers	15,370	17,430	13.4	767	538	229
Waiters and Waitresses	11,070	13,080	18.2	423	200	223
Salespersons, Retail	24,480	26,370	7.7	1,522	1,312	210
Guards and Watch Guards	6,070	7,890	30.0	771	569	202

TABLE 2.12

COMPARISON OF PROJECTED YEARLY DEMAND AND SUPPLY FOR WORKERS IN SELECTED JOB CLUSTERS IN HAMILTON COUNTY

Demand Exceeds Supply	Ratio
Food service workers	5.91
Building maintenance	4.95
Retail salesperson, stock clerk, cashier	3.64
General office clerk	3.45
Graphic arts	2.56
Law enforcement	2.29
Supply and Demand in Balance	
Accounting, bookkeeping	1.50
Masonry	1.21
Carpentry	1.09
Automotive mechanics	.72
Welding and cutting	.69
Dental assistant	.60
Nurse assistant, orderly	.54
Drafting	.51
Supply Exceeds Demand	
Child care	.37
Commercial art	.33
Cosmetology	.28
Auto body repair	.15

Note: Ratio equals projected demand divided by 1986 supply.

Source: Labor Market Information System, Ohio Occupational Information Coordinating Committee.

programs in occupations where the supply significantly outnumbers demand are areas that traditionally have high student interest, auto body, cosmetology, and child care. Commercial art is often selected by students planning to continue their education after high school.

There will be many employment opportunities for students graduating from high school with no vocational training, but the

career potential of many of these jobs will be minimal. Table 2.13 presents the mean wage for selected occupations in the Cincinnati PMSA that do not require prior training or apprenticeship, the number of workers in each occupation, and the percentage of the total workforce each occupation represents. The largest of these selected occupations (janitors, porters, and cleaners) has the second-to-lowest mean wage.

TABLE 2.13

Mean Wages of Occupations
Requiring Little Formal Training
Cincinnati PMSA
July 1988

Occupation	Mean Wage	Number of Workers	% of Total Civilian Labor Force for Cincinnati PMSA February 1989 (771,000)
General maintenance worker	$ 9.03	1,039	.13
Maintenance trades helper	11.41	97	.01
Machine-tool operator	14.57	213	.02
Truckdriver	12.11	3,135	.41
Shipper & receiver	9.75	319	.04
Shipper	9.43	338	.04
Receiver	10.34	152	.02
Warehouseman	9.72	1,615	.21
Order filler	10.20	479	.06
Shipping packer	9.58	255	.03
Material handling laborer	11.12	581	.08
Power-truck operator	11.05	165	.02
Guard	4.79	2,526	.33
Janitors, porters, & cleaners	5.55	4,391	.57

Cincinnati 2000:
Prospects for Youth in the Job Market

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CONTENTS

CINCINNATI 2000:

PROSPECTS FOR YOUTH IN THE JOB MARKET

INTRODUCTION

Young people in Cincinnati should find the 1990s a decade of opportunity. The number of people turning 19 will decline over much of that period, while the jobs that traditionally attract youth will increase. Yet, despite these numbers, there is still a disturbing and growing mismatch between the skills needed in the most dynamic sectors of the market—business services and health care—and those available to the typical high school graduate (or dropout) who is looking for career opportunities in the workplace.

This paper examines the transition to the labor force for youth in Cincinnati with a special emphasis on high school dropouts and recent high school graduates who enter the labor force without any postsecondary education. We have estimated population and job totals from partial data. (A methodology section at the end summarizes our assumptions.) While we do use quantitative estimates and forecasts wherever possible, the accumulation of precise numbers was not our goal. Rather, it was to identify the relative size and direction of change over the period 1987-2000.

POPULATION CHANGE IN CINCINNATI

Like many major cities in the north and north central region, Cincinnati has gone through a long period of population decline. Between 1970 and 1986, Cincinnati lost almost 85,000 people, a decline of more than 18% of its total population (see Table 1).

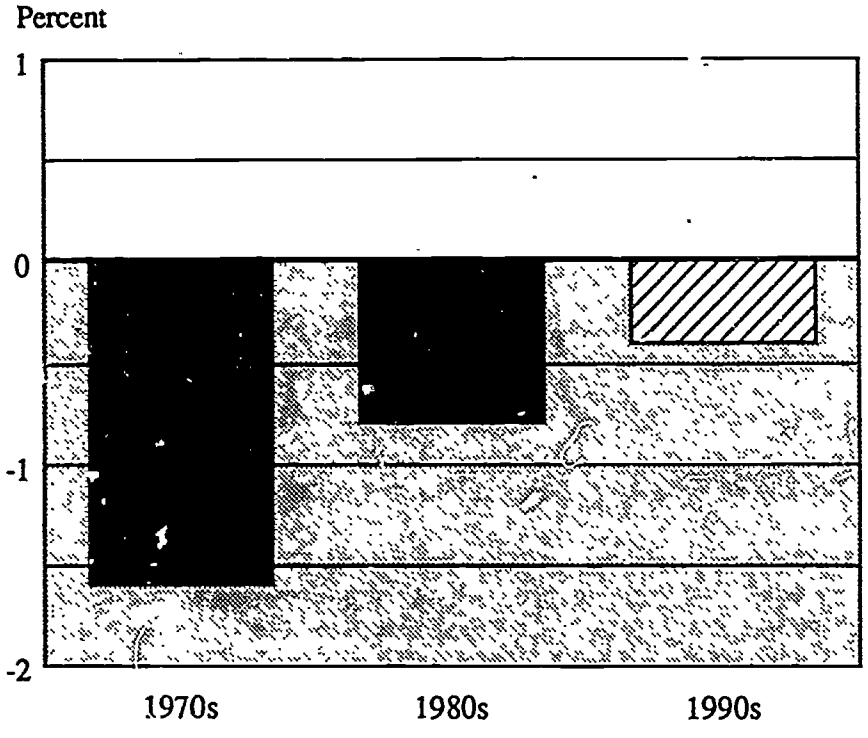
Table 1
Total Population: Cincinnati
(Thousands)

1970	453.5
1980	385.4
1986	369.8
1990	354.6
2000	340.1

Source: U.S. Bureau of Census, Ohio Data Users Center

The total population fell most rapidly in the 1970s and then at a slower pace in the 1980s and 1990s (see Figure 1). By the year 2000, the population of the city of Cincinnati will be down an additional 8% from its 1986 level.

Figure 1
Population Decline in Cincinnati
(Annual Average Percent Change)



Source: U.S. Bureau of Census, Ohio Data Users Center

But this population decline in Cincinnati is only a part of the overall demographic and economic dynamics of Hamilton County. During the same time period, the county population grew as residents and jobs in the non-Cincinnati part of Hamilton county expanded rapidly. As a portion of the white middle class moved from the city, the minority percentage of Cincinnati's population rose from 28% in 1970 to 35% in 1986.

THE YOUTH POPULATION

Because of the dramatic fall in birth rates in the late 1960s and the low birth rates since that time, the youth population of the city has declined at an even more rapid rate than the population as a whole. Between 1980 and 1987, for example, the number of people turning 19

years old in the city declined by over 25% while the overall population decline was only 5% (see Table 2). The number of 19-year-olds will continue to decline through the mid-1990s and then pick up again in the late 1990s. This rebound is not due to any change in birth rates but rather the large cohort of women of child-bearing age that were born in the 1950s and early 1960s.

Table 2

*Cincinnati 19-Year-Olds**

1980	7,075
1987	5,300
1990	4,883
1995	4,622
2000	4,803

Source: Ohio Data Users Center and IFTF

*Note: The number of 19-year-olds in Cincinnati in this table and throughout this report are estimated and given to indicate scale and magnitude rather than as a precise figure. For a description of the methodology used in the estimation process, please see the Appendix.

In sum, Cincinnati has spent the last two decades dealing with a declining population. The most dramatic declines were experienced during the 1970s. The youth population had the same experience, though in a much exaggerated way.

YOUTH AND EDUCATION

Pattern of Education

There were approximately 5,300 19-year-olds in Cincinnati in 1987. Of the total cohort, almost 30% dropped out of high school before completing their degree requirements. From a study of the class of 1987, we know that 27% of the class went directly to the work place with no further education, 39% went on to some postsecondary education, and 4% went into the military. If the same percentages hold true in the future, we can expect to see a pro-

portionate drop in the numbers in each category with the total number of dropouts and high school graduates falling from 3,011 in 1987 to 2,706 in 2000 (see Table 3).

Table 3

Pattern of Education for 19-Year-Olds

	1987	*1990*	*1995*	*2000*
Dropouts	1,577	1,524	1,442	1,498
High school only	1,434	1,320	1,249	1,298
Go on to college	2,079	1,849	1,750	1,819
Military	210	190	181	188
Total	5,300	4,883	4,622	4,803

Source: IFTF

Educational Achievement

The Cincinnati Public School District recently adopted the California Achievement Test as a measure to show student achievement in reading, mathematics, and language skills. Table 4 shows the test score results for 1988. The scores are reported as a percentage of the students who perform at or above the national norm score for this test which is set at 50% since, by definition of a norm, half the students should perform above the median score and half below.

Table 4

Percent of Students Scoring at or above National Norm, 1988

Grade Level	*Reading*	*Math*	*Language Skills*
6	35.8	47.6	37.6
7	37.0	38.6	35.3
8	41.0	36.9	35.0
9	34.5	27.5	28.2
10	39.4	35.0	28.7
11	43.2	39.8	33.6

Source: Cincinnati Public Schools: Planning, Research, and Evaluation Branch

All grades scored better on reading than on math except for the sixth and seventh grades. The sixth grade result of 47.6 shows that just under half of the students scored at or above the norm. The ninth grade math result is the lowest of all test scores, with 27.5 scoring at or above the norm. Language score results tend to be lower than the others. The highest percentage in this academic area is for the sixth grade level where 37.6% of the students scored at or above the norm. The language test was not administered before the 1988 testing which could partially explain their low percentages scoring at or above the norm. In any case, the language test includes two important skills—language mechanics and language expression. It measures the student's ability to write correctly (punctuation and capitalization) and effectively (sentence and paragraph structure and clarity). Employers frequently criticize new employees for lacking these skills. For 1988, only 28.2% and 28.7% of Cincinnati ninth and tenth graders performed at or above the norm in language expression. Poor academic performance, especially in math and language skills, will make it difficult for these students to enter a rapidly changing future job market.

The implication for the Cincinnati labor market is that those graduates from public schools not going on to college will have varying levels of skill and preparation for jobs in the primary labor market and most will find jobs in the secondary market. Dropouts will find it hard to make the transition into the workplace with such little preparation. Enrollment in a vocational program would make this transition less difficult.

YOUTH AND JOBS

In the year after their original class graduates from high school, Cincinnati youth (graduates and dropouts) find themselves establishing varied career paths. About 35% of 19-year-olds are working full-time; 15% are both working and in school; 19% are in school full-time; 4% are in the military; and 27% are otherwise engaged (married, caring for children, unemployed, looking for work, traveling, and so on).

The group we are primarily concerned with is those who enter the labor force for full-time work right after high school. In a typical year in the late 1980s, they accounted for about 35% of the total age cohort or about 1,750 people. Of these, more than one-third are high school dropouts and two-thirds have their high school degree. With no changes in the percent of these who go on to college, the size of this full-time working group will fall by 11% by 1995 and then rise slightly in the late 1990s (see Table 5).

Table 5

Cincinnati: 19-Year-Olds Available as Full-Time Workers

	1987	*1990*	*1995*	*2000*
High school graduates	1,128	1,038	982	1,020
High school dropouts	631	610	577	599
Total	1,759	1,648	1,559	1,619

Source: Cincinnati Public Schools: Planning, Research, and Evaluation Branch, and IFTF

From the perspective of young people starting out, the labor market can be divided into two broad sectors: the primary and secondary labor market. The primary labor market is made of large, high-paying firms that do high value-added jobs. These firms offer employees opportunities for advancement and mobility and usually offer on-the-job training, fringe benefits, job security, and advancement possibilities. Many of the firms are in banking, business services, machinery and equipment manufacturing, or transportation and utilities industries. The secondary market is made up of small firms where wages are low and turnover is high. There is little opportunity, or value, in training since skill requirements are low. Benefits are small or

nonexistent, and there is little opportunity for upward mobility. Typical jobs in the secondary market are in fast foods, service stations, and retail outlets.

Virtually all high school graduates who enter the labor force find themselves in the secondary market. In Cincinnati, almost 90% of just-out-of-high school graduates working full-time will be in the secondary sector.

A recent survey of the class of 1987 showed slightly over 17% working in such primary sector firms as banks, insurance companies, and business service firms. The rest were in the secondary sector (see Table 6).

Table 6
Cincinnati 19-Year-Olds: Working Experience
(Percent of Total)

	Percent
Primary Sector	**17**
Utilities	3
Business services	3
P&G	3
All other primary	8
Secondary Sector	**83**
Eating/drinking places	17
Miscellaneous retail	12
General merchandise retail	12
Food stores	7
Hotels/lodging	3
Service stations	3
Recreation establi ents	3
All other secondary	26

Source: Ci · ti Public Schools: Planning, Research, and Evaluation Branch, and IFTF

For some, the secondary market is a place to gain work experience, identify career options, and relevant training programs. Many of those who do so will move into the primary

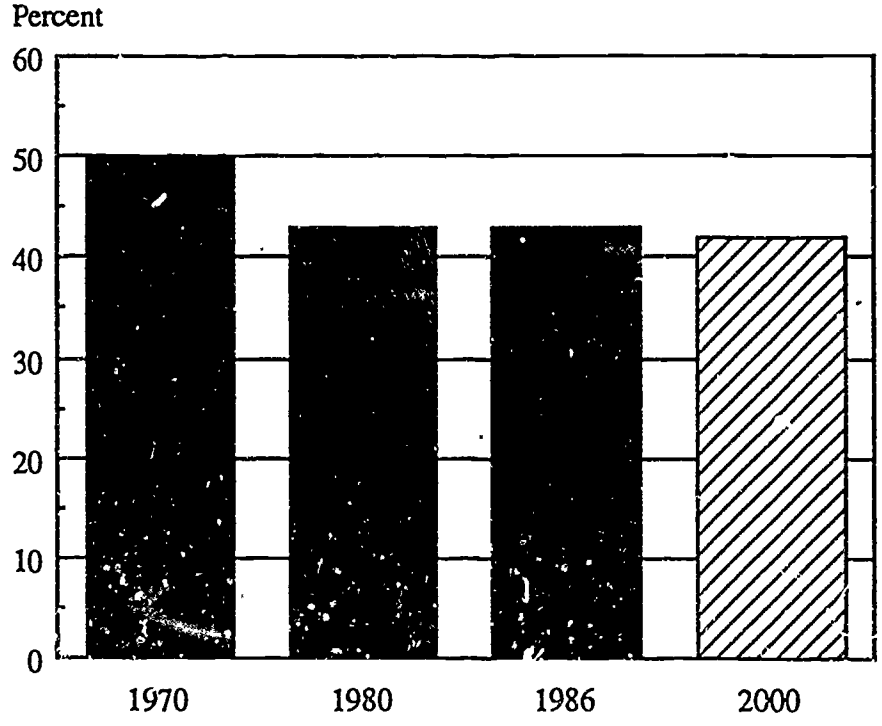
market in their early 20s. For others, they will remain in the secondary market throughout their working life.

THE CINCINNATI JOB MARKET

Total Employment

While job growth in Cincinnati declined an average of 0.5% per year during the 1970s, it grew by 2.4% per year in the rest of Hamilton county. Cincinnati's share of total Hamilton county jobs fell from almost 50% in 1970 to 43% in 1980. The city of Cincinnati bounced back in the 1980s. Jobs grew by 1.5% per year in the city, just under the rate in the rest of Hamilton county (see Figure 2).

Figure 2
Cincinnati's Share of Hamilton County Jobs
(Percent)



Source: Bureau of Census and IFTF

Because of a variety of factors (new office space in the suburbs, more room for expansion, easy access, a growing and relatively stable labor pool, the lower cost of land, and high retail demand), suburban job growth will continue to outpace that of Cincinnati during the 1990s. However, in the 1980s, these factors have been less important than they were in the 1970s. During the 1990s, job growth in the county will continue to outpace the city, yet at a slower pace—the county as a whole will average 1.3% per year, and in Cincinnati 1.1% per year.

Secondary Market Jobs

Major shifts in types of jobs available around the county are also important in establishing the context of the job search by young people. Total employment in Hamilton county rose by 1.1% per year between 1970 and 1986. But during that period, manufacturing lost more than 25,000 jobs. This decrease was offset by a rapid increase in jobs in health, retail, and service industries. In fact, a good portion of these jobs were in the secondary market, especially in the restaurant and fast food business (see Table 7).

Table 7

Hamilton County: Employment by Industry, 1970-1986

Gains in Primary Market Jobs	*Employment Change*
Utilities	-37
Business services	+19,233
Manufacturing	-26,631
Health services	+21,540
Gains in Secondary Market Jobs	*Employment Change*
Eating/drinking	+14,352
Miscellaneous retailing	+3,419
General merchandise retailing	-4,593
Food retailing	+3,815
Hotels/lodging	+1,924

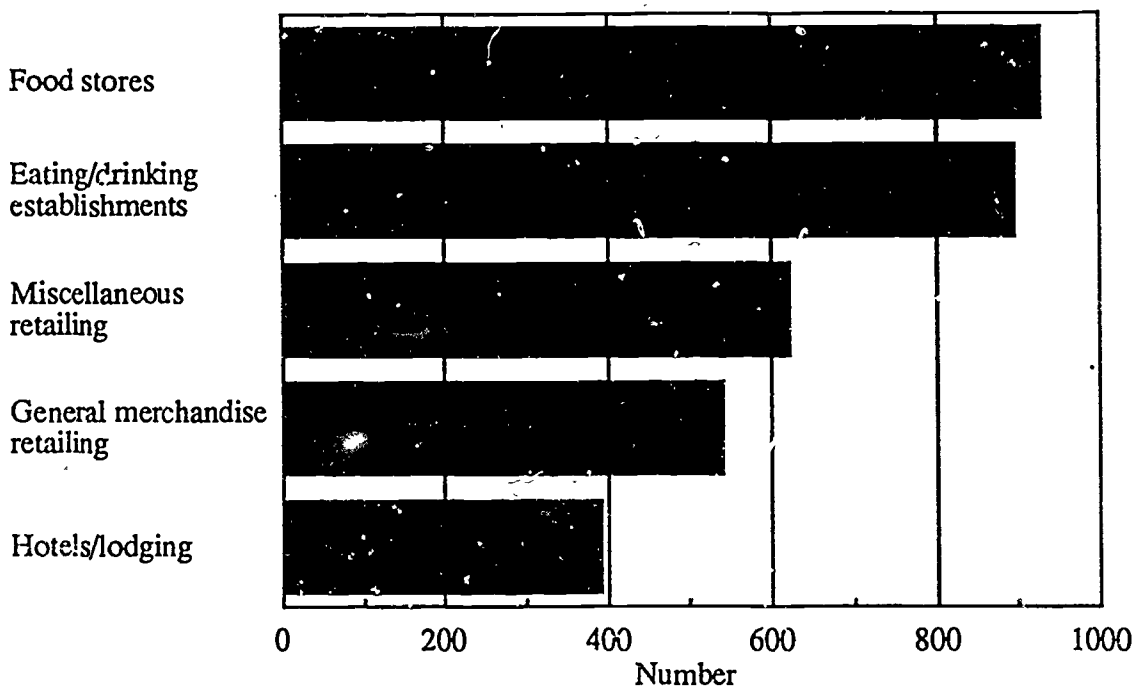
Source: Bureau of the Census, *County Business Patterns - Ohio: 1970, 1986*

These major job shifts provide the context in which young people without any college training look for employment. During the last few years, there has obviously been many more jobs available in eating and drinking establishments than in utilities and manufacturing, forcing many unskilled youth into the secondary market.

Job availability, however, is not determined solely by the net change in jobs in an industry, but by the annual rate of turnover as well. Combining net increase of new jobs with jobs created by turnover gives us an idea of the total number of job openings in an industry. In the secondary market, where turnover rates are high, this is important. Even in an industry where the net job increase is low, such as miscellaneous retailing, a high job turnover rate can produce a good number of openings for unskilled youth. In Cincinnati in the last few years, the industries with the greatest number of openings at the sales, clerical, and semiskilled levels include restaurants and retailing outlets (see Figure 3).

Figure 3

Annual Job Openings: Cincinnati Secondary Market



Source: IFTF. Figure includes sales, clerical, and service jobs in each industry.

Limited Skill Youth

High school graduates and dropouts looking for full-time work face tough competition in the labor market. They usually end up in secondary market jobs competing with recent immigrants, college students looking for part-time work, young mothers and others re-entering the labor force, and the elderly looking to supplement income. Youths account for a relatively large portion of new job entrants—almost 40% in general merchandise retailing and one-third in eating/drinking places and miscellaneous retailing (see Table 8).

We have ranked industries by the percentage of 19-year-olds working in that area to job offerings and compared average industry wages (see Table 8). A high percentage of young workers for a job offering means that high school graduates and dropouts account for an especially high portion of new workers in that industry.

Table 8

Youth and Secondary Market Jobs

Secondary Market Industries	*Percent Young Workers to Job Offerings*	*Average Industry Wage*
Eating/drinking places	34	$4.69
General merchandise retail	39	$6.70
Miscellaneous retail	33	$6.77
Amusement/recreation	26	$8.13
Food stores	14	$7.13
Auto dealers/service stations	16	$8.26/$5.87
Hotels/lodging	15	$6.56
Primary Market Industries		
Health services	13	$9.62
Utilities	19	$12.92
Manufacturing	7	$10.37
Business services	4	$9.50

Source: IFTF

Occupations in the secondary market category offer low wages, menial and routine work, little chance for learning a marketable skill, and no opportunity for benefits. Notice that the wages in these industries are at the low end—eating/drinking places is the lowest, paying only $4.69 an hour. Most of the jobs are low end clerical and sales positions—such as in the retail occupations—or custodial and concession/sales jobs. Few older workers move into these jobs unless they, too, are just entering or re-entering the labor market with few skills, as there is little career opportunity in the long run in terms of wages, benefits, or training.

The retail jobs pay a bit more but are offer equally negligible amounts of job training and experience. Wages are about $2 higher per hour than jobs in eating/drinking places, but there is still a good degree of routine in the work and little chance for skill development that could be used in primary labor market jobs.

Amusement/recreation jobs are also filled primarily by youths, but they pay quite a bit higher at $8.13 per hour. The jobs in this category that 19-year-olds occupy are in bowling alleys, amusement parks, and video games parlors. About 20% of all new workers at food stores and auto dealers/service stations are just out of high school. Again, 19-year-olds fill the low end jobs as stockroom workers, clerks, sales workers. The majority of young workers in the auto dealers/service stations category actually work in service stations. Here the pay is $5.87 per hour as compared to the dealerships and auto shops where there are more experienced workers. About 20% of all new workers in hotels/lodging are young workers just out of high school. The pay is the second lowest, just above service stations.

Office workers of all kinds—secretaries, receptionists, word processors, data processors, equipment maintenance workers—require special skills and knowledge to do their jobs. This is reflected in their higher average salary of $9.50. These jobs potentially can provide some opportunity for job advancement within the firm along with further learning and skill development that would help future job searchers in the primary labor market.

Manufacturing jobs don't require the same educational skills, but training and experience are often a requirement in today's more sophisticated factories. Yet the decline in the number of manufacturing jobs, combined with their higher wages, means that experienced workers must compete for job openings.

A major difference between the jobs in the primary and secondary market is the opportunity for development of a career path. Workers in the secondary market can easily find

themselves caught in a cycle of j[illegible]opping that all but eliminates the chance to acquire skills or experience that can be applied to future jobs that pay better and offer more in return.

Job Balance in 2000

The number of young people looking for full-time work with only a high school degree or less will fall between now and the year 2000. The basic cause will be a demographic shift—there will simply be 9% fewer 19-year-olds in Cincinnati in 2000. But other factors can make the shortfall even more severe. If a higher portion of high school graduates goes on to college, enters the military, or emigrates to other areas, the number available for full-time work will fall even further.

At the same time, job growth is likely to slow somewhat but still be significant in the Cincinnati area. Positions in retail outlets and eating establishments will not expand as rapidly as they did in the 1980s, when we moved into extended-hour shopping, better customer service, and more meals out. However, modest expansion in jobs is likely to be commensurate with the growth in the population and the economy rising per capita income in the city and surrounding areas. Overall employment growth in Cincinnati will average slightly over 1% per year in the 1990s. Services, led by business services, will be growing over 2% per year, while retail will average 1% and the decline in manufacturing jobs is likely to stop (see Table 9).

Table 9

Job Growth in Cincinnati: 1970-2000

(Average Annual Percent Increase)

	1970/80	*1981/86*	*1987/2000*
Total	-0.5	1.5	1.0
Manufacturing	0.3	-2.1	0.0
Retail trade	-0.5	1.1	0.8
Services	4.7	4.3	2.4
Business services	—	6.7	3.3

Source: IFTF and U.S. Bureau of the Census

The demand for semiskilled workers, though limited in size, will be to the advantage of young high school graduates or dropouts looking for employment. If turnover rates continue to be about the same, the percentage of positions in certain key industries filled by 19-year-old high school graduates looking for work will fall significantly (Table 10).

Table 10

Youth and Secondary Market Jobs: 1987, 2000

(Percent of New Positions Filled by Recent High School Graduates and Dropouts with No Postsec ary Education)

	987	2000
Secondary Market Industries		
Eating/drinkin places	34	31
General merchandise retail	39	20
Miscellaneous tail	33	2
Amusement/recreation	26	18
Food stores	14	12
Auto dealers/service stations	16	15
Hotels/lodging	15	15
Primary Market Industries		
Health services	13	11
Utilities	19	16
Manufacturing	7	3
Business services	4	3

Source: IFTF

During the 1990s, employers will have a harder time filling jobs with semiskilled 19-year-old workers in the secondary market. Young workers will have a wider selection of such jobs. Further, as employers find a smaller supply of experienced workers available or re-entering the labor market, young semiskilled workers may find more opportunities in the primary market industries as a whole.

IMPLICATIONS

We have focused on recent high school graduates or dropouts in Cincinnati who are entering the labor force without any postsecondary education. There are 11 key implications:

Demographic

- There will be 9% fewer 19-year-olds in Cincinnati in the year 2000 than there were in 1987.
- If the percent of high school graduates going on to college increases as it has in the rest of the country, the number of high school graduates looking for work will fall even further.
- Educational achievement measures show very uneven skill levels. High school graduates of city schools who do not go on to college perform very poorly on writing and mathematics tests.
- School dropouts total 30% of each age group. Even a small improvement in the retention rate could have a significant impact on the number of high school graduates available for work.
- Many school dropouts find themselves struggling in or on the fringes of the labor market. Approximately half would like to get more education, although only about one in ten actually do. There is a real opportunity for programs that respond to the desire for practical education/training.

Job Market

- Continued growth in retail and service industries that typically hire high school graduates will create an increased demand for those young workers in the 1990s. However, as fewer youths graduate from high school and more that do go on to college, the gap between available workers and new jobs will get larger.

- The growing gap between the number of new jobs that need to be filled in the primary market and the low skill level of many of the 19-year-olds looking for work will force employers to look harder and more aggressively at their pool of young recruits.

- As the educational and skill requirements in the primary market increase, many 19-year-olds will not be able to meet the requirements for such work. In fact, there will be an increasing discrepancy between those who work in the two sectors of the labor market, and it may be even harder for youths to move out of the secondary market into the primary.

- Still, the continued growth of jobs in the primary sector, and the fewer older workers entering or re-entering the job market, create real need for young high school graduates to make a more rapid transition to jobs in that sector. Vocational programs could play a significant role in bridging the gap between the secondary and primary labor markets. Skill development and training should focus on relevant and marketable skills in the upper end of the labor market.

- The dynamic growth in two primary sector industries—health and business services—will continue into the 1990s. Many of the jobs in these industries usually require special training or skills. There is a real opportunity for skill development that opens more transitional paths for high school graduates in these two key industries.

APPENDIX

METHODOLOGY

Data

The report draws from several sources of historical and current data on the labor force, demographics, and educational statistics for Cincinnati and Hamilton county. In particular, we used the following in our forecasts for employment, job growt , and population of 19-year-olds in Cincinnati.

- Ohio Data Users Center
  Populations Projections of Ohio and Counties by Age and Sex: 1980-2000
  1980 Ohio County Profiles

- U.S. Department of Commerce, Bureau of the Census
  County Business Patterns - Ohio, 1970, 1980, 1986
  County and City Data Book, 1972, 1983, 1988
  U.S. Statistical Abstract, 1986, 1989

- Employment Development Department, State of California
  Occupational Employment Statistics Data, 1987

- Cincinnati Public Schools: Planning, Research, and Evaluation Branch
  Report of Achievement Test Results, Cincinnati Public Schools,
  April, 1988 Baseline Administration of California Achievement Test, Form E

  The Class of 1987: A One-Year Follow-Up Survey, 1988

  Dropout Causes and Characteristics: Do Local Findings Confirm National Data?, 1988

- The National Center for Research in Vocational Education
  Cincinnati Study Social and Demographic Data, 1989

In addition to these sources of data, we consulted with the following individuals in Cincinnati for feedback on our interpretation of the data and our assumptions for the forecast:

- Cincinnati Public Schools
  Dr. Joseph F. Gastright, Ed.D.
  Dr. Joe Timmons

Assumptions

We derived the number of 19-year-olds in Cincinnati in 1987-2000 from age-specific data available for Hamilton county. As is true in many cities, the youth population in Cincinnati is probably relatively smaller than in the rest of the country. While Cincinnati makes up 43% of Hamilton county, we assumed that 19-year-olds were 40% of those in Hamilton county. This gave us 5,300 19-year-olds.

The 1988 Cincinnati school follow-up survey reports 2,398 high school graduates (or 45% of the age cohort) in the previous year. We estimated 25% of an age cohort is in private or parochial schools. This means that about 30% of each age cohort drops out of school before graduation.

Our base group of interest was the high school graduate or dropout who went into the labor force without postsecondary education. Follow-up studies in Cincinnati indicate that 36% of public high school graduates work full-time and 40% of dropouts are working. We estimated that 20% of private/parochial graduates work full-time.

The follow-up studies also identified the type of industry that employs high school graduates, not in school, one year after completing high school. Data from other communities describe the composition of occupations in each industry and the annual turnover rates of particular occupations in each industry. With the net increase or decrease in jobs in each industry, this allowed us to calculate the percentage of jobs 19-year-olds are filling each year.

Industry growth rate forecasts for the United States as a whole were adjusted for Hamilton county and Cincinnati and used to project industry job needs to the year 2000.

CHAPTER 3

ISSUES FACING VOCATIONAL EDUCATION

This chapter examines the issues related to vocational education that were identified through interviews with various groups of individuals in Cincinnati who are concerned about the preparation of young people to assume productive roles in society. These groups include staff of the Cincinnati Public Schools, employers, directors of community agencies, advisory committee members, parents, and students. The interviews that were conducted were semi-structured. Interview schedules were used, but only as general guides. Respondents who began talking about aspects of vocational education of particular relevance to them were encouraged to express their positions.

Such open-ended interviewing helps the researcher to see a topic from the respondents' perspective rather than forcing answers within predetermined categories. The information generated by such interviews, however, is difficult to analyze because all respondents do not answer the same questions. The analyst must seek to identify recurring themes or issues raised by many respondents, and try as much as possible not to impose his or her own interpretations. Three different analysts reviewed interviews which they and other interviewers had conducted, and compiled separate summaries of the topics discussed.

This chapter represents a synthesis of these analyses. It is organized around issues that were repeated raised by the individuals interviewed. The discussion presents the major views in narrative form with minimum reference to the underlying analyses. These analyses are presented in appendix A for readers who wish to examine them.

Not all of the issues discussed in this chapter were of equal importance to all groups. Much of the disagreement about vocational education and the role that it is performing is caused by the different perspectives from which it is viewed. Each individual interviewed had his or her own personal perspective, of course, but these appeared to be heavily influenced by the positions these individuals occupied and how these positions brought them into contact with vocational education. Employers, for example, were primarily concerned about the basic skills of job applicants and their ability, or lack of it, to complete an application form and present themselves in an interview.

Major themes that were raised repeatedly in the interviews led to the structure and content of this chapter. The chapter is organized around the following issues: the image of vocational education, Applied Academics, and programs directed to at-risk students, particularly Occupational Work Adjustment and Occupational Work Experience. The basic issues, of course, that

are at the core of these separate concerns are the skills of vocational students and the kinds of jobs for which they are prepared. For the purposes of this chapter it is helpful to discuss the issues they way they emerged from the interviews and the analyses.

The Image of Vocational Education

"Vocational education has a poor image in this community." This phrase, or some variation on it, was the most common comment heard by Center interviewers from all groups of respondents, except students and parents[1]. Virtually all employers and directors of community agencies referred to image at some point in their interview as did almost all teachers and administrators of the Cincinnati Public Schools. There was a basic difference in the way these groups perceived the image. To the community representatives the image was a reflection of students too poorly prepared to pass the initial selection process. To the school representatives, especially to those directly involved in vocational education, the image was a misperception based not on actual experience with vocational graduates, but on the prevailing opinion that vocational education is the "dumping ground" for students who cannot perform in academic classes.

Any discussion of vocational education that attempts to examine it honestly must address the dumping ground charge. There is probably no criticism more offensive to vocational educators; nevertheless, it does describe the tendency for many students who perform poorly in academic subjects to be in vocational programs. Some marginal students are "counseled" into vocational programs. Much more often, however, students with poor basic skills find academic classes boring and frustrating and actively choose vocational programs as a preferred alternative. Whatever the impetus, the net result is that many students with poor skills end up in vocational education.

It is not the fault of vocational education that students reach the eleventh grade deficient in basic skills. To blame vocational education for the poor basic skills of its students is to confuse cause and effect. Vocational education does not cause poor academic performance; instead, students who have performed poorly in their previous academic courses tend to enroll in vocational education.

But not all vocational students are poor students. When we visited schools and observed classes, we saw bored, uninvolved students together with others who were actively pursuing career

[1]The image of vocational education was rarely raised as an issue by students or parents. Very few vocational students reported any sense of feeling different than other students, and parents tended to be very satisfied with their childrens' experiences in vocational programs.

goals. Students who wish to learn can receive excellent training and be well prepared to enter the labor market or pursue additional education. Unfortunately, many of these same courses also enroll students who are deficient in basic communication and computational skills and who leave school poorly prepared for any future endeavor.

These differences in the types of students in vocational programs explain why there are such varying perceptions of vocational education and why image is such a pervasive issue. When we talked with educators and sent mail questionnaires to employers and former students, the answers tended to be based on experiences with students who had benefited from their vocational programs. When we talked with large employers and directors of various community agencies, their answers mainly reflected experiences with students who had not benefited. Vocational educators want their successes to be recognized; public perceptions tend to be based on the failures. The views of educators, employers, and community representatives are examined in more detail in the following sections.

Educators' Views

When educators refer to the image of vocational education they usually consider it a problem, something to be overcome through better information about what vocational education actually is and what it is accomplishing. This view is particularly true of vocational education staff, teachers and administrators, but is shared to a considerable extent by other educators who are not directly involved.

Vocational educators see themselves as serving students, often those that academic education has not served, and doing a good job of it. They feel the smaller classes, long time block, and continuity many have from eleventh to twelfth grade enables them to get to know the students on a personal basis. They see these personal relationships as motivating attendance and performance. Vocational teachers report that many students come to school just for their classes. They feel that if their classes were not available many of these students would drop out.

Vocational educators know that many of their students use the training they receive to get jobs. They know because they help many of these students to obtain their initial jobs.

Vocational educators feel they are accomplishing these things with little support or recognition. They have relatively few complaints about the equipment and materials available for instruction, most report that they get just about everything they need. Nevertheless, they sense a broad, district-wide attitude that vocational education is the less desirable alternative, suitable primarily for those who cannot perform--or will not behave--in the preferred academic programs.

Vocational teachers are not happy that they receive many of the poorest students, but this is not their major complaint. What really aggravates them is the practice of "counseling" capable students away from vocational education. During the school visits, many vocational teachers claimed that students who do well in academic courses are actively dissuaded from enrolling in vocational programs. Repeatedly teachers complained of counselors who inform students they will not be able to meet college entrance requirements if they take a vocational program. Most counselors, vocational instructors feel, have little awareness of the kinds of programs available and what these programs actually teach.

Given these perceptions of their status in the district, it is not surprising that the recommendations of vocational educators to improve their programs focus on image, awareness, and counselors. They would like to see the image improved by publicizing what vocational education actually is and what it is accomplishing. They believe that if there is more accurate information, especially among other educators and counselors, vocational programs will receive more of the good students who really want to learn the skills that are taught. Such students will, in turn, help to overcome the second-class stigma and to create a more serious, industrious climate in their classes.

Many vocational teachers believe counselors who would focus only on students interested in vocational education are needed. The district used to have such counselors, and many teachers feel the quality of their students started to drop when these counselors were eliminated.

Employer's Views

A total of 26 employers from the Cincinnati community were interviewed extensively. Most of these employers were nominated by the school officials, or, in a few cases, referred by other employers. Although the sample was not randomly selected, the nature of their responses indicated a high level of objectivity, as evidenced by a fairly balanced negative-positive response rate as well as the presence of several patterns and consistencies across respondents that also reflected current national trends and information from other sources in Cincinnati.

Respondents represented a fairly wide variety of organizations as well as positions or roles, as illustrated in table 3.1.

Employers were asked 7 open-ended questions in a semi-structured personal interview which lasted between 30 and 90 minutes. In many cases, interviews were informal and conversational in nature and interviewers also had opportunities to observe some or all of the work environment. Interviews focused

TABLE 3.1

TYPES OF ORGANIZATION AND PERSONNEL INTERVIEWED

Organization	Percent
Manufacturing	35
Office and Retail Sales	15
Hospitality	12
Health Services	8
Professional Services	8
Construction Trades	8
Government Agency	4
Other	12
Personnel	
Employees	4[illegible]
Vice-President	15
Personnel Manager	15
Office Manager	15
Owner/Manager	10
Base for percentages	26

on the typical skills needed by their employees; what role they believe vocational education should play in providing these skills; how well they believe vocational education is providing the needed skills; what they believe others expect of vocational education; and their suggestions to improve vocational education.

Skills employers want. Despite having been asked an open-ended question concerning desired skills, no more than 5 categories of skill types emerged: (1) basic skills (including reading, writing, following directions, problem solving as well as general math, science, and mechanical skills); (2) specific technical skills (such as data entry, how to use specific tools, how to work safely, typing, culinary skills, a specific kind of 2-year degree, pipe fitting, welding, and most importantly, specific practical hands-on experience); (3) interpersonal skills (including good public relations, public speaking, getting along with others, being a "team player," good telephone skills, having a positive attitude, and conveying a high degree of motivation and enthusiasm); (4) employability skills (including interviewing and application skills, punctuality, attendance, having realistic expectations, and understanding employer expectations); and (5) computer literacy and skills. Table 3.2 illustrates the percentage of employer respondents who indicated that a particular skill was necessary for employment.

TABLE 3.2

SKILLS EMPLOYERS WANT

Skills	Percent
Basic Skills	78
Specific Technical Skills	70
Interpersonal Skills	57
Employability Skills	35
Computer Skills	26
Base for percentages	26

Note: Total exceeds 100 percent because most respondents cited more than one type of skill.

Vocational education's role. Some employers seemed unsure of what vocational education's role should be in attaining the skills indicated earlier. Ten employers (38 percent) felt that the sole purpose of vocational education is to "prepare kids for jobs;" 4 employers (15 percent) felt that vocational education should only provide basic skills and that employers should conduct the specific technical training; and 2 employers (7.6 percent) felt that vocational education should do both (job-specific and basic skills preparation). Two employers who work in fields requiring state certification felt that the only role that vocational education in a public high school setting could play in their particular fields is to prepare students to pass the certification exam. Although they wished it could be otherwise, both felt that public school vocational education could not provide adequate hands-on or clinical experience to enable graduates to be completely job-ready. One employer felt that the purpose of vocational education is to teach employability skills. Interestingly, 3 employers stated that the main purpose of vocational education is to address the needs of non-academic, non-college-bound students, yet they as well as other employers complained that vocational education is often used as a "dumping ground" for low achievers.

Evaluations of vocational education. When employers were asked how well they felt vocational education was doing and what they felt the district administration, school board, and other employers perceived it, their responses were sometimes sobering. A little more than half the respondents (14) were willing to attempt to rate the vocational programs from 1-10. The average (mean) rating was 6 with a range of 2-8. The median response was 6 and the modal response was also 6, indicating that 6 is a fairly reliable indication of most of the respondents' opinions.

The most frequently cited concerns about the vocational programs are that they are used as a dumping ground for low achieving students with discipline problems, they do not keep up adequately with the needs of business and industry, and that they

are poorly supported by the top administration as well as by the community. In fact, vocational education's poor image was the most commonly cited concern, despite the fact that many employers felt it was a necessary and worthwhile program and that vocational students were better prepared to work than academic students.

What employers recommend. Employers seemed pleased to have the opportunity to provide recommendations to improve vocational education. Most responses were thoughtful and reflected sincere interest.

Employers provided recommendations that focus on internal program improvements as well as on improved relationships with outsiders (e.g., business and industry, families, community members, postsecondary institutions, and district-level personnel). These recommendations are listed in exhibits 3.3 and 3.4.

EXHIBIT 3.3

EMPLOYERS' RECOMMENDATIONS FOR IMPROVING VOCATIONAL EDUCATION PROGRAMS INTERNALLY

- Have more integrated basic academic skills
- Increase the number of programs in trades that have a high labor market demand
- Provide a simulated business setting
- Provide more hands-on experiences
- Show kids what life is really like
- Use videotapes to teach interpersonal skills
- Make programs more rigorous
- Increase student-teacher communication
- Lower the student-teacher ratio
- Reach students earlier
- Start vocational education in the 9th grade
- Don't use vocational education as a dumping ground
- Have more cooperative programs
- Make sure teachers have plenty of work experience
- Emphasize safety
- Keep kids motivated, enthusiastic, and independent
- Provide more recognition to vocational students
- Keep special programs

EXHIBIT 3.4

EMPLOYERS' RECOMMENDATIONS FOR IMPROVING VOCATIONAL EDUCATION BY ENHANCING OUTSIDE RELATIONSHIPS

- Increase contact with business and industry
- Increase use of private sector resources
- Use advisory committees more effectively
- Be sensitive to market's needs
- Elicit private sector help to upgrade equipment and set performance standards
- Have business and industry visit with students
- Examine successes with local employers
- Improve vocational education's image
- Provide potential/option for college credit
- Have cooperative/credit agreements with postsecondary institutions
- Get more support from the top (i.e. district-level administration)
- Get families to instill discipline and insist that students do their homework

In sum, the employers we interviewed were generally supportive of the Cincinnati Public Schools, although about half did not feel familiar enough with the vocational education programs to rate them. Of those employers who were familiar, most felt that they are worthwhile programs that need to be modified. The most commonly-cited concerns and recommendations focused on the need for more basic skill instruction, although not at the expense of specific technical skill training; an improved image for vocational education, and more contact and input from business and industry. As the store manager of one fast-food chain stated, "Employers would welcome opportunities to communicate more with schools." The personnel manager of a major manufacturer remarked "If you ever do away with vocational education, what will you do with the kids who would have been in it?"

Views of Community Leaders

A total of 40 persons considered to be leaders in Cincinnati who are concerned about education were interviewed extensively. As with the employers, this sample was recommended and not randomly selected. The nature of their responses indicated a high degree of objectivity, as evidenced by a fairly balanced positive-negative response rate as well as recurrent patterns and consistencies across respondents that also concur with present national trends. Interview data from 9 community respondents who had close relationship with the Cincinnati Public Schools are not included in this discussion. Thus, the responses of 31 community leaders are presented here.

The 31 respondents represented a fairly wide variety of agencies as well as positions, although, the majority held

managerial positions for employment-related agencies, as illustrated below. The interviews were conducted in person in the same manner as those with employers.

TABLE 3.5

TYPES OF AGENCIES

	Percent
Employment	45
Government (not employment)	16
Postsecondary institution	13
Social service	6
Private industry	6
Other	13
Base for percentages	31

TABLE 3.6

TYPES OF POSITIONS HELD

	Percent
Employee/Staff	36
Director	16
President	13
Executive Director	10
Manager	6
Job Placement Specialist	6
Homemaker	6
Vice President	3
Assistant Manager	3
Base for percentages	31

Skills needed by present and future workers. Although community leaders were asked an open-ended question, only 5 categories of skills emerged: (1) basic skills (including, according to these respondents, reading and writing, oral communication, math, following directions, problem-solving, logical thinking, and decision-making); (2) specific technical skills (including automobile mechanics, accounting, welding, machine trades, health occupations, and truck driving) and word processing); (3) employability skills (including interviewing techniques, resume development, punctuality, dress, attendance,

and strategies to keep a job); (4) interpersonal skills, responsibility, dealing with the public, attitude, relating well, and "polishing" yourself); and (5) computer skills (data entry, word processing, automated bookkeeping, automation, and scanning). Table 3.7 presents the percentage of community respondents who indicated that a particular category of skill would be needed in present and future workers. In addition to the table below, one respondent indicated that a "college degree" was a skill needed by employers.

TABLE 3.7

SKILLS NEEDED BY WORKERS

	Percent
Basic Skills	64
Specific Technical Skills	42
Computer Skills	39
Interpersonal Skills	23
Employability Skills	13
Base for percentages	31

Note: Total exceeds 100 percent because most respondents cited more than one type of skill.

Vocational education's purpose. Because of the semi-structured nature of the interviews, many respondents were not asked what role they believe vocational education should play in attaining the skills presented earlier, as indicated by the relatively low (39 percent) response rate for this question. Nevertheless, of the 12 respondents who did address this question, 10 (83 percent) felt that the main purpose of vocational education should be to prepare students with marketable job skills. Two respondents felt that the primary purpose of vocational education is to prepare students for postsecondary education and one respondent felt that the primary purpose of vocational education is to help students mature.

How community members rate vocational education. Fewer than half of the 31 respondents (13 or 42 percent) were willing to rate the vocational programs in the public schools on 1-10 scale. The average (mean) rating was 7, with a range of 3.5 to 9. The median response was 8 and the model response was also 8, indicating that 7-8 is a fairly reliable indication of most respondents' opinions, a rating that is 2 points higher than the employers' rating of 6.

The most frequently cited concerns about vocational education are listed below.

EXHIBIT 3.8

COMMUNITY CONCERNS ABOUT VOCATIONAL EDUCATION

- Not strong enough academically
- It is a dumping ground for minority group students
- It is not responsive enough to employers' needs
- The adult education program is very weak
- There is a lack of parental involvement
- There is no on-site child-care
- There is insufficient hands-on experience

What community leaders recommend. Community leaders seemed more responsive to this question than any other. Their recommendations mostly fell into categories relating to actual instruction, student management and discipline, special programs and services, access to and promotion of vocational education, and various vocational education administrative policies. These recommendations are presented in Exhibit 3.9.

EXHIBIT 3.9

RECOMMENDATIONS FOR IMPROVING VOCATIONAL EDUCATION

Curriculum and Instruction

- Child care programs must be updated to focus more on infants, toddlers, and child abuse
- Videotape students in simulated interviews
- Improve basic skills instruction
- Students should be able to type at least 45 words per minute
- Use more visual aids
- Upgrade and make more realistic
- Provide more real-life contact
- Students should receive both skill training and academics
- Make vocational education classes like the work environment

Special Programs and Services

- Focus more on problem of adults
- Open school facilities in evenings for adults
- Adult education at Queen City needs parking
- Vocational education should be less traditional and more innovative, especially for at-risk kids
- Begin promoting nontraditional (for gender) programs in primary school
- Improve collaboration between vocational education and special education

- Vocational educators need inservice in special education
- Vocational teachers and placement specialists should participate in IEP's
- More funding needed for special programs for at-risk students
- Provide on-site child care
- Help young workers with transportation to job sites

Student Management and Discipline

- Teach students manners and politeness
- Have dress codes in schools
- Keep discipline rules
- Have a student patrol
- Improve students' attendance

Job Placement and Follow-Up

- Person who knows student best should do job placement
- Keep track of vocational education graduates to find out what happens to them
- Offer more cooperative programs

Promoting Vocational Education

- Promote vocational education with open houses and invite parents
- Create incentives (e.g., merit vocational education)
- Improve vocational education's image and promote it in a positive way
- Begin promoting vocational education in primary school
- Let all interested kids into vocational education
- Avoid vocational education as an either/or option
- Make vocational education an option for brightest students
- Require all junior high students to take vocational education

Administration

- Vocational instructors should be given release time to upgrade technologically
- Merge similar vocational programs (e.g., electronics, construction electricity, and automotive electronics)
- Funds should be based on success
- Use advisory committees more
- Improve interagency cooperation

In sum, community leaders, like employers, are unhappy about vocational education's poor image. They wish it would stay more up-to-date and feel that it should be available to all students and should offer both specialized skill training as well as strong basic skills. Like the employers, community leaders are generally supportive of vocational education. In fact, one prominent

community member, who was a former vocational student in the Cincinnati Public Schools stated, "Without vocational eduction, I would not be where I am today."

The most direct way to deal with the image problem would be to establish selective criteria for vocational programs. Our interviews with school representatives indicate that this is not an option in Cincinnati. Administrators of the Cincinnati Public Schools often describe their schools as "a district of choice," and indeed it is. An observer reviewing the options available in the district is struck by the wide array of different approaches available, kindergarten through high school. Given this commitment to choice, there is little likelihood that selective criteria will be established for entrance into vocational programs.

As long as students have the option to choose an option that we endorse, it is likely that many who are deficient in basic academic skills will enter vocational programs. With this as a given, a primary objective of instruction in vocational programs should be using their special features to teach skills the students have not acquired in previous classes. Applied Academics, the teaching of English and mathematics in an occupationally relevant context, is the major current effort in the Cincinnati Public Schools to increase the academic skills of vocational students. Our interviews indicated that it is a controversial approach, and the positions in this controversy are addressed next.

Applied Academics

Applied Academics is the term used in the Cincinnati Public Schools for the program that attempts to make the teaching of English and mathematics more relevant to vocational students in trade and industrial programs. It does so by relating the instruction to the occupations the students are studying. The instruction is provided by certified English and mathematics teachers who each work with the eleventh and twelfth grade students in two vocational programs. These teachers have one class period with the students from each grade in each of their two programs for a total of four class periods each day. Their other periods are to be used for lesson preparation.

Applied Academic teachers are given more periods for preparation than regular academic teachers. This additional time is intended for planning and developing related instruction. Applied Academic teachers have time to meet with the vocational instructors to review the occupational skills to be taught so they can prepare English and mathematics instruction directly tied to these skills.

A few of the individuals who were interviewed rejected the whole concept of Applied Academics. These respondents felt that it taught "watered down" English and mathematics that limited

students future opportunities, especially their opportunities for postsecondary education. Other critics thought it was a good concept but had not been implemented well. Center staff who visited the high schools also noted problems in implementation. In a few cases obviously weak teachers were assigned to Applied Academics. In other cases, Applied Academics teachers coached sports teams or had other school responsibilities and these demands cut into the time provided for meeting with the job training teachers and preparing lessons based on the occupational content being covered.

More fundamental than these implementation problems, however, was the absence of a broad staff acceptance of the potential of vocational instruction as a way to help address the academic deficiencies of at-risk students. Rarely during our school visits did we encounter any instructional staff who referred to using vocational education content to teach and reinforce basic communications and computational skills. Almost everyone who was interviewed stated the purpose of secondary vocational education was training in the job skills young people need for employment. Many people mentioned vocational education's ability to motivate and retain in school students who had previously done poorly in academic classes. Very few respondents, however, thought that one of the purposes of vocational education was to teach and reinforce basic academic skills.

Vocational instructors feel it is their responsibility to teach occupational skills. To teach these skills they must on occasion refer to underlying basic skills. It is impossible, for example, to teach typing without some references to English or carpentry without arithmetic. Both classroom observation for this study and the research literature indicate, however, that very little time in vocational classes is directed specifically to the basics and many opportunities for such instruction are missed (Halasz 1982, Weber and Puelo 1988).

For the most part vocational teachers, particularly in the trade and industrial skills, do not feel comfortable nor competent to teach basic communication and computational skills. Those who work with Applied Academic instructors generally are enthusiastic about their relationships, and feel it leads to more effective instruction. It was rare, however, for the staff who visited classrooms to observe a vocational instructor explicitly reinforcing the application of material taught in Applied Academics in the vocational laboratory. If vocational education is to play an expanded role in increasing basic academic skills, much staff development will be needed. Recommended steps are presented in chapter 6.

Programs for Students At-Risk

Four programs directed to students experiencing special difficulties are offered as part of vocational education: Impact,

Graduation, Reality, and Dual-Role Skills (GRADS), Occupational Work Adjustment (OWA), and Occupational Work Experience (OWE). Impact and GRADS are offered as regular classes administered under home economics and do not attempt to teach occupational skills. OWA and OWE use a combination of classroom instruction and on-the-job experience to retain young people who have difficulty adjusting to the requirements of a regular school schedule.

Impact

Impact is a junior high/middle school programs for students from economically disadvantaged families. The main objectives of the program are to enhance the students' feelings of self-esteem, to develop basic consumer homemaking knowledge and skills, and to provide orientation to the world of work. Home visits by Impact teachers are a required part of the program and teachers are provided time to make these visits.

The Impact teachers who were interviewed feel their program fills a real need in the lives of their students and projects an image of the school that the sudents and parents rarely encounter. Several impact teachers mentioned that the usual reason a student's home is contacted by school officials is because of some problem, such as an unexplained absence or misbehavior. The contacts by Impact teachers are made so the teachers can learn more about the students and their families and how the school can serve them better. The Impact program also involves several assignments that require the students and their parents to cooperate in joint projects.

Virtually all the Impact teachers said that scheduling and conducting the home visits were the most difficult parts of the program. Many of the students are from single-parent families and many of these parents work. Merely reaching a parent by telephone typically requires several attempts. Even after contact is made, these parents often have little time available in which to schedule a visit. Some parents do not wish their home to be visited, and the teachers must suggest other possible locations for meetings.

Only one of the educators who was interviewed expressed any criticism of the Impact program. This individual thought the homogeneous grouping of students all of whom are from disadvantaged families tended to lower expectations of both the teachers and students. Several of the nonImpact teachers who were interviewed spoke positively about the way the program helped to link the school to the family.

Research sponsored by the Ohio Department of Education (Evans 1986) has found high levels of support for Impact from parents, principals, counselors, visiting teachers, and other teachers. This study, however, was unable to assemble sufficient data to

determine if participation in Impact was associated with graduation from high school.

GRADS

Graduation, Reality and Dual-Role Skills (GRADS) is a program for pregnant or parenting students that is designed to encourage these students to stay in school until they graduate. It is offered as part of the regular class schedule on an elective basis. It teachs basic parenting skills in the context of the parent's role in meeting the physical and developmental needs of infants and young children. The class also provides support to the young people as they undergo major changes in their lives and attempt to carry out their new roles and responsibilities.

The classes observed by Center staff during their school visits had high levels of student interest and involvement suggesting that the content was responsive to student needs. The annual report on the program for the 1987-88 school (Todd) indicates that in the whole state 85 percent of the students who were enrolled were retained in school.

Occupational Work Adjustment
and Occupational Work Experience

Occupational Work Adjustment (OWA) and Occupational Work Experience (OWE) are programs directed to students who have serious performance and/or attendance problems and are judged to be unable to benefit from instruction in the regular classroom. OWA serves 14 and 15 year olds; OWE serves those 16 and older. In both of these programs the students attend school for half a day and are expected to hold a job (OWE) or work in the school or other nonprofit setting (OWA) the other half of the school day. The required OWA/OWE classes are taught by coordinators who are certified in the academic areas. These coordinators also contact employers to identify potential placements and monitor students once they are placed.

A recurring theme in interviews with OWA/OWE coordinators--as well as with successful teachers and Jobs for Cincinnati Graduates staff--was the importance of developing personal relationships with young people. If a relationship is developed, this can be used to motivate attendance and performance. The adult offers friendship, encouragement, and assistance and makes clear to the young people that they are expected to attend school regularly and try to do their best in class or on the job.

The young people in OWE/OWA all have had attendance, performance, or behavioral problems in regular classes. Beyond that, the coordinators report wide variability in personal characteristics. Some are bright but unmotivated; others have a great deal of difficulty with the academic classes. In some schools students

who score above a defined level on standardized achievement tests are not assigned to OWE even if they are experiencing other problems.

OWA and OWE emphasize employability skills, not occupation skills. Youngsters raised in a family where at least one of the parents has a regular job learn at a very early age that the job is the priority of the parent's life. Day after day, before the child understands anything about occupations, the child knows the parent goes to something called "work." To a considerable degree the worker's life, and all other family schedules, are organized around the requirements of the job. The youngster learns at a very deep level, internalizes, that a basic part of being an adult is holding a job and going to that job every workday. Youngsters without this early role modeling are less likely to value holding a job and being a dependable worker as basic components of their feelings about the what it means to be an adult. It is some of these values that OWA and OWE try to instill, much more than any specific job skills.

The major source of complaints about OWA/OWE heard in the interviews concerned students who do not have jobs or work assignments, or who have jobs after school hours but who are released after their required classes. A few of these students sometimes get in trouble during this released, unsupervised time which leads to the program acronyms being defined as "Out Walking Around" or "Out Walking Everywhere." It appears that the number of such incidents is small in comparison to the number of students in these programs; nevertheless, they are damaging to its acceptability.

Besides this criticism, very few other complaints were heard about the program. The coordinators who were interviewed were very supportive of it and felt it was serving students whose only alternative was to withdraw. They acknowledged they had students who would not work either in their classes or in a job, and they wished there was some alternative short of suspension they could use to try to influence these students. One coordinator referred to the program as "the Last Chance Hotel." If students could not perform in OWE, they would not complete school. One principal referred to OWE as the only effective dropout prevention he had available to him.

Wehlage and Smith (1986) summarize the characteristics of programs for at-risk, school-alientated students as follows:

> . . . almost all can be described as small programs, with flexible and alternative scheduling of the school day and/or year, participatory decision making by staff in the governance of the program, variable enrollment periods to accommodate entrance and exit of students, use of experiential learning, individualized pacing of the curriculum to

accommodate different learning speeds, group counseling, an openly caring environment for students, and a variety of work opportunities. (p. 20)

Center staff who made the school visits found the OWA/OWE programs to have most of these characteristics. We believe that if the Cincinnati Public Schools did not have such programs it would be necessary to establish them or something very similar. Suggestions for improvement in OWA/OWE are provided in chapter 6.

CHAPTER 4

EVIDENCE ON PERFORMANCE

To supplement the information on attitudes and opinions toward vocational education obtained in the interviews, additional information on the preparation and performance of vocational students was collected through mail surveys of employers and former students. This chapter presents the major findings from these surveys.

Employer Survey

The follow-up of former vocational students required by the Ohio Department of Education indicates fairly high placement rates for most of the programs offered by the Cincinnati Public Schools. These r tes suggest that the programs are serving a segment of the labor market. To get a more complete picture of who these employers are and how they evaluate the students they hire, the Center conducted a survey of employers nominated by instructors of job training programs. All instructors of courses that teach occupational skills to seniors were asked to supply the names and addresses of five employers who had hired students who had completed their programs within the last two years. Instructors of nonoccupational home economics courses and Occupational Work Experience coordinators were not asked to nominate employers.

A sample generated in this way is not meant to be representative of all Cincinnati employers. Instead it is designed to include those employers who are most likely to have direct information about the preparation and performance of students who completed vocational programs.

The teachers nominated 358 different employers, after duplications were eliminated, and the questionnaire reproduced in appendix C was sent to these 358. The first mailing was made on May 22, 1989 and a second mailing was sent one month later to those who had not responded to the first request. Table 4.1 summarizes the response, as of July 21, 1989, to these two mailings.

A fairly large percentage of employers who had been nominated by the instructors, more than one out of ten, reported they had not hired a student who completed a vocational program conducted by the Cincinnati Public Schools within the past two years. In some of these cases the questionnaires were not returned by the individual to whom they were originally addressed. Instead they were forwarded to the personnel office of the firm, and the individual who returned the form did not have the information requested.

TABLE 4.1

RESPONSE TO MAIL SURVEY OF EMPLOYERS

	Number	Percent of Number Mailed	Percent of Number Delivered
Usable responses	113	32	33
Did not hire completer	42	12	12
Reported on OWE student	7	2	2
Unusable responses	7	2	2
Total returned	169	48	50
Returned as undeliverable	18	5	NA
Base for percentages		358	340

NA=Not applicable

Each employer who had hired a program completer was asked to answer the questionnaire with regard to the student they had most recently hired. The distribution of programs which these students had studied closely paralleled the distribution of students who completed programs in June 1988 (table 4.2). No claim can be made that these employers are representative of all Cincinnati employers, but their answers are based on a sample of vocational students very similar to those who completed programs in 1988.

TABLE 4.2

VOCATIONAL PROGRAMS FROM WHICH EMPLOYERS HIRED COMPLETERS COMPARED WITH DISTRIBUTION OF 1988 PROGRAM COMPLETERS

Program Groups	Percent	
	Employer Survey	1988 Completers
Health	12.1	8.2
Occupational Home Economics	19.6	14.9
Business	27.0	28.2
Trade and Industry	37.3	38.1
Other	3.7	10.6
Base for percentages	107	772

NOTE: Six employers did not indicate program.

The employers were asked to rate the percentage of time the former students use the occupational skills they had studied in high school in their jobs. Over half of the employers (59 percent) reported the students used their skills 80 percent of the

time or more, and an additional 16 percent said students use their skills 60 to 79 percent of the time. Clearly among these employers the program completers are using the skills they had acquired in high school a large proportion of the time.

The employers also rated the high school preparation of the students they hired on the skills shown in table 4.3. The average ratings of the preparation that students had received in high school were a little above the defined midpoint of the scales. The top rating, a five, was defined as "very good," and the lowest rating, a one, was defined as "very bad."

TABLE 4.3

EMPLOYERS' RATINGS OF HIGH SCHOOL PREPARATION OF VOCATIONAL COMPLETERS

Skills	Percent					Mean	SD
	Very Bad 1	2	3	4	Very Good 5		
Communication, written, and oral	4	13	44	25	14	3.32	.99
Computation	2	10	51	25	12	3.35	.89
Problem solving	1	20	45	25	9	3.20	.90
Attendance	7	14	19	30	30	3.63	1.25
Punctuality	6	18	14	35	28	3.61	1.22
Occupational knowledge specific to the job	4	7	31	42	14	3.55	.93
Manipulative skills specific to the job	-	8	39	35	17	3.61	.87

NOTE: Statistics based on 100 to 111 employers because some ratings were not completed.

The interviews that had been conducted with employers, agency directors, and other community representatives had painted a picture of students poorly prepared in basic skills who lacked the work ethic desired by employers. The ratings from the employers who returned completed questionnaires were not nearly so negativ These respondents are clearly a very selected sample. It is likely that they are employers with whom the instructors want to maintain a continuing relationship and, as a result, the instructors tend to place their best students with them.

A little less than half of these employers (41 percent) were familiar enough with the programs in which the students had been trained to evaluate these programs. A 1 to 5 scale, the same as that used to rate the preparation of the students, was used to rate the components of the programs that are listed in table 4.4. Overall, these employers were quite positive in their ratings.

All of the averages were a full rating point above the midpoint of the scale. The most frequent ratings on all of the program components were at the top of the scale, 5, and a majority of the employers gave this rating to the instructors' knowledge of the occupation and their ability to teach. There were no ratings at the bottom of the scale.

These results suggest that the vocational programs are serving a special segment of the Cincinnati labor market. This segment tends to be made up of smaller employers; almost half (48 percent) have 25 or fewer employees. They also are mainly service-producing rather than goods-producing firms. Three-fourths of the employers are in direct services and wholesale or retail trade (including restaurants), which is a little higher than the percentage of such establishments in Hamilton County. In

TABLE 4.4

EMPLOYERS' RATINGS OF VOCATIONAL PROGRAMS IN WHICH STUDENTS WERE TRAINED

Program Components	Percent						
	Very Bad 1	2	3	4	Very Good 5	Mean	SD
Curriculum, content to be taught	-	4	28	28	39	4.02	.93
Physical facilities	-	4	23	32	41	4.09	.91
Equipment use in instruction	-	7	20	29	43	4.09	.96
Materials for instruction	-	2	26	30	42	4.12	.88
Instructor's knowledge of occupation	-	7	2	33	58	4.42	.84
Instructor's ability to teach	-	9	7	31	53	4.29	.94

NOTE: Statistics based on 46 employers who were familiar enough with programs to rate them.

general, the industrial classifications of the companies who returned questionnaires is similar to the distribution of all nonagricultural employers in Hamilton County. Appendix A presents the detailed tables.

In addition to the ratings reported above, the employers were asked two open-ended questions on their skill needs in coming years and what changes the public schools would have to make to be more responsive to these needs. Open-ended questions typically yield very few responses in mail surveys. As table 4.5 indicates, this was not true in this survey. Almost two-thirds of the employers mentioned improved basic communication and computational skills as an anticipated need, and one one-half recommended that

the schools improve basic skills. A little less than one-fourth cited improved interpersonal skills, attendance, punctuality, work ethic, and other similar traits the are labeled in the table as "employability skills." There were also many specific suggestions relating to individual occupations that are presented in detail in Appendix A.

TABLE 4.5

ANTICIPATED SKILL NEEDS IN COMING YEARS AND CHANGES PUBLIC SCHOOLS SHOULD MAKE TO BE MORE RESPONSIVE TO NEEDS

Anticipated Needs and Changes in Schools	Percent
Anticipated Needs	
Good basic skills	63.7
Employability skills	23.0
Computer skills	14.2
Specific occupations	20.4
Skills within specific occupations	54.0
Total	175.3
Changes in Schools	
Improve basic skills	52.2
Improve employability skills	21.2
More experience in work settings	5.3
Other specific suggestions cited by less than 5 respondents	32.7
Total	111.4
Base for percentages	113

NOTE: Totals exceed 100 percent because many employers gave more than one response. For details of specific suggestions see appendix A, Background Tables.

Even among this highly selected group of employers who hire vocational completers and tend to be fairly satisfied with them, the main recommendation to the schools is to improve basic skills. These results are very much in agreement with the analysis of the employer interviews presented in Chapter 3: Improvement in basic skills is by far the dominant recommendation to the schools from employers.

Follow-Up or 1988 Program Completers

As information began to indicate that the vocational programs offered by the public schools were serving a segment of the Cincinnati employers, it was decided that a survey of former

vocational students would be useful. The survey focused on vocational students and was designed to indicate how many program completers obtained jobs or continued their education in fields were they used the skills they had studied in high school. Former students who completed their programs in 1988 were contacted by mail the last week in June 1989, one year after leaving high school.

Questionnaires were sent to 772 former students who had completed job training programs during the 1987-88 school year, almost all had completed them in June 1988. Those who had completed Occupational Work Experience programs were not included. Of these 772, a total of 112 were returned as undeliverable because the addressees had moved and either left no forwarding address or the forwarding period had expired.

A chance to win a cash prize was offered as an incentive to return the questionnaire, and 117 usable questionnaires were returned. These 117 represent 15.2 percent of the total that were originally mailed and 17.7 percent of the total that were delivered. Response rates of this size require caution in the interpretation of any results they yield.

To test the similarity of those who returned questionnaires to the total of all 1988 completers, the analyses presented in tables 4.6 and 4.7 were conducted. These compare the distribution of survey respondents to the total distribution of completers by high school attended and vocational program studied. Table 4.6 shows that Western High is over-represented among the respondents by almost 8 percentage points, and the other comprehensive high schools are under-represented by 1 to 2 percentage points. In table 4.7 students who studied a business program are over-represented among the survey respondents by about 9 percentage points and health, occupational home economics, and trade and industry programs are underrepresented by 2 to 3 percentage points.

Potentially far more important than the difference reflected in tables 4.6 and 4.7 are characteristics of the respondents and nonrespondents about which no comparisons can be made. It seems reasonable, for example, that students who feel more positive about their experiences during high school and after they leave would be more likely to return questionnaires. Unfortunately because of the absence of data for the nonrespondents, no such comparisons can be made. All that can be said with any certainty is that these results are based on a self-selected group that tend to resemble the total completers with regard to high school and vocational program. No claim is made, however, that these results reflect those of all 1988 completers.

TABLE 4.6

SCHOOL SURVEY RESPONDENTS ATTENDED COMPARED TO DISTRIBUTION OF 1988 PROGRAM COMPLETERS

High School Attended	Percent	
	Respondents Survey	1988 Completers
Aiken	14.5	16.5
Cincinnati Academy of Physical Education	3.4	3.9
Hughes	6.0	7.9
Queen City Vocational Center/Taft	7.7	10.1
School for Creative and Performing Arts	5.1	4.4
Western Hills	28.2	20.5
Withrow	26.5	27.5
Woodward	8.5	9.3
Base for percentages	117	772

TABLE 4.7

VOCATIONAL PROGRAMS OF SURVEY RESPONDENTS COMPARED TO DISTRIBUTION OF 1988 PROGRAM COMPLETERS

Program Groups	Perce	
	Respondents Survey	1988 Completers
Health	6.0	8.2
Occupational Home Economics	12.1	11.9
Business	37.1	28.2
Trade and Industry	34.5	38.1
Other	10.3	10.6
Base for percentages	116	772

Employment Experiences

Among the former vocational students who returned questionnaires, slightly over one-third reported someone from their high school helped them obtain a job when they left school (Table 4.8). The staff member most likely to provide this assistance (in over

two-thirds of the cases) was the student's vocational teacher. This finding is consistent with the interpretation of the data from the employer survey. In the preceding section of this chapter it was noted that vocational teachers would be likely to refer their better students to employers in order to maintain the employers' willingness to hire additional program completers in the future. The percentage in table 4.8 may be inflated if students who received assistance were more likely to return questionnaires. Even if this is the case, the interpretation would still hold but for somewhat lower percentages who received assistance.

The students who reported they received assistance from their schools in obtaining jobs were asked to rate the preparation they received for these jobs on the skills listed in table 4.9. These skills are the same as those rated by employers, but the students' ratings average about a full rating point higher. These students obviously believe their schools prepared them well.

TABLE 4.8

VOCATIONAL COMPLETERS REPORTING THEY WERE ASSISTED TO OBTAIN JOBS BY STAFF FROM THEIR HIGH SCHOOL

	Percent	
	Total Respondents	Those Assisted to Find Jobs
Assisted to find job	35.9	100.0
Assisted by vocational teacher	24.8	69.0
Job for Cincinnati graduate staff	6.8	19.0
Other	4.3	11.9
Base for percentages	117	42

The starting wage in these jobs was $5.02 with a range from $2.12 (one person who worked as a waiter) to $16.00 per hour. The individual reporting $16.00 per hour is what statisticians call an outlier--a value quite different than the others in a distribution. The next highest wage is $6.58 less. If the outlier is eliminated from the calculations, the average starting wage is $4.76 an hour. Ten percent of the respondents reported they started at the minimum wage ($3.35 per hour), and over half (56 percent) started at $4.50 an hour or more.

TABLE 4.9

RATINGS OF HIGH SCHOOL PREPARATION BY
1988 VOCATIONAL PROGRAM COMPLETERS

	Percent						
	Very Bad 1	2	3	4	Very Good 5	Mean	SD
Communication, written, and oral	-	7	12	22	58	4.31	.96
Computation	-	5	17	37	42	4.15	.88
Problem solving	2	7	12	24	54	4.20	1.08
Attendance	-	2	10	17	71	4.56	.78
Punctuality	-	7	12	20	61	4.34	.96
Occupational knowledge specific to the job	-	10	5	29	56	4.32	.96
Manipulative skills specific to the job	-	12	10	24	54	4.20	1.05

NOTE: Ratings made by 41 students who reported they were assisted to get their jobs by vocational teachers or other staff from their high school.

Table 4.10 presents the employment status at the time of the survey, the first two weeks in July 1988, of all respondents to the survey. A little over one-fourth of the former students (28 percent) reported they were working in jobs where they use the vocational skills they studied in high school, and 31 percent reported working in jobs where they do not use these skills. One out of six (16 percent) said they were seeking employment, either a full-time, regular job or summer employment. Over half of those in the other category are in the military.

If these figures are adjusted to approximate the unemployment rates reported by the government, those who are not in the labor force are eliminated from the calculation. This means those who reported themselves to be attending educational or training programs, caring for children, or otherwise not working or seeking work are eliminated. Calculated in this way the unemployment rate for the 1988 vocational completers who responded to this survey is 20 percent. Government unemployment rates for teenage workers are not available for separate labor markets, but the national rates

TABLE 4.10

EMPLOYMENT STATUS OF 1988 VOCATIONAL COMPLETERS
IN JULY 1989

Employment Status	Percent
Working in jobs using vocational skills studied in high school	24.8
Working in jobs not using vocational skills studied in high school	30.8
Working in summer job until return to school or college	9.4
Looking for summer job	4.2
Looking for regular, full-time job	11.9
Attending education or training program	5.1
Staying at home to care for children	3.4
Other	7.7
No response	2.7
Base for percentages	117

in July 1989 were 13 percent for white teenagers and 36 percent for black teenagers (U.S. Department of Labor 1989). Information on race was not requested as part of the survey, but it is likely that at least half of the respondents were black. The rate for these respondents thus appears to be a little less than the national rate for teenagers.

Respondents who were working at the time of the survey were asked their current wage. The average wage was $5.22 per hour with a range from $2.22 to $13.75 per hour. This high wage is not as much an outlier as the $16.00 for starting wages. Still it is $3.75 more than the next highest. If it is eliminated from the calculations, the average current wage is $5.11 per hour. Seven percent of the respondents said their current wage was at or below the minimum wage; half were earning $4.75 an hour or more.

Postsecondary Education or Training

In addition to questions about employment, the former students were asked if they had taken any education or training programs since leaving high school. Four out of ten indicated they had done so, most of whom had taken their programs in public 2-year colleges or 4-year baccalaureate granting institutions (table 4.11). Almost three-quarters of those taking programs reported they were full-time students.

TABLE 4.11

VOCATIONAL COMPLETERS REPORTING THEY ATTENDED EDUCATIONAL OR TRAINING PROGRAMS AFTER LEAVING HIGH SCHOOL

Postsecondary Educational Experience	Percent	
	Total Respondents	Those Attending
Attended education or training programs	39.3	100.0
Type of school attended		
Public two-year	12.0	30.4
Private, nonbaccalaureate	7.7	19.6
Four-year college	12.8	32.6
Queen City Vocational Center	0.8	2.2
Other	5.1	13.0
Not reported	0.8	2.2
Full-time student	28.3	71.7
Base for percentage	117	46

Since the objective of most high school vocational programs is entry-level employment, a large proportion going on for additional education or training might be interpreted as a negative indicator. Some might claim that if the students had received adequate preparation, they would not need additional training. It appears, however, that a significant proportion of vocational students use their high school program to prepare not for immediate employment but for postsecondary education. The students were asked to rate how related the material they studied after high school was to the vocational skills they studied in high school. As table 4.12 indicates, half rated it very related and another 17 percent considered it somewhat related.

Table 4.12 also show similar ratings of the percentage of time skills studied in high school were used in the first job after high school. These ratings were made only by former students who reported they had been helped to obtain their first jobs by someone from their high school. About half of these students reported they use the skills 80 percent of the time or more.

TABLE 4.12

RATINGS OF PERCENTAGE OF TIME SKILLS STUDIED IN HIGH SCHOOL USED IN FIRST JOB AND RELATIONSHIP OF SKILLS TO PROGRAM STUDIED AFTER HIGH HIGH SCHOOL

Percent of Time Used on Job	Rating of Relationship High School/ Postsecondary	Percent	
		Assisted to Obtain Job	Attended Educational Training
80% or more	Very related	48.8	50.0
60-79%	Somewhat related	9.8	17.4
40-59%	(no midpoint)	17.1	-
20-39%	A little related	12.2	13.0
19% or less	Not related at all	12.2	19.6
Base for percentages		41	46

NOTE: Ratings provided only by those assisted by someone from school to find jobs and those who attended education and training programs after high school.

Thus these results from former student data and those from employers suggest that the vocational programs offered by the Public Schools are serving some of their students and some of the Cincinnati labor market. As has been repeated frequently throughout this chapter, no claim is made that the former students and employers who returned the questionnaires that produced these results are representative samples. It may well be that these results are based on the experiences of students and employers who have benefited from vocational programs more than the average. Nevertheless, these findings are quite a different picture than that reflected in the interviews conducted with the more prominent employers and community representatives. Obviously there is a basis to the "image problem" of vocational education. Less obviously, vocational education is serving many students and employers. The next chapter addresses how more students can benefit and the image be improved.

CHAPTER 5

POLICY OPTIONS SURVEY

Once project staff felt they had a reasonably complete picture of vocational education in Cincinnati, they drafted a set of possible policy options that might be implemented to improve the programs. These option were developed from the information and recommendations that had been obtained in interviews and observations during the school visits and with employers and other community representatives. To test the acceptability of these options, a mail survey was conducted with a selected sample of individuals who were concerned with education in Cincinnati. This chapter describes the conduct of that survey and presents its major findings.

Conduct of the Survey

The policy options that were included in the survey were developed from suggestions received during the school visits and in interviews with employers, agency directors, and other community representatives. The final part of each interview requested suggestions or recommendations for improving vocational education in the Cincinnati Public Schools. These recommendations were reviewed and organized into a consistent format that asked respondents to rate them twice, first as to desirability and second as to feasibility, each on a five point scale. In addition to rating the options, the respondents were asked to rank seven possible goals for secondary level vocational education from most to least important.

The sample for the policy survey was developed from nominations provided by school officials and by individuals who had been interviewed in the community. The original list was made up of one-third employers, one-third directors of community agencies and other members of the public, and one-third educators, including school board members. The educators were further divided into half vocational teachers and administrators and half general education administrators and board members.

The questionnaires were sent to the 187 individuals on the original list on June 30, 1989. Two of the envelopes were returned as undeliverable. By July 27, 1989 a total of 95 completed questionnaires had been returned, a response rate slightly over 50 percent. The responses were distributed across groups as shown in table 5.1.

TABLE 5.1

RESPONSE TO POLICY OPTION SURVEY
BY GROUPS

Group	Percent
Employers	33.7
Agency directors, other community representatives	21.0
Vocational education	
Teachers	9.5
Administrators	7.4
Assistant principals	5.3
General Educators	
Board members	3.2
Principals	4.2
Administrators	10.5
Group identifier removed	5.3
Base for percentages	95

Employers and general educators are represented among the respondents to the survey in the same proportion as in the original list. Agency directors and other from the concerned public are somewhat underrepresented. Vocational educators are slightly over represented if assistant principals are included among them. The assistant principals are responsible for vocational education in the high schools, but most are not vocational educators.

Findings

In general, there tended to be more agreement than disagreement across the groups both in their ranking of the goals for secondary vocational education and in their assessment of the desirability and feasibility of the policy options. This discussion presents the overall findings. The background tables with the results for the separate groups are presented in appendix B.

Ranking of Goals

Training for entry-level jobs is clearly the most important goal for secondary vocational education (table 5.2). This ranking was consistent across groups with half of all the respondents ranking this goal number one. Even though there was more agreement on this goal than any of the others, half of the respondents did not rank it first. This diversity of views concerning what vocational education should accomplish at the secondary level is

one of the major sources of the controversy that continually surrounds these programs. Among this group of respondents, there was not unanimity but there was a majority position that preparation for entry-level employment should be the highest priority.

TABLE 5.2

RANKING OF POSSIBLE GOALS FOR SECONDARY VOCATIONAL EDUCATION

Goal	Percent Assigning Rank of							Mean	SD
	1	2	3	4	5	6	7		
Teach the occupational skills needed in entry-level jobs	50	22	14	6	6	1	1	2.02	1.36
Reinforce basic communication and computational skills	23	18	20	14	10	7	8	3.21	1.87
Teach job-seeking and job-holding skills	7	28	22	22	13	6	2	3.33	1.43
Prepare students for additional occupational training at the postsecondary level	6	10	11	28	12	17	17	4.47	1.76
Provide opportunities for occupational exploration	6	6	19	11	25	14	19	4.64	1.75
Provide instructional alternatives for students who might otherwise drop-out of high school	8	12	8	10	16	29	18	4.71	1.93
Prepare students for function more effectively as consumers, home managers, and parents	1	4	7	9	17	27	36	5.58	1.52

NOTE: All statistics based on 90 respondents who completed ranking.

Reinforcing basic skills and teaching job-seeking and job-holding skills were almost tied as the next highest ranking goals. The average of these goals was over a full ranking point below the goal of teaching entry-level skills. These goals, in turn, were over a full point above the next cluster of goals that related to preparation for postsecondary training, occupational exploration and an instructional alternative for potential dropouts. The traditional goal of comprehensive home economics, preparation to

function as consumers, home managers, and parents, ranked last. A few respondents noted that this should be a goal of all education.

Ratings of Policy Options

The survey respondents were asked to rate the 22 policy options presented in table 5.3 twice: first as to their desirability, and second as to their feasibility. The options reflected a variety of viewpoints and approaches on how to improve vocational education, some of which were mutually contradictory. The option had been suggested by one or more of the individuals who had been interviewed for the study or were suggested by project staff. Table 5.3 is a duplicate of the section of the questionnaire that presented the policy options with the response boxes replaced by the percent of respondent making each of the ratings. The mean ratings were calculated by assigning a score of five to the very desirable, definitely feasible ratings; four to desirable, possibly feasible; three to no judgment; two to undesirable, possibly infeasible; and one to very undesirable, definitely infeasible.

Almost all of the options were considered both desirable and feasible by most of the respondents. The one exception was number 8, provide a full range of vocational programs at every high school. The desirability ratings were evenly split, 48 to 47 percent, but a clear majority, 61 percent, considered this option infeasible.

The item with the highest mean desirability rating was number 11, continue efforts to keep the equipment in vocational laboratories (shops) current with that being used in the workplace. This item, however, also had the largest difference between desirability and feasibility, 1.10 rating points. Despite this difference, most respondents (71 percent) felt this could be a feasible option.

If the options with the highest combined desirability and feasibility ratings are considered the ones most amenable to implementation, six options emerge with combined scores over 9.00:

3. Establish methods to verify that students have acquired the vocational skills taught in their vocational programs. (combined ratings=9.29)

15. Include instructional material designed to strengthen communication, computation, and problem solving skills in all curriculum development and revision for vocational programs. (combined ratings=9.21)

TABLE 5.3

RESPONSE TO POLICY OPTIONS

1. Make greater efforts to promote vocational education as a positive educational alternative among students, parents, and the general public.

Mean	SD
4.48	.86
4.66	.66

Percent

Very Desirable	Desirable	Undesirable	Very Undesirable	No Judgment
63	30	3	2	2
Definitely Feasible	**Possibly Feasible**	**Possibly Infeasible**	**Definitely Infeasible**	**No Judgment**
72	24	3	–	–

2. Increase career education activities, especially in the ninth and tenth grades, to make students and their parents more aware of the vocational education opportunities available to them.

Mean	SD
4.43	.78
4.63	.72

Very Desirable	Desirable	Undesirable	Very Undesirable	No Judgment
55	37	5	–	2
Definitely Feasible	**Possibly Feasible**	**Possibly Infeasible**	**Definitely Infeasible**	**No Judgment**
72	23	5	–	–

3. Establish methods to verify that students have acquired the vocational skills taught in their vocational programs.

Mean	SD
4.63	.60
4.56	.67

Very Desirable	Desirable	Undesirable	Very Undesirable	No Judgment
66	33	–	1	–
Definitely Feasible	**Possibly Feasible**	**Possibly Infeasible**	**Definitely Infeasible**	**No Judgment**
63	34	3	–	–

4. Include a record of the vocational skills that have been successfully demonstrated by a student as part of the certificate of completion for the program.

Mean	SD
4.52	.76
4.48	.90

Very Desirable	Desirable	Undesirable	Very Undesirable	No Judgment
63	29	4	–	3
Definitely Feasible	**Possibly Feasible**	**Possibly Infeasible**	**Definitely Infeasible**	**No Judgment**
67	23	9	–	1

Table 5.3--(Continued)

	Mean	SD	Percent				
			Very Desirable	Desirable	Undesirable	Very Undesirable	No Judgment
5. Develop articulation agreements with postsecondary institutions so that students can get credits for skills they have acquired in high school.	4.10	.95	38	46	9	1	7
	3.83	1.01	Definitely Feasible	Possibly Feasible	Possibly Infeasible	Definitely Infeasible	No Judgment
			23	56	14	2	6
6. Develop specialized vocational programs at selected high schools that would attract students from all over the city.	4.16	.89	Very Desirable	Desirable	Undesirable	Very Undesirable	No Judgment
	4.10	1.02	39	46	6	1	9
			Definitely Feasible	Possibly Feasible	Possibly Infeasible	Definitely Infeasible	No Judgment
			40	45	8	3	4
7. Consolidate programs with low enrollments into one high school.	3.65	1.23	Very Desirable	Desirable	Undesirable	Very Undesirable	No Judgment
	3.79	1.14	31	33	23	3	10
			Definitely Feasible	Possibly Feasible	Possibly Infeasible	Definitely Infeasible	No Judgment
			30	40	16	3	10
8. Provide a full range of vocational programs at every high school.	3.03	1.42	Very Desirable	Desirable	Undesirable	Very Undesirable	No Judgment
	2.53	1.39	18	30	31	16	4
			Definitely Feasible	Possibly Feasible	Possibly Infeasible	Definitely Infeasible	No Judgment
			11	20	32	29	8

Table 5.3--(Continued)

9. Develop cluster programs in fields such as business and construction that would introduce students to the range of occupational skills needed in those areas.

Mean	SD
4.09	1.03
3.99	1.08

Percent

Very Desirable	Desirable	Undesirable	Very Undesirable	No Judgment
37	50	1	7	6
Definitely Feasible	**Possibly Feasible**	**Possibly Infeasible**	**Definitely Infeasible**	**No Judgment**
35	46	6	6	8

10. Provide more flexible scheduling to enable vocational students to take more nonvocational courses.

Mean	SD
4.21	.78
3.78	1.09

Very Desirable	Desirable	Undesirable	Very Undesirable	No Judgment
43	44	5	1	7
Definitely Feasible	**Possibly Feasible**	**Possibly Infeasible**	**Definitely Infeasible**	**No Judgment**
28	43	19	1	9

11. Continue efforts to keep the equipment in vocational laboratories (shops) current with that being used in the workplace.

Mean	SD
4.74	.51
3.64	1.20

Very Desirable	Desirable	Undesirable	Very Undesirable	No Judgment
77	22	1	-	-
Definitely Feasible	**Possibly Feasible**	**Possibly Infeasible**	**Definitely Infeasible**	**No Judgment**
23	48	22	5	1

12. Make greater use of cooperative education particularly for occupations where the equipment is very costly and/or changing rapidly.

Mean	SD
4.48	.76
3.96	1.03

Very Desirable	Desirable	Undesirable	Very Undesirable	No Judgment
58	38	3	1	-
Definitely Feasible	**Possibly Feasible**	**Possibly Infeasible**	**Definitely Infeasible**	**No Judgment**
29	55	11	3	1

Table 5.3--(Continued)

13. Develop summer employment opportunities for vocational instructors that will help them keep up-to-date with the skills needed by employers.

Mean	SD
4.51	.72
3.94	1.08

Percent

Very Desirable	Desirable	Undesirable	Very Undesirable	No Judgment
59	35	1	1	3
Definitely Feasible	**Possibly Feasible**	**Possibly Infeasible**	**Definitely Infeasible**	**No Judgment**
33	48	16	2	1

14. Provide professional development for vocational instructors to add to their skills in the following areas:

a. reinforcing basic communication and computational skills in vocational classrooms and laboratories.

Mean	SD
4.62	.66
4.37	.74

Very Desirable	Desirable	Undesirable	Very Undesirable	No Judgment
67	31	1	1	-
Definitely Feasible	**Possibly Feasible**	**Possibly Infeasible**	**Definitely Infeasible**	**No Judgment**
47	47	2	1	2

b. working effectively with instructors of related academic subjects.

Mean	SD
4.51	.60
4.36	.70

Very Desirable	Desirable	Undesirable	Very Undesirable	No Judgment
55	42	1	-	2
Definitely Feasible	**Possibly Feasible**	**Possibly Infeasible**	**Definitely Infeasible**	**No Judgment**
46	49	3	-	2

c. working with at-risk students and others with special needs.

Mean	SD
4.45	.74
4.01	1.05

Very Desirable	Desirable	Undesirable	Very Undesirable	No Judgment
54	40	2	1	2
Definitely Feasible	**Possibly Feasible**	**Possibly Infeasible**	**Definitely Infeasible**	**No Judgment**
37	44	15	1	3

Table 5.3--(Continued)

15. Include instructional material designed to strengthen communication, computation, and problem solving skills in all curriculum development and revision for vocational programs.

Mean	SD
4.70	.66
4.51	.69

Percent

Very Desirable	Desirable	Undesirable	Very Undesirable	No Judgment
76	21	1	1	1
Definitely Feasible	Possibly Feasible	Possibly Infeasible	Definitely Infeasible	No Judgment
58	37	3	-	1

16. Add related academic courses (Applied Academics) to all vocational programs.

Mean	SD
4.01	1.19
3.75	1.31

Very Desirable	Desirable	Undesirable	Very Undesirable	No Judgment
44	35	13	4	3
Definitely Feasible	Possibly Feasible	Possibly Infeasible	Definitely Infeasible	No Judgment
38	32	24	5	1

17. Encourage instructors and students to participate actively in the student organizations for their vocational areas.

Mean	SD
4.38	.78
4.28	.92

Very Desirable	Desirable	Undesirable	Very Undesirable	No Judgment
48	46	1	2	2
Definitely Feasible	Possibly Feasible	Possibly Infeasible	Definitely Infeasible	No Judgment
48	40	8	1	2

18. Make vocational education a full partner in dropout prevention/recovery programs.

Mean	SD
4.30	.90
4.03	.96

Very Desirable	Desirable	Undesirable	Very Undesirable	No Judgment
51	36	5	1	6
Definitely Feasible	Possibly Feasible	Possibly Infeasible	Definitely Infeasible	No Judgment
35	45	9	1	10

Table 5.3--(Continued)

19. Create flexible alternatives for dropouts who wish to return to obtain vocational training and/or a General Educational Development (GED) diploma.

Mean	SD
4.43	.71
4.15	.96

Percent

Very Desirable	Desirable	Undesirable	Very Undesirable	No Judgment
53	41	3	-	3
Definitely Feasible	**Possibly Feasible**	**Possibly Infeasible**	**Definitely Infeasible**	**No Judgment**
43	40	11	-	6

20. Make the community more aware of the adult/continuing education opportunities the public schools have available, particularly those at the Queen City Vocational Center.

Mean	SD
4.61	.68
4.55	.83

Very Desirable	Desirable	Undesirable	Very Undesirable	No Judgment
68	27	-	1	4
Definitely Feasible	**Possibly Feasible**	**Possibly Infeasible**	**Definitely Infeasible**	**No Judgment**
71	19	3	1	6

88

Please add any additional options you feel should be considered.

21.

Very Desirable	Desirable	Undesirable	Very Undesirable	No Judgment
Definitely Feasible	**Possibly Feasible**	**Possibly Infeasible**	**Definitely Infeasible**	**No Judgment**

Sr. Jean Patrice Harrington, Executive Director, Cincinnati Youth Collaborative

Cathy Ingram, Community Service Coordinator, Cincinnati Gas and Electric Company

Sonja Price, Deputy Director Division of Vocational and Career Education, Ohio Department of Education

Vera Ramstetter, Director Vocational/Continuing Education, Cincinnati Public Schools

Anthony Riciardi, President, Jobs for Cincinnati Graduates

Ann Tomelein, Youth Employment Service, JOBS Network

Shiela Wilson, Director, Private Industry Council of Cincinnati and Hamilton County

Staff from the Center on Education and Training for Employment presented an overview of their initial findings from all the data collection that had been completed prior to the meeting. The discussion then moved to a review of the separate policy options. A summary of this discussion is presented in appendix C. The following is a synthesis of major themes that cut across many of the options.

Many of the same issues discussed in chapter 3 were raised at the July 25 meeting. Comments related to the image of vocational education and the support it receives from the community and within the public schools tended to dominate. The community representatives reported a general public perception that the quality of vocational education is inadequate. It is seen by employers and the public as the dumping ground for students who cannot perform in school. It was noted that many vocational graduates have difficulty passing screening tests on skills they have studied, such as the ability to type 30 to 40 words per minute without errors.

The academic skills of vocational students underlie many of these criticisms. There was some disagreement about the ability of the Applied Academics program to improve English and mathematics skills. While there was support for the concept, it is seen to have had weaknesses in its implementation. Inflexible scheduling that prevents students from taking the mathematics courses most appropriate for their ability was most criticized.

Vocational education was not without its defenders at the meeting. Some spoke of its ability to motivate students and to provide them with the means of earning money to pay for postsecondary education. It was noted that vocational education is not the cause of inadequate academic skills; students come to vocational education with these deficiencies. Evidence was cited that the closer contact employers have with vocational students the

more positive they are toward the field. Another major theme was the mix of programs across high schools. The preferred option was to have as many programs at as many high schools as possible, but it was recognized that this is not feasible. There was little support for closing or clustering programs.

The results of the policy option surveys and the discussion of its results were additional sources of information that were considered in coming to the conclusions and developing the recommendations which are presented in the final chapter of this report.

CHAPTER 6

CONCLUSIONS AND RECOMMENDATIONS

Vocational education in Cincinnati, as in most cities throughout the nation, is an enterprise with many dimensions. This report has tried to portray this complexity, acknowledging that many vocational students have poor basic skills, but also noting that others students have good skills and career objectives that they are pursuing through their vocational programs. In this chapter, however, it is necessary to speak of broad findings and tendencies and not attempt to point out all the exceptions that exist.

In chapter 1 it was noted that the two broad questions this review was designed to address were what is the purpose of secondary level vocational education and how well is this purpose being accomplished? The information assembled and analyzed to answer these questions indicates that the primary purpose is preparation for entry-level employment followed by reinforcement of basic communication and computational skills and the teaching of job-seeking and job-holding skills.

The term "entry-level" should not be interpreted to mean jobs that can be obtained by anyone willing to work. In vocational education, entry-level refers to the first jobs in occupations requiring specialized skills. The preparation that students receive while in high school cannot produce workers fully skilled in these occupations. What it can do is prepare students with the skills needed to obtain jobs requiring specialized skills and provide the foundation for additional learning on these jobs. If vocational education performs as it should, it gives its students an advantage in the competition for better paying jobs, and provides the workforce with skills that employers cannot efficiently train (Bishop 1989).

How well are these purposes being accomplished? The following statements represent the conclusions of the Center staff who conducted this study on the status and performance of vocational education in the Cincinnati Public Schools:

1. Many students who are deficient in communication and computational skills enroll in vocational programs. Vocational teachers are convinced that higher ability students who are interested in vocational programs are counseled not to enroll in them.

2. Many vocational students leave high school with basic and technical skill levels below those necessary for entry-level employment in the fields for which they were trained. These students have created an impression widely

shared by many employers and community leaders that the vocational programs are providing an inadequate education.

3. The job training programs offered by the public schools at the secondary level are serving a portion of their students by preparing them for entry-level employment in jobs requiring specialized skills or for postsecondary education or training.

4. Secondary-level job training programs are serving a segment of Cincinnati employers. These employers tend to be small, about half have 25 or fewer employees, and primarily service-producing rather than goods-producing firms. They hire the better students and are generally satisfied with their preparation and performance. The employers who are familiar enough with the job training programs to evaluate them rate all aspects--curriculum, facilities, equipment, and instructors--quite favorably.

5. The Occupational Work Adjustment and Occupational Work Experience programs have most of the features that are needed for dropout prevention, but too often students are placed in jobs with little training or career potential.

6. The Queen City Vocational Center conducts excellent adult training programs whose students are evaluated very favorably by employers.

Recommendations

The conclusions presented above form the basis for the recommendations presented in this section. As was noted in chapter 5, many of these recommendations were tested with 95 community representatives who responded to a policy options survey. The recommendations, however, do not merely restate the results of that survey. Instead they reflect the judgment of the Center staff who conducted this study as to what is most needed to improve the vocational programs offered by the Cincinnati Public Schools.

RECOMMENDATION 1: Expand the concept of vocational education to make it a full partner with academic education by developing programs that will enable students to acquire broad transferable skills as well as to prepare for occupations requiring specific skill training. Use the unique instruction features of vocational education to improve communication, computational, and problem solving skills as a fundamental component of teaching all occupational skills.

RATIONALE: During the interviews conducted as part of the school visits and in the community, the potential of vocational instruction to achieve broader educational goals was rarely mentioned as a purpose of vocational education. Vocational education was frequently cited as a motivator, as a means of keeping students in school, but rarely, was its ability to give meaning and purpose to the learning of basic communication and computational skills addressed.

Given the commitment to student choice in the Cincinnati schools, there is little likelihood that selective criteria will be established for entrance into vocational programs. Nor would we recommend such criteria for they would tend to exclude those who are most likely to need and benefit from vocational education. As long as students have the option to choose, it is likely that many who are deficient in basic academic skills will enter vocational programs. With this as a given, one of the basic objectives of vocational programs should be using their special instructional features to teach skills the students have not acquired in previous classes.

It is our judgment that most of the students with academic deficiencies who enroll in vocational education are likely to learn more in a vocational classroom than they would if they took additional academic classes. Academic classes have not served these students well in their prior 10 years of schooling, and there is little reason to believe that more of the same will somehow be successful.

Secondary vocational education has come in for considerable criticism in recent years for teaching obsolete skills or, worse yet, "warehousing" students who leave school without basic or occupational skills. The evidence presented in this report does not support this criticism. Almost half of the graduates who were working when they responded to our survey had obtained jobs where they used the skills they had studied, and employers rated their preparation and performance as satisfactory.

Beyond its role in occupational skill training, vocational education serves many students the academic class cannot reach. It is not a panacea, of course, it cannot retain all potential dropouts, improve all students basic skills, and teach them all the entry-level skills of specific occupations. But it serves many by providing a meaningful <u>educational</u> option not available in any other type of class.

By providing motivation and relevance, vocational instruction can teach many students basic communication and computational skills that have not previously been acquired. With a stronger emphasis on using vocational courses to achieve these objectives--as an explicit, emphasized component of teaching occupational skills--many more students could benefit.

If this recommendation is to be implemented, vocational teachers will have to accept the responsibility to make the teaching and reinforcing of basic skills an explicit objective of their classes. It will also be necessary for vocational teachers to increase their skills in planning and delivering such instruction. This will require considerable in-service professional development for the vocational staff. We therefore propose the following implementing recommendations:

RECOMMENDATION 1A: Develop a structured series of professional development activities to enable vocational instructors to add to their skills in the following areas:

- Teaching and reinforcing basic communication and computational skills in vocational classrooms and laboratories.
- Working effectively with Applied Academics instructors.
- Working with at-risk students and others with special needs.

We further recommend that teachers be paid for their participation in these professional development activities.

RECOMMENDATION 1B: Include instructional materials designed to strengthen communication, computation, and problem solving skills in all curriculum development and revision for vocational programs.

RECOMMENDATION 1C: Strengthen the Applied Academics program. Institute standardized pre- and posttesting in English and mathematics for all vocational programs that have Applied Academics

We recognize that Applied Academics is a controversial approach. Its advocates see it as teaching what the student needs, giving meaning to abstract concepts by showing concrete applications. Its critics see it as "watered down" English and mathematics, neither challenging the students nor giving them the preparation they will need if they seek additional education. Our judgment is that there must be a structured program to relate English and mathematics to the skills being taught in the vocational program. If the potential of vocational education to reach students who have not previously been reached is to be realized, there must be systematic, organized efforts to relate academic and vocational instruction. If there is not a structure to make this happen, it does not happen. Students are left on their own to make the connections, and too many vocational students have not made any connections nor even learned the skills taught in their previous English and mathematics classes.

Because Applied Academics is controversial, we recommend that it effectiveness be tested through standardizing pre- and posttesting conducted at the beginning and end of a school year. The

testing should be conducted with all students in classes receiving Applied Academics and with a comparison group of vocational students in classes without Applied Academics. We anticipate that on the pretest students receiving Applied Academics will initially score lower, because students with basic skill deficiencies are more likely to enroll in Trade and Industrial courses that have Applied Academics. We also expect that the students receiving Applied Academics will have larger gains than other vocational students. Students receiving Applied Academics may not score as high on posttests as other vocational students, but we expect the gain from their pretests to their posttests will be larger.

In general Applied Academics teachers have quite small classes. Enrollment in most Trade and Industrial classes in Cincinnati are at or close to the the state minimum. Low attendance means that the actual number of students an Applied Academics teacher may meet each day could be as low as 40 to 45. In effect, the total teaching day for the average Applied Academics teacher may involve only as many students as the typical mathematics or English teacher meets in two classes. The small classes and extra time for class preparation are to enable the Applied Academics teachers to individualize their instruction and tie it directly to the occupational skills being studied.

We endorse this approach and feel that adequate time for planning and preparation is essential to the success of the program. We recommend that this not be seen as "free time" during which the Applied Academic instructors perform other school duties. We also think it is likely that the effectiveness of the Applied Academic teachers would be increased if they engaged in more team teaching directly in the vocational laboratories. By working directly with the vocational instructors, they could identify communication and computational problems the students encounter and providing tutorial assistance as needed on a one-to-one or small group basis.

RECOMMENDATION 2: Increase the accountability of vocational programs by establishing methods to verify and document that program completers can demonstrate the skills they have studied.

RATIONALE: It is very difficult to monitor a teacher's classroom performance, and the teachers themselves often noted wide variation among their colleagues in their ability to teach. In response to the question on the overall rating of vocational programs, many teachers said that it varied by instructors. There was a tendency among the more structured teachers to be critical of what they considered lax, unprofessional standards among some of their colleagues.

Given the inherent difficulties in monitoring classrooms, the major emphasis should be on monitoring outcomes. Competencies to be attained in an occupation have been established for most vocational areas. They underlie the vocational achievement tests

developed by the Ohio Department of Education. During the 1988-89 school year, these tests were administered to students in several of the vocational programs conducted at Western Hills High School but in no other schools in the district.

Increased accountability in academic subject areas has already been legislated in Ohio and the required proficiency tests will first be administered during the 1990-91 school year. The reauthorization of the federal vocational education legislation is almost certain to include requirements for states to establish performance standards to qualify for federal funds. The Cincinnati schools could prepare themselves well for these forthcoming requirements by establishing their own accountability standards.

A set of basic competencies should be established as the minimum performance expected of completers of each vocational program. If these competencies are not successfully demonstrated, a student should not be awarded a certificate of completion. To increase the value of these certificates we make the following implementation recommendations:

RECOMMENDATION 2A: Administer the Ohio Vocational Education Achievement Tests in all programs for which tests are available.

RECOMMENDATION 2B: Include a record of the skills that a student has successfully demonstrated as part of the certificate of completion for a program. Include the student's senior year scores on the Ohio Vocational Education Achievement Test.

RECOMMENDATION 2C: Develop a management information system for storage and retrieval of competency achievement data that can be used for planning, curriculum revision, and evaluation.

Competencies that can be directly expressed as a quantitative measure, such as typing speed in words per minute, should be used whenever possible. The certificates awarded by the adult training programs conducted at the Queen City Vocational Center already included a record of the competencies acquired. With this model existing in the system, it should not be too difficult to develop a similar procedure for secondary programs.

The instructor should be the primary judge of whether a student has acquired the minimum competencies. To ensure the credibility of the instructor's judgments with employers, we recommend that a procedure for validating these judgements be established. One possibility would be to have advisory committee members or other employers that hire students from the program conduct independent assessments. These could be in the nature of a quality control check, and it would not be necessary for an employer to assess all competencies for all students. Instead,

the employer could, on a sampling basis, assess one or two competencies for each student.

A management information should be developed that will facilitate assessment of the performance of programs. It should provide information on individual competencies that have been identified as essential to the occupations. Indications that significant proportions of students are not attaining given competencies should be used to guide curriculum revision and professional development activities for instructors.

The establishment of such a verification procedure should increase the expectations of what students should accomplish for both students and instructors. It may also add a motivational element as both would want to have as many competencies indicated on the completion certificates as possible.

RECOMMENDATION 3: Communicate through specific actions that the Cincinnati Public Schools view vocational education as a positive educational opportunity.

RATIONALE: A recurring theme in the interviews conducted as part of the school visits was the perception that the main priority of the school board and the administration is to encourage young people to plan and prepare for college. This emphasis is certainly a positive one, but without a comparable emphasis on the value of preparation for employment, the message being received in the schools is that vocational education is a less desirable alternative.

The review that produced this report is in itself a signal that the district is concerned about the future direction for its vocational education programs. The conversion of Hughes High School to alternative programs with strong ties to the private sector--and the media campaign to attract students--are other highly visible indicators that preparation for employment or for additional postsecondary education can be pursued simultaneously.

To reinforce vocational preparation as a worthwhile option we offer several implementation recommendations which we believe will contribute in very concrete ways to a more positive image for vocational education. We specifically reject the idea of a public relation campaign unaccompanied by substantive actions to improve the programs.

RECOMMENDATION 3A: Establish a 2+2, tech prep, program as an separate alternative program to be offered initially at Woodward High School, and if successful, expanded to other schools.

All signs indicate that the reauthorized federal vocational education legislation will have provisions for "tech prep" programs based on the 2+2 model (Parnell 1986). This model combines the last two years of high school with two years of postsecondary

instruction to produce technicians. The high school years stress applied science and mathematics. The postsecondary years stress applications within specific occupational areas.

The Cincinnati Academy of Mathematics and Science (CAMAS) at Woodward High School already offers a technical block for students planning for postsecondary education below the baccalaureate level. We recommend that this option be developed into a separate alternative program open to students from all high schools. Once developed this program would no longer be a part of CAMAS although students who had elected CAMAS in the lower grades may choose to enter the tech prep program in grade eleven.

We recommend that contacts be initiated with appropriate postsecondary institutions to determine their interest in developing a 2+2 program. Cincinnati Technical College appears to be a natural partner. Once a commitment has been obtained from one of more postsecondary institutions, the high school and postsecondary components should be jointly planned by representatives of Cincinnati Public Schools and the cooperating institutions. The agreement should provide for guaranteed admission to the postsecondary institution with advance standing for any student successfully completing the high school component of the program.

Another implementation recommendation that we think would communicate a positive message concerns student organizations:

> RECOMMENDATION 3B: Encourage students and instructors to participate actively in the student organizations for their vocational areas.

There are national and state student organizations for all vocational areas. When these are actively supported, they can provide powerful learning and motivating experiences for students. They provide opportunities for small group interaction, leadership, skill development, and competition. Students who take part often report they make a major contribution to their enjoyment of school. During our visits to the schools we saw little evidence of student organization activity in the Cincinnati schools. We recommend that efforts to increase this involvement be made both with staff and students.

> RECOMMENDATION 3C: Conduct inservice programs for guidance counselors to provide them with increased information about the vocational programs available throughout the city.

References to counselors were a recurring theme in the interviews with teachers. Counselors were accused of not being familiar with the opportunities available in vocational education, and worst yet, advising students who wanted to take vocational education away from it. This was the practice that most angered vocational teachers.

Repeatedly teachers complained of counselors who inform students they will not be able to meet college entrance requirements if they take a vocational program. This is true only of selective colleges. Vocational students who perform well in their programs have a good chance of entering and completing college if they chose to do so (Campbell et al. 1982). The follow-up of the 1988 vocational graduates conducted for this study showed 39 percent went on to some type of postsecondary education or training, 13 percent to a four-year college.

In prior years the state had provided funds to help pay for vocational counselors. These counselors were located in the vocational annexes of the buildings and well informed about the programs. The teachers believed they were able to give more accurate information that encouraged many more students to enroll in the programs.

Closely aligned with the recommendation on counselors is one to increase the career information available to students:

> RECOMMENDATION 3D: Increase career education activities, especially in the ninth and tenth grades to make students and their parents more aware of the vocational programs available to them. Provide inservice training and curriculum materials to assist elementary and junior/middle school teachers to infuse more career awareness content into their curriculum.

The Cincinnati Public Schools have adopted an infusion approach to career education. This means that rather than offer separate courses, career information is incorporated into other class as appropriate. This approach puts a heavy burden on teachers to plan instruction that adds to students knowledge about many different occupations. We think that a more structured approach should be considered, particularly for the ninth and tenth grades, when students are facing the choice of their curriculum for the last two years of high school.

This approach could consist of a specific course on introduction to careers to be offered in the ninth grade. New York State, as was discussed in chapter 1, is attempting to implement new directions for its secondary vocational programs (Kadamus and Daggett 1986). As part of this effort it has revised its junior high/middle school home economics and industrial arts courses. The new courses are Home and Career Skills, which includes much of the content covered in the Impact program, and Introduction to Technology, which teaches the principles that underlie technological systems.

In grades 9 or 10, New York recommends a course titled Introduction to Occupations as a transition into the specialized occupational courses to be taught in grades 11 and 12. Kadamus and Daggett describe this course as follows:

The two major purposes of the Introduction to Occupations course are for the student to develop transferable skills that can be used in later work or home responsibilities and to investigate occupational interest and abilities prior to taking more specialized occupational courses. Introduction to Occupations allows students to have exploratory experiences in several occupational areas before committing themselves to a specific occupational sequence, thus avoiding the problem of making early career decisions that cannot be reversed.

. . . The curriculum includes many core competencies that all occupational education students should obtain as part of an education program. It also includes "process skills"--important competencies such as applied math and science, interpersonal relations, safety in the workplace, and career planning--which can best be taught in connection with specific technical content. (p. 28)

We recommend the consideration of offering such a course in the ninth grade. In the tenth grade, prior to selecting eleventh grade courses, there should be an open-house day in the vocational annexes, and students should be excused from their regular classes to tour the annexes.

The final implementation recommendation regarding the image of vocational education relates to adult education:

- RECOMMENDATION 3E: Publicize the adult training programs available at the Queen City Vocational Center.

Members of the study team who visited QCVC considered its training programs to be of very high quality, and interviews with employers and agency directors who were familiar with the programs confirmed this judgment. Many of those who were interviewed, however, were not aware of the programs offered there. Members of QCVC staff referred to their programs as "the best kept secret in the city." Publicizing these programs more widely would contribute to a more positive image of preparation for employment and is likely to help with the funding shortfall the center experiences yearly.

RECOMMENDATION 4: Improve the quality of jobs made available to students in the Occupational Work Adjustment and Occupational Work Experience programs.

RECOMMENDATION 4A: OWA/OWE should provide opportunities for skill training and career potential that are superior to those in the kinds of jobs students can obtain without school assistance.

RECOMMENDATION 4B: Do not release OWA/CWE students from school who do not have jobs or work assignments to go to.

RATIONALE: It was noted in chapter 3 that OWA/OWE have most of the features recommended for dropout prevention programs. We base this judgment on several review of the features of such programs. Hamilton (1986) summarized his review in this way:

> A review of research on successful dropout-prevention programs revealed four common characteristics: (1) They separate potential dropout from other students; (2) They have strong vocational components; (3) they utilize out-of-classroom learning; and (4) they are intensive in the sense of being small, individualizing instruction, having low student-teacher ratios, and offering more counseling than ordinary schools. (p. 410)

These are some of the recurring feature of nine exemplary programs that Weber and Sechler (1986) reviewed:

- Programs are presented in contexts that differ from a 'traditional' school environment, and they function somewhat autonomously.
- Classrooms have low teacher-pupil ratios.
- Strategies are defined by a combination of remedial basic skills, parental involvement, work experience/job placement, counseling, supportive services, and vocational (skill) training.
- "Special' staff teachers are committed to their program's philosophy and goals.
- Teachers are able and willing to establish relationships with students that tend to be more demanding than 'normal.'
- Teachers devote about half of their efforts to addressing students' remediation needs (especially in basic skills); about one-fourth to resolving their personal needs (e.g., improved self-concepts); and one-fourth to addressing their work-related needs. (p. 72)

Wehlage and Smith's (1986) summary was quoted in chapter 3. In each of these reviews we see common elements all of which are aimed at changing the way students feel about school. The primary means of changing these feeling is through teachers who show personal interest in the students. To quote Wehlage and his colleagues (1986) once again:

> Schools are not likely to help at-risk students unless they can change fundamental school-student interactions. For educators, the reform agenda requires a major effort to engage those who have become alienated. Reversing this alienation begins with the establishment of a positive social bond between teachers and students. (p. 71)

The OWA/OWE programs that we observed in Cincinnati had these features, especially coordinators who showed they cared about the students. One totally unplanned observation occurred at a McDonald's. The CETE staff members were visiting a junior high school and had gone out for lunch. By chance they selected a booth adjoining an OWA coordinator who had taken his students on a field trip and stopped at McDonald's for lunch before returning to school. The conversation among the students was the usual adolescent bantering, but interspersed were comments and questions from the coordinator checking on the students plans for the rest of the day, "Who is working this afternoon? Do you have a way to get there? How are things going? Are you having any problems?"

None of this was for the benefit of the CETE staff for the coordinator had been out of the school in the morning and did not meet the visitors until later that afternoon. When he was interviewed, he explained he had stopped at the McDonald's "as a treat." The concern and personal involvement with his students this coordinator had demonstrated in this chance encounter was a consistent theme that emerged from our interviews with coordinators in all the schools.

We have discussed OWA/OWE at length because it is a controversial program in Cincinnati. This controversy seems to arise primarily from three sources: (1) a belief that learning occurs best in classrooms and these programs take students out of classrooms, (2) problems in the community that some OWA/OWE students get into during the time they are released from school, and (3) the low potential for training in the kind of jobs that the students hold.

With regard to the first concern, decreased learning because of time out of the classroom, the extensive body of research on Experience-Based Career Education (EBCE) found no detriment from out-of-classroom experiential learning (Bucknam and Brand 1983, Crowe and Adams 1979). The EBCE approach had many similarities to OWA/OWE. The coordinator combined the roles of teacher and counselor, and there was an attempt to relate academic studies to work experience. The work performed under EBCE, however, was unpaid and the program was open to all students, not just those at risk of dropping out.

Recommendation 4B addresses the second concern, problems occurring during released time. We recognize that this change would reduce the attractiveness of the programs to those students whose main motivation is to get out of school. We do not feel that should be the reason students go into these programs. The programs should serve those students who need the special attention they can provide, not those who just want to work or to avoid regular classes.

The last concern was discussed in chapter 3 where it was noted that these programs are intended to teach employability skills, such as getting along with one's supervisor, attendance, punctuality, and responsibility, more than specific occupational skills. The students that these programs serve often do not have characteristics that are attractive to employers. Just getting them any job may be considered an achievement.

Nevertheless, we think more attention should be paid to developing job placements that will give OWA/CWE students exposure to jobs with more training and career potential. If it were possible to develop such jobs, the students would benefit more and the image of the program would improve. The high level of community interest in education in Cincinnati, as reflected in the Youth Collaborative and Jobs for Cincinnati Graduates, may be able to assist in making better quality jobs available.

Additional Observations

After reviewing an earlier draft of this report, officials of the Cincinnati Public Schools raised a number of questions and issue on which they requested additional information. Some of those topics were addressed by revising portions of the earlier draft. In this section we respond to other questions where our information is not strong enough to yield specific recommendations but is adequate to suggest some options the public schools may want to consider.

What do current trends suggest as the job areas in the 1990s to 2010?

The Institute for the Future (IFTF), under subcontract to CETE, examined the trends in the Cincinnati labor market. IFTF anticipates continued growth in retail and service industries. The difference between service industries and service occupations should be noted. Service industries include a wide variety of firms, such as hotels, advertising agencies, data processing companies, automobile repair shops, and doctors and lawyers offices. These industries employ workers in all occupations, not just personal service workers. Two of these sectors with special promise are health and business services.

In the mail survey, employers of current students were asked "What do you see as your most likely skill needs in coming years?" Basic skills were, by a wide margin, the most frequently cited. Many specific occupational skills were mentioned (appendix tables A-4 and A-5) but each by only a few of the employers. The single technical skill most frequently mentioned was computer skills. This was confirmed in the personal interviews conducted with employers (table 3.2). Two of the new alternative high schools created at Hughes during the 1989-90 school year would seem to be well positioned to respond to the anticipated growth in health and

business services. The Cincinnati schools should consider establishing 2+2 programs for the final two years of these schools, in addition to preparation for baccalaureate programs.

Tables 2.8 to 2.12 present projections of anticipated demand to the year 1995 for many of the occupational areas in which the public schools conduct programs. These tables are based on projections made by the Ohio Bureau of Employment Services. Many of the occupations with the most anticipated demand do not require specialized training and would not be suitable for vocational programs. The occupations where the demand is expected to exceed supply are food service workers, building maintenance, retail sales person, general office clerk, graphic arts, and law enforcement. Occupations where supply is expected to exceed demand are child care, commercial art, cosmetology, and auto body repair. Placement rates in these latter programs should be carefully monitored to determine if program completers are able to obtain jobs where they use the skills they studied.

Are we using the most effective administrative organizational structure?

Vocational education is basically organized around the separate service areas--agriculture, business, marketing, home economics, health, and trade and industry. Central office supervisors are responsible for one or more of these areas, and there are additional supervisors for adult and special needs programs. High schools that have several vocational programs have designated assistant vocational principals.

Our information on the effectiveness of this framework came mainly from interviews with principals and teachers. The high schools that have a limited number of vocational program do not have vocational assistant principals. Th principals and assistant principals in these school mentioned that it was difficult to keep abreast of the regulations and paperwork specific to vocational education.

At the time the site visits were conducted, the central office supervisor for trade and industry courses had recently been appointed, and that position had been vacant for several months. Several of the trade and industry teachers who were interviewed mentioned that it had been difficult during the period that position was not filled to obtain assistance from the central office. Teachers in each of the service areas volunteered many positive comments about the support and assistance they receive from their area supervisors.

From the information available to us, the present organizational structure appears to be working. The structure parallels the state structure for the administration of vocational education, and this facilitates state-local communication. The supervisors are knowledgeable in their content areas and this enables them to both monitor and assist the classroom teachers.

Secondary vocational education is in a time of questioning and transition. We believe a broader concept with closer ties to academic education is needed to prepare young people for employment and for continuing learning and adaptation throughout their careers. Such adaptability is impossible without a strong foundation in basic communication and computation skills. The unique instructional features of vocational education can help to build this foundation--as well as teach specialized occupational skills--if all involved accept the responsibility to prepare young people not just for their first jobs but for their careers.

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APPENDIX A

BACKGROUND TABLES

APPENDIX TABLE A-1

INTERVIEWS CONDUCTED DURING SCHOOL VISITS
BY GROUPS INTERVIEWED

	Aiken	CAPE	SCPA	Taft	Western	Withrow	Woodward	Dater	Total
Job training	5	4	5	14	6	19	7	3[a]	63
Home Economics	3	2	-	3	2	2	2	5	19
Academic and Applied Academic	2	2	2	4	4	6	2	1	23
Guidance	1	1	1	3	2	1	1	1	11
Assistant Principal	1	1	1	2	1	2	2	-	10
Principal	1	1	1	1	1	1	1	1	8
OWA/OWE	2	-	-	3	2	3	4	2	16
Others	2	-	-	3	3	3	-	-	11
Total	17	11	10	33	21	37	19	13	161

[a]At Dater these were industrial arts and typing teachers.

APPENDIX TABLE A-2

CONTENT ANALYSIS OF INTERVIEWS WITH INSTRUCTORS

	Job Training	Home Economics	Applied Academics/ Academic	OWA/OWE Visiting Teacher
	(Number Giving Response)			
Purposes of Vocational Education				
Job preparation	51	6	19	17
Employability skills	12	5	2	6
Reinforce basic skills	12	-	1	2
Dropout prevention	6	2	4	3
Average Rating (1 to 10 scale)	7.4	8.1	5.6	7.0
Strengths				
Motivator, prevent dropouts	17	4	7	5
Equipment/facilities	13	-	3	6
Instructors	8	3	4	4
Small classes/time block	6	1	5	1
Weaknesses				
Lack of support	17	-	1	4
Uninterested students	14	2	2	3
Image, promotion	13	1	3	4
Counseling (lack of)	9	1	1	1
Best Way to Prepare for Future Jobs				
Basic skills	12	2	5	7
Increase awareness	11	1	4	3
Employer input	8	-	-	3
Employability skills	8	2	5	2
Advanced technology	7	1	3	2
Integrate academic with vocational education	5	1	-	
How Classes Kept Up-to-Date				
Advisory committees	34	1	1	2
Personal activity	33	7	2	5
Employer contact	14	3	-	2
CPS sponsored	8	1	2	4

APPENDIX TABLE A-2 (Continued)

	Job Training	Home Economics	Applied Academics/ Academic	OWA/OWE Visiting Teacher
	(Number Giving Response)			
Recommendations for Improvement				
More support from school leaders	13	3	1	4
More interested students	13	1	2	3
Increase awareness	12	-	5	3
Improve image	11	1	7	-
Vocational counselors	11	3	2	3
Equipment suggestions	9	2	-	-
Professional development	8	1	1	3
Employer involvement	6	-	-	2
Community/parent involvement	6	-	-	2
Number interviewed	60	14	22	19

NOTE: Only responses received from 5 or more in at least one of the groups are reported.

APPENDIX TABLE A-3

CONTENT ANALYSIS OF INTERVIEWS WITH GUIDANCE COUNSELORS, ASSISTANT PRINCIPALS AND PRINCIPALS

	Guidance Counselors	Assistant Principals	Principals
	(Number Giving Response)		
Purposes of Vocational Education			
Job preparation	8	9	5
Dropout prevention	2	2	2
Occupational exploration	1	2	1
Preparation for postsecondary	-	4	1
Average Rating (1 to 10 scale)	7.0	6.7	N/A
Strengths			
Motivator; prevent dropouts	3	4	-
Instructors	-	2	-
Small classes/time block	2	1	2
Practical	2	-	-
Weaknesses			
Lack of support	-	2	-
Image, promotion	2	1	-
Best Way to Prepare for Future Jobs			
Basic skills	2	3	2
Employability skills	-	-	2
Advanced technology	-	1	1
Integrate academic with vocational education	-	1	1
Recommendations for Improvement			
More support from school leaders	2	-	1
Increased awareness	2	2	-
Improve image	1	2	-
Vocational counselors	1	1	1
Equipment suggestions	2	-	-
Professional development	1	1	1
Employer involvement	2	1	1
Increased articulation	2	1	1
Attendance requirements	-	1	1
Integrate academics	-	-	2
Number Interviewed	11	10	7

NOTE: Only responses received from 2 or more interviewees are reported.

APPENDIX TABLE A-4

OCCUPATIONAL SKILL AREAS INDICATED
AS MOST NEEDED IN COMING YEARS

Occupation	Responses
State certified nursing assistants	1
LPNs	3
Nurses	1
RNs	3
Dental assistants	1
Day care workers	1
Kitchen personnel	1
Good cooks	1
Bank tellers	1
Animal technicians	1
Deck hands	2
Carpenters	1
Clerks	1
Drafters with backgrounds in civil disciplines	1
Welders	1
Fabricating machine operators	1
General machinist trainees	1
Machinists	1
Manual machine operators	1

APPENDIX TABLE A-5

SKILLS BELIEVED MOST LIKELY TO BE NEEDED
IN COMING YEARS

Skill	Responses
General	
Supervisory skills	1
Telephone	2
Meeting the public	1
Technical skills/computers	1
Office	
Accounting	1
Office skills	3
Data transcription	1
Shorthand	1
Filing	1
Word processing	4
USPS/UPS regulations	1
Calculator by touch	1
Typing	2
Cosmetology	
Advanced cosmetology skills	1
Hair coloring	2
Hair cutting	1
Automotive	
Auto body and frame	3
Auto mechanics	2
Electronic repair/diagnosis	3
Foods	
Clean up	1
Slicing	1
Dietetic cooking	1
Volume cooking	1
Menu planning	1
Food cost controls	1
Food inventory order controls	1
Utilization of labor and food products	1
Business orientation in foods area	1
Operating kitchen machinery	1
General knowledge of principals of cooking	1
Veterinary Assisting	
General animal lab skills	1
Animal care	1
Limited research assistance	1
Exotic animals	1
Child Care	
Young child care	1
Day camp skills	1
Manipulative skills, ages 2-1/2 to 8	1
Electronics	2

Appendix Table A-5--(continued)

Skill	Responses
Welding/Metal Working	
Aluminum tig welding	1
Welding	1
CNC programming	1
Health Care for Elderly	3
Miscellaneous	
Building maintenance	1
Forklift	1
Technical skills in specific printing areas--computer type background	1
Chairside assisting (dental)	1
Mechanical knowledge	1

APPENDIX TABLE A-6

INDUSTRIAL CLASSIFICATION OF EMPLOYERS RETURNING USABLE QUESTIONNAIRES COMPARED TO DISTRIBUTION OF ALL NONAGRICULTURAL ESTABLISHMENTS IN HAMILTON COUNTY

Industrial Category	Number Responding	Percentage	Number of Establishments in Hamilton County, 1988	Percentage
Construction	6	5.3	2,361	11.2
Manufacturing	9	8.0	1,553	7.4
Transportation, public utilities	4	3.5	714	3.4
Wholesale and retail trade	35	31.0	6, 56	30.6
Finance, insurance, real estate	6	5.3	1,765	8.4
Services	49	43.4	7,86	37.3
Government	3	2.7	3	1.8
Not reported	1	.9	-	-
Base for percentages	113		21,104	

Source for establishments in Hamilton County, Labor Market Information Division. Labor Market Information for Hamilton County, Year 1988. RS 203.2 Columbus: Ohio Bureau of Employment Services. In press.

APPENDIX TABLE A-7

CHANGES EMPLOYERS SUGGEST SCHOOLS WOULD HAVE TO MAKE TO BE MORE RESPONSIVE TO FUTURE NEEDS

Instruction (18)

- Currency (3)
  - Update curriculum (1)
  - Incorporate new federal regulations into program preparing (1)
  - Use more current equipment (1)
- Instructors (2)
  - Employ better teachers (1)
  - Employ instructors who have barge-line experience (1)
- Standards (5)
  - Increase program standards (2)
  - Ensure that students are sincerely interested in the fields they choose to study (3)

Curriculum/Program Content (8)

- Require students to spend more laboratory time with clients (1)
- Provide more basic electronics (1)
- Include more basic mechanical and structural tasks in building maintenance (1)
- Use developmentally appropriate curriculum (1)
- Improve students' typing skills (2)
- Increase the amount of training in supervision that nurses receive (1)
- Increase the amount of clerical and data transcription training (1)

Relationships with Business and Industry (5)

- Provide better follow-up of students and/or communicate better with employers (3)
- Provide employers with more extensive knowledge of the program (1)
- Arrange the co-op program so that, when one student goes back to school, another one is available to take her/his place (1)

Appendix Table A-7--(continued)

Programs (4)

Offer civil sciences to high school vocational students (1)
Provide a 2-year (minimum) nursing assistant program (1)
Provide a certified nursing assistant program (1)
Provide training in day care of elementary-aged children (1)

Miscellaneous (2)

Portray machining as a career opportunity with good income for bright students (1)
Add students to the machine trades program (1)

APPENDIX B

SUMMARY OF JULY 25, 1989 MEETING
ON
POLICY OPTIONS SURVEY

APPENDIX B

Summary of July 25, 1989 Meeting on Policy Options Survey

The discussion was begun with a report from the Center on Education and Training for Employment on preliminary findings and the methods that were used to gather input. Comments were then taken on each of the options presented on the Policy Options Survey. The comments that were made are presented below.

Option 1

Make greater efforts to promote vocational education as a positive educational alternative among students, parents, and the general public.

The first half of the meeting focused on the image of vocational education. One general consensus was that the image among students, parents, the general public, and within the educational system itself is poor. The public is believed not to have a good understanding of vocational education and, consequently, to not have a good image of it. The public believes that vocational students will graduate with a less-than-adequate education. The instances where instructors and human services personnel term vocational education an "option for some students" is negative, for example. Vocational teachers are believed to be the last to receive anything, and academic teachers and counselors are believed to not understand vocational education and how it works (i.e., the benefits of it). A general perception is that discipline problems are routed to vocational programs, although this is hard to document. Some employers are fearful of hiring students just out of school.
Suggested ways to improve vocational education were to look at vocational education as an option for all students; have English and math teachers work with vocational students; ensure that vocational teachers are provided with enrichment activities and accorded the status and professional recognition they deserve; include a strong basic skills component in vocational programs that all teachers are aware of and implement; use internships and shadowing activities to develop positive relationships with employers; use more co-operative education; and use more advisory committee recognition activities.

One point that was strongly emphasized was that vocational education is held accountable for what students have not learned in grades K-10. A "catch-22" situation exists

because vocational education does claim to be able to prevent dropouts and succeed in cases where standard "academic" education fails. Perhaps the general public and "academic" teachers need to better understand why vocational education is able to do this.

A suggestion was made that vocational education be renamed Applied Technology, as the bill for renewal of the Perkins act is calling it.

Option 2

Increase career education activities, especially in the ninth and tenth grades, to make students and their parents more aware of lthe vocational education opportunities available to them.

Industrial arts and home economics have been cut out as a way to do this. Perhpas vocational education should start earlier than it does, in the same way as New York state is doing it.

Option 3

Establish methods to verify that students have acquired the vocational skills taught in their vocational programs.

The participants believed that it is important that this be done.

Option 4

Include a record of lthe vocational skills that have been successfully demonstrated by a student as part of the certificate of completion for the program.

The individuals participating in the meeting indicated general agreement with this option.

Option 5

Develop articulation agreements with postsecondary institutions so that students can be credited for skills they have acquired in high school.

Because Cincinnati Public Schools have an articulation agreement with Cincinnati Technical College and are developing more, this option should read "expand." Participants were in favor of this expansion of articulation.

Option 6

Develop specialized vocational programs at selected high schools that would attract students from all over the city.

This strategy has been tried with some success. However, programs must be very special, such as the inland waterways and zoo programs, to attract students away from their schools.

Option 7

Consolidate programs with low enrollments into one high school.

The consensus was that this option, as worded, was confusing and misunderstood. Although this option might be cost-effective, participants were unsure if students would be willing to travel from their home schools for this, unless the programs were very special ones.

Option 8

Provide a full range of vocational programs at every high school.

This option was rated as undesirable by program participants because of costs.

Option 9

Develop cluster programs in fields such as business and construction that would introduce students to the range of occupational skills needed in those areas.

The term "cluster" may mean different things to different people. No consensus was reached on the advisability of such an approach.

Option 10

Provide more flexible scheduling to enable vocational students to take more nonvocational courses.

The amount of time students spend in the laboratories and shops has already been decreased. Applied academics is part of the vocational program. The schools need to add teachers.

Option 11

Continue efforts to keep the equipment in vocational laboratories (shops) current with that being used in the workplace

This option is not feasible for high technology programs and yet is needed because competencies that students attain are related to the equipment on which they are trained.

Option 12

Make greater use of co-operative education, particularly for occupations where the equipment is very costly and/or changing rapidly.

Participants were doubtful that employers with high technology equipment would be willing to allow high school students to handle expensive equipment. This, however, is important, because measurement of skill level is valid to the equipment used.

Early placement has declined because students have other classes they must take, creating a scheduling problem. Liability insurance is beginning to be a problem.

Option 13

Develop summer employment opportunities for vocational instructors that will help them keep up-to-date with the skills needed by employers.

This is done in Butler County. Barriers to the exchange of private industry workers and teachers include the inability of persons from industry to control classes.

Participants agreed that such an exchange program is good for teachers. Many teachers already do this on their own.

Option 14

Provide professional development for vocational insturctors to add to their skills in the following areas:

a. reinforcing basic communication and computational skills in vocational classrooms and laboratories,

b. working effectively with instructors of related academic subjects,

c. working with at-risk students and others with special needs.

Special tuition assistance should be provided to encourage vocational teachers to become certified in an applied related area. The Professional Growth Development program is not credit granting.

Option 15

Include instructional material designed to strengthen communication, computation, and problem solving skills in all curriculum development and revision for vocational programs.

The group's consensus was that basic skills reinforcement should occur in all classes, not just vocational classes. The participants strongly believed that this option should be a recommendation. Vocational teachers cannot ignore math and communications skills aspects of the subject matter. "Bricklayers must know more than simply how to lay bricks." They must be able to read plans and implement them.

Option 16

Add related academic courses (Applied Academics) to all vocational programs.

The group expressed mixed feelings about applied academics: all students should have opportunities to take as difficult and varied courses as they can benefit from. However, to make academic teachers apply their subject to the vocational subject will require a formalized, manadatory plan; it will not happen on a voluntary basis.

Option 17

Encourage instructors and students to participate actively in the student organization for their vocational areas.

Concern had been expressed on the Policy Options Survey returns that some students could not afford the dues required to participate in a national vocational student organization.However, as the meeting participants pointed out, it is possible to have a youth organization without affiliating with the state and national chapters. Or, if affiliation is desired and students cannot afford the dues, the students, as an organization, can raise money through special projects. The administration supports the use of vocational youth organizations.

Option 18

Make vocational education a full partner in dropout prevention/recovery programs.

This option is being actively pursued.

Option 19

Create flexible alternatives for dropouts who wish to return to obtain vocational training and/or a General Educational Development (GED) diploma.

The meeting participants stated that one way to do so was to make better use of facilities by using them more hours of the day.

Option 20

Make the community more aware of the adult/continuing education opportunities the public schools have available, particularly those at the Queen City Vocational Center.

The Queen City Vocational Center is felt to be exemplary; however, more focus on adult education is needed. Adult education can act as a bridge to an occupation. Adult education can provide services to help parents help their children. However, state law does not require public schools to support facilities such as the Queen City Vocational Center nor does the state provide monetary support.

The participants also believed that the Queen City Vocational Center needs more publicity for its programs.

APPENDIX TABLE B-1

RANKING OF POSSIBLE GOALS FOR SECONDARY VOCATIONAL EDUCATION BY RESPONDENT GROUP

Goal	Employers		Community Representives		Vocational Educators		General Educators		Total	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Teach the occupational skills needed in entry-level jobs	2.23	1.23	1.89	1.37	1.58	1.07	2.47	1.84	2.02	1.36
Reinforce basic communication and computational skills	3.29	2.10	2.72	1.67	3.32	1.63	3.53	2.03	3.21	1.87
Teach job-seeking and job-holding skills	3.35	1.56	3.44	1.42	3.26	1.28	3.53	1.50	3.33	1.43
Prepare students for additional occupational training at the postsecondary level	4.52	1.67	4.83	2.07	4.47	1.61	3.94	1.95	4.47	1.76
Provide opportunities for occupational exploration	5.06	1.75	4.28	1.53	5.11	1.70	3.71	1.76	4.64	1.75
Provide instructional alternatives for students who might otherwise drop out of high school	4.29	2.16	4.94	1.76	4.53	2.01	5.06	1.64	4.71	1.93
Prepare students to function more effectively as consumers, home managers, and parents	5.26	1.63	5.78	1.17	5.74	1.52	5.76	1.68	5.58	1.52
Respondents	31		18		19		17		90	

NOTE: Total includes 5 respondents who completed ranking, but removed group identifier from questionnaire.

APPENDIX TABLE B-2

MEAN RATINGS OF DESIRABILITY AND FEASIBILITY OF POLICY OPTIONS BY RESPONDENT GROUP

Policy Options		Employers		Community Representives		Vocational Educators		General Educators		Total	
		Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
1. Make greater efforts to promote vocational education as a positive educational alternative among students, parents, and the general public.											
	Desirable	4.38	.87	4.44	.78	4.95	.22	4.12	1.27	4.48	.86
	Feasible	4.61	.67	4.50	.79	4.82	.39	4.60	.83	4.66	.66
2. Increase career education activities, especially in the ninth and tenth grades, to make students and their parents more aware of the vocational education opportunities available to them.											
	Desirable	4.41	.84	4.28	.96	4.52	.51	4.35	.86	4.43	.78
	Feasible	4.57	.68	4.44	.98	4.83	.38	4.93	.26	4.63	.72
3. Establish methods to verify that students have acquired the vocational skills taught in their vocational programs.											
	Desirable	4.56	.50	4.72	.46	4.67	.48	4.71	.47	4.63	.60
	Feasible	4.56	.50	4.72	.46	4.56	.78	4.40	.83	4.56	.67
4. Include a record of the vocational skills that have been successfully demonstrated by a student as part of the certificate of completion for the program.											
	Desirable	4.47	.62	4.50	.99	4.80	.41	4.24	1.03	4.52	.76
	Feasible	4.59	.71	4.28	1.13	4.63	.76	4.13	1.19	4.48	.90

APPENDIX TABLE B-2 (Continued)

Policy Options		Employers		Community Representives		Vocational Educators		General Educators		Total	
		Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
5. Develop articulation agreements with postsecondary institutions so that students can get credits for skills they have acquired in high school.											
	Desirable	3.71	1.04	4.17	.79	4.40	.75	4.19	1.05	4.10	.95
	Feasible	3.70	1.12	3.61	.98	4.10	.88	3.94	.93	3.83	1.01
6. Develop specialized vocational programs at selected high schools that would attract students from all over the city.											
	Desirable	4.09	.64	[illegible]8	.83	4.26	.81	4.33	1.05	4.16	.89
	Feasible	3.91	1.09	4.39	.78	3.89	1.02	4.71	.47	4.10	1.02
7. Consolidate programs with low enrollments into one high school.											
	Desirable	3.62	1.21	3.78	1.40	3.60	1.19	3.73	1.22	3.65	1.23
	Feasible	3.45	1.29	4.06	.96	4.05	.87	4.06	1.06	3.79	1.14
8. Provide a full range of vocational programs at every high school.											
	Desirable	2.75	1.34	2.83	1.50	3.45	1.39	2.76	1.39	3.03	1.42
	Feasible	2.25	1.19	2.29	1.36	2.78	1.47	2.53	1.51	2.53	1.39
9. Develop cluster programs in fields such as business and construction that would introduce students to the range of occupational skills needed in those areas.											
	Desirable	4.31	.82	4.22	.65	3.61	1.42	4.06	1.29	4.09	1.03
	Feasible	4.06	.80	4.17	.86	3.65	1.37	3.88	1.50	3.99	1.08

APPENDIX TABLE B-2 (Continued)

Policy Options		Employers		Community Representives		Vocational Educators		General Educators		Total	
		Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
10. Provide more flexible scheduling to enable vocational students to take more nonvocational courses.											
	Desirable	4.25	.57	4.22	.88	3.81	1.29	4.64	.61	4.21	.88
	Feasible	3.88	.91	3.72	1.13	3.44	1.29	4.13	1.06	3.78	1.09
11. Continue efforts to keep the equipment in vocational laboratories (shops) current with that being used in the workplace.											
	Desirable	4.72	.46	4.72	.46	4.76	.70	4.82	.39	4.74	.51
	Feasible	3.62	1.12	3.33	1.14	3.72	1.32	3.87	1.24	3.64	1.20
12. Make greater use of cooperative education particularly for occupations where the equipment is very costly and/or changing rapidly.											
	Desirable	4.44	.67	4.67	.77	4.38	.92	4.62	.50	4.48	.76
	Feasible	3.81	1.09	4.28	.75	3.83	1.10	4.25	.77	3.96	1.03
13. Develop summer employment opportunities for vocational instructors that will help them keep up-to-date with the skills needed by employers.											
	Desirable	4.41	.61	4.56	.62	4.42	.96	4.56	.81	4.51	.72
	Feasible	3.91	.96	4.11	.90	3.61	1.38	4.12	1.15	3.94	1.08

APPENDIX TABLE B-2 (Continued)

Policy Options		Employers		Community Representives		Vocational Educators		General Educators		Total	
		Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
14 Provide professional development for vocational instructors to add to their skills in the following areas.											
a. reinforcing basic communication and computational skills in vocational classrooms and laboratories,											
	Desirable	4.66	.48	4.72	.46	4.57	.51	4.41	1.18	4.62	.66
	Feasible	4.34	.60	4.50	.79	4.38	.50	4.13	1.19	4.37	.74
b. working effectively with instructors of related academic subjects,											
	Desirable	4.41	.56	4.61	.61	4.38	.74	4.76	.44	4.51	.60
	Feasible	4.25	.72	4.39	.78	4.41	.51	4.40	.83	4.36	.70
c. working with at-risk students and others with special needs.											
	Desirable	4.38	.61	4.67	.49	4.14	1.15	4.71	.47	4.45	.74
	Feasible	3.78	.94	4.11	1.08	4.06	1.21	4.40	.83	4.01	1.05
15. Include instructional material designed to strengthen communication, computation, and problem solving skills in all curriculum development and revision for vocational programs.											
	Desirable	4.75	.44	4.78	.43	4.79	.42	4.47	1.18	4.70	.66
	Feasible	4.44	.72	4.61	.78	4.56	.51	4.67	.49	4.51	.69

APPENDIX TABLE B-2 (Continued)

Policy Options		Employers		Community Representives		Vocational Educators		General Educators		Total	
		Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
16. Add related academic courses (Applied Academics) to all vocational programs.											
	Desirable	4.25	.57	4.53	.80	3.35	1.35	3.75	1.69	4.01	1.19
	Feasible	3.63	1.19	4.22	1.11	3.47	1.46	3.88	1.50	3.75	1.31
17. Encourage instructors and students to participate actively in the student organizations for their vocational areas.											
	Desirable	4.56	.50	4.44	.62	4.20	.52	4.24	1.15	4.38	.78
	Feasible	4.41	.67	4.00	1.08	4.05	1.08	4.60	.51	4.28	.92
18. Make vocational education a full partner in dropout prevention/recovery programs.											
	Desirable	4.47	.80	4.22	.94	4.11	.88	4.59	.51	4.30	.90
	Feasible	3.97	.97	3.94	1.00	4.00	.84	4.60	.51	4.03	.96
19. Create flexible alternatives for dropouts who wish to return to obtain vocational train[illegible] and/or a General Educational Development (GED) diploma.											
	Desirable	4.38	.71	4.44	.62	4.57	.51	4.56	.81	4.43	.71
	Feasible	3.84	1.00	4.06	.94	4.56	.78	4.62	.81	4.15	.96

APPENDIX TABLE B-2 (Continued)

Policy Options	Employers		Community Representives		Vocational Educators		General Educators		Total	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
20. Make the community more aware of the adult/continuing education opportunities the public schools have available, particularly those at the Queen City Vocational Center.										
Desirable	4.59	.61	4.72	.46	4.62	.59	4.76	.44	4.61	.68
Feasible	4.47	.80	4.61	.78	4.83	.51	4.60	.83	4.55	.84
Range of Respondents	30-32		17-18		17-21		15-17		87-94	

NOTE: Means calculated by assigning a weight of 5 to Very Desirable, Definitely Feasible; 4 to Desirable, Possibly Feasible; 3 to No Judgment, 2 to Undesirable, Possibly Infeasible; and 1 to Very Undesirable, Definitely Infeasible.
Ranges of respondents are reported because some respondents skipped some of the options, and a few rated only desirability, not feasibility.

Total includes respondents who removed group identifier.

APPENDIX C

DATA COLLECTION INSTRUMENTS

Center on Education and Training for Employment
The Ohio State University

INTERVIEW QUESTIONS USED IN REVIEW OF CINCINNATI VOCATIONAL EDUCATION PROGRAMS

The following questions were field tested during site visits to Aiken and Western Hills High Schools on March 7 and 8, 1989. Many of the questions were asked to different groups of respondents to obtain several perspectives on the same issues. The letters in parentheses after each question identify the groups to which the question were asked. The groups were as follows:

- A Administrators, central office staff, vocational assistant principals
- E Employers
- F Former students
- G Guidance counselors
- Pa Parents of current student
- Pr Principals
- S Current students
- T Teachers

Questions Asked of Several Groups

The numbers assigned in the following list may not be the number of the question in the separate questionnaires. Some of the questions were modified slightly for different groups.

1. First, could you give me an overall picture of the characteristics of your students with regard to family background, ethnic composition, educational aspirations, and attitudes toward vocational education. (G, Pr, T)

2. What do you consider the purposes of vocational education at the secondary level? At other levels? Do you see a purpose at the elementary and middle school levels? (A, E, G, Pr, T)

3. On a scale of 1 to 10 how well do you think the vocational education programs in the Cincinnati Public Schools are accomplishing the purposes you described? What do you see as the strengths and weaknesses of the programs? What, in your judgment, are the major problems, issues, or obstacles regarding vocational education in Cincinnati? (A, E, G, Pr, T)

4. What do you think that members of the Board of Education and top administrators of the Cincinnati schools expect of vocational education in terms of performance or outcomes. What do employers expect? (A, G, Pr, T)

5. We all know the skills needed in the labor force are changing rapidly. In your judgment, what are the best ways to prepare young people and adults for the skills they will need in the future? (A, E, G, Pr, T)

6. How do instructors keep their programs up-to-date with the needs of employers? Does the school system provide any opportunities for instructors to gain updating experience in their fields? How well does the equipment being used in vocational programs match that being used by employers? (A, T)

7. Are there any formal articulation agreements with postsecondary institutions to give students credit for skills they studied in high school? (A, T)

8. What do you think are some of the main reasons why students drop out of high school? (A, G, T)

9. What would be your main suggestions or recommendations to improve vocational education in the public schools? (A, E, F, G, Pa, Pr, S, T)

Asked Only to Administrators

1. In 1987 a steering committee of the CPS issued a final report on goals and long range plan that made a number of specific suggestions for providing an effective vocational program. What is the current status of that report? How do you personally feel about its recommendations?

2. In the past 3 years have any vocational programs been added or dropped? What information was used in making these decisions? What was the source of this information? What types of information had the most influence on these decisions?

3. To what extent are the vocational programs competency based?

Asked Only to Employers

1. Could you give me a general picture of the kind of jobs for which you hire young people who have taken vocational education at the high school level? What kinds of skills should they have? Approximatel how many do you hire each year? Is it becoming more difficult to hire young people who have the necessary skills?

2. What do you see as your most likely skill needs in coming years? Will the public schools play a role in meeting these needs? What changes would the public schools have to make to be more responsive to your needs?

Asked Only to Current and Former Students

Questions were in past tense for former students.

1. I would like to ask you a little about your high school program. What vocational skill are you studying and why did you choose to study it? How do you like the program?

2. Are any of your friends also taking vocational courses? How well do they like their programs? How do other students in this school feel about voc ed? Do you ever feel other students who are not in voc ed classes look down on those who are?

3. How are you doing in your other, nonvoc ed classes? How do you like them compared to voc ed? Do your teachers ever try to show you how the things you study in your other classes relate to what you do in voc ed? For example, do your voc ed teachers ever try to improve your writing or math skills?

4. What do you plan to do after high school? Do you think you will work in the occupational area you are studying? (S only)

5. How long have you been out of high school? What have you done during that period? Have you used the occupational skills you studied in high school? IF YES, in what kinds of job(s)? How long did you work at that job(s)? How much of the time did you use the skills you studied? How well did your high school program prepare you for this job(s)? (F only)

Asked Only to Guidance Counselors

1. What is the process students follow to sign up for vocational programs? Are opportunities provided for students to become familiar with the programs that are available?

2. What kind of students are most likely to be in voc ed programs? Are more or fewer students choosing voc ed? Is it possible to follow a vocational program and also meet college preparatory requirements? Do any students try to do so?

Asked Only to Parents

1. Overall, are you generally satisfied or dissatisfied with the education your son/daughter is receiving?

2. What does your son/daughter plan to do after high school? How well is he/she being prepared to carry out these plans?

3. Your son/daughter told me he/she is studying (vocational program). Why do you think he/she chose this program? Did he/she talk with you about this program before scheduling it? What advice did you give him/her?

4. How do other parents you know feel about vocational education programs?

CENTER ON EDUCATION AND TRAINING FOR EMPLOYMENT
THE OHIO STATE UNIVERSITY
1980 KENNY ROAD • COLUMBUS OHIO 43210

Review of Cincinnati Vocational Education Programs

Name_____ Title_____

Company/Organization_____

Address_____

1. Have you hired a student who completed a vocational program conducted by the Cincinnati Public Schools within the past two years?

[ ]No-->Please return the questionnaire. Thank you for your cooperation.

[ ]Yes-->Please complete the remainder of the questionnaire.

2. How many students who completed vocational programs have you hired within the past two years?

1 2 3 4 5 6 7 8 9 10 or more
(circle answer)

Please answer the following questions with regard to the student you most recently hired from a vocational program.

3. What vocational program did this student study when he/she was in high school?

_____

4. What was the position or job title for which this student was hired?

_____

5. What percentage of the time does this student use the occupational skills he/she studied in high school on this job?

[ ] 80% of the time or more
[ ] 60% to 79%
[ ] 40% to 59%
[ ] 20% to 39%
[ ] 19% or less

6. On a scale of 1 to 5, how would you rate the high school preparation of this student on the following skills? A rating of 5 means the student had very good preparation, and 1 means he/she had very bad preparation. Circle the appropriate number.

	Very bad				Very good
a. Communication, written and oral	1	2	3	4	5
b. Computation	1	2	3	4	5
c. Problem solving	1	2	3	4	5
d. Attendance	1	2	3	4	5
e. Punctuality	1	2	3	4	5
f. Occupational knowledge specific to the job	1	2	3	4	5
g. Manipulative skills specific to the job	1	2	3	4	5

(Please turn to the other side.)

7. On this question, please rate not the student but the following components of the vocational program in which he/she was trained. The scale is the same with 5 meaning a feature of the program is very good, and 1 means a feature is very bad.

If you are not familiar enough with the program to rate it, check here and skip this question. [ ]

	Very bad				Very good
a. Curriculum, content to be taught	1	2	3	4	5
b. Physical facilities, space for instruction	1	2	3	4	5
c. Equipment used in instruction.	1	2	3	4	5
d. Materials for instruction.	1	2	3	4	5
e. Instructor's knowledge of occupation . . .	1	2	3	4	5
f. Instructor's ability to teach.	1	2	3	4	5

8. What do you see as your most likely skill needs in coming years?

_____

_____

9. What changes would the public schools have to make to be more responsive to your needs?

_____

_____

_____

10. What are the main products or services that your company provides?

_____

11. How many employees does your company have at the location to which this questionnaire was sent?

_____employees

12. Are you an independent company or a branch or location of a parent firm?

[ ] Independent

[ ] Branch-->a. Approximately how many total employees does the parent firm have?

_____employees

Thank you for your cooperation.
Please return questionnaire in the enclosed envelope.

CENTER ON EDUCATION AND TRAINING FOR EMPLOYMENT
1900 Kenny Road
Columbus, OH 43210-1090

Review of Cincinnati Vocational Education Programs

FORMER STUDENT SURVEY

Name_____ High School Attended_____

Current Address_____

1. What vocational program did you study in high school?

_____

2. What month and year did you leave high school?_____

3. Did anyone from your high school help you to get a job when you left school?
   [ ] Yes-->Please answer questions 4 through 9.
   [ ] No-->Please SKIP to question 10.

4. Who from your high school helped you to get a job?
   [ ] Vocational teacher
   [ ] Jobs for Cincinnati Graduates staff
   [ ] Other (Who?)_____

5. What was the name or title of this job?_____

6. In this job what percentage of the time do (did) you use the skills you studied in the vocational program you took in high school?
   [ ] 80% of the time or more
   [ ] 60% to 79%
   [ ] 40% to 59%
   [ ] 20% to 39%
   [ ] 19% or less

7. On a scale of 1 to 5, please rate how well your high school prepared you for this job with the skills listed below. A rating of 5 means you had very good preparation, and 1 means you had very bad preparation. Circle the appropriate number.

	Very bad				Very good
a. Communication, written and oral	1	2	3	4	5
b. Computation	1	2	3	4	5
c. Problem solving	1	2	3	4	5
d. Attendance.	1	2	3	4	5
e. Punctuality	1	2	3	4	5
f. Occupational knowledge specific to the job.	1	2	3	4	5
g. Manipulative skills specific to the job . .	1	2	3	4	5

(Please turn to the other side.)

8. What was your starting wage or salary in this job before any deductions?

$_____ per hour / week / month
(circle one)

9. Do you still have this job?

[ ] Yes
[ ] No-->How long did you hold this job? _____ months

10. Since leaving high school, have you been a student in any education or training programs?

[ ] Yes-->Please answer questions 11 through 13.
[ ] No-->Please SKIP to question 14.

11. What kind of school do (did) you attend?

[ ] A public two-year college such as Cincinnati Technical College or Raymond Walters
[ ] A private school, institute, or college that awards a certificate or associate degree
[ ] A four-year college or university, such as the University of Cincinnati or Xavier University
[ ] Queen City Vocational Center
[ ] Other (What?)_____

12. Are (were) you a full-time or part-time student in the program you took after high school?

[ ] Full-time
[ ] Part-time

13. How related is (was) the material in the program you took after high school to the vocational skills you studied in high school?

[ ] Very related
[ ] Somewhat related
[ ] A little related
[ ] Not related at all

14. What do you do at the present time?

[ ] I work in a job where I use the vocational skills I studied in high school
[ ] I work in a job where I do not use the vocational skills I studied in high school
[ ] I am working in a summer job until I return to school or college in the fall
[ ] I am looking for a summer job
[ ] I am looking for a regular, full-time job
[ ] I am attending an education or training program
[ ] I stay at home to care for children
[ ] Other (What?)_____

(IF WORKING) a. What is your present wage or salary before any deductions?

$_____ per hour / week / month
(circle one)

THANK YOU FOR YOUR COOPERATION.

CENTER ON EDUCATION
AND TRAINING FOR EMPLOYMENT
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Review of Cincinnati Vocational Education Programs

POLICY OPTIONS SURVEY

Name: _____ Date completed: _____

Title: _____ Organization: _____

DIRECTIONS: This questionnaire consists of two parts; the first is a list of possible goals for secondary vocational programs. You may consider all of them desirable, but we would like you to rank them in priority order from most to least important. The goal you rank number 1 should be the one you consider to be most important. The second most important goal should be ranked 2, the third 3, and so on until the one you consider least important is ranked 7.

	Rank
a. Teach the occupational skills needed in entry-level jobs	____
b. Prepare students for additional occupational training at the postsecondary level	____
c. Teach job-seeking and job-holding skills	____
d. Prepare students to function more effectively as consumers, home managers, and parents	____
e. Reinforce basic communication and computational skills.	____
f. Provide opportunities for occupational exploration.	____
g. Provide instructional alternatives for students who might otherwise drop out of high school	____

The second part of this questionnaire consists of various policy options that could be implemented to improve vocational education in the public schools. These alternatives were suggested by individuals we interviewed in the schools and in the community. They reflect many different approaches and viewpoints on how to improve vocational education.

We would like to find out how you feel about these different approaches. Please rate each option twice: first, as to its desirability, and second as to its feasibility. Space is provided for any comments or explanations of your ratings that you would like to make about any of the options.

1. Make greater efforts to promote vocational education as a positive educational alternative among students, parents, and the general public.

Very Desirable	Desirable	Undesirable	Very Undesirable	No Judgment
☐	☐	☐	☐	☐

Definitely Feasible	Possibly Feasible	Possibly Infeasible	Definitely Infeasible	No Judgment
☐	☐	☐	☐	☐

2. Increase career education activities, especially in the ninth and tenth grades, to make students and their parents more aware of the vocational education opportunities available to them.

Very Desirable	Desirable	Undesirable	Very Undesirable	No Judgment
☐	☐	☐	☐	☐

Definitely Feasible	Possibly Feasible	Possibly Infeasible	Definitely Infeasible	No Judgment
☐	☐	☐	☐	☐

3. Establish methods to verify that students have acquired the vocational skills taught in their vocational programs.

Very Desirable	Desirable	Undesirable	Very Undesirable	No Judgment
☐	☐	☐	☐	☐

Definitely Feasible	Possibly Feasible	Possibly Infeasible	Definitely Infeasible	No Judgment
☐	☐	☐	☐	☐

4. Include a record of the vocational skills that have been successfully demonstrated by a student as part of the certificate of completion for the program.

Very Desirable	Desirable	Undesirable	Very Undesirable	No Judgment
☐	☐	☐	☐	☐

Definitely Feasible	Possibly Feasible	Possibly Infeasible	Definitely Infeasible	No Judgment
☐	☐	☐	☐	☐

5. Develop articulation agreements with postsecondary institutions so that students can get credits for skills they have acquired in high school.

Very Desirable	Desirable	Undesirable	Very Undesirable	No Judgment
☐	☐	☐	☐	☐

Definitely Feasible	Possibly Feasible	Possibly Infeasible	Definitely Infeasible	No Judgment
☐	☐	☐	☐	☐

6. Develop specialized vocational programs at selected high schools that would att t students from all over the city.

Very Desirable	Desirable	Undesirable	Very Undesirable	No Judgment
☐	☐	☐	☐	☐

Definitely Feasible	Possibly Feasible	Possibly Infeasible	Definitely Infeasible	No Judgment
☐	☐	☐	☐	☐

7 Consolidate programs with low enrollments into one high school.

Very Desirable	Desirable	Undesirable	Very Undesirable	No Judgment
☐	☐	☐	☐	☐

Definitely Feasible	Possibly Feasible	Possibly Infeasible	Definitely Infeasible	No Judgment
☐	☐	☐	☐	☐

8. Provide a full range of vocational programs at every high school.

Very Desirable	Desirable	Undesirable	Very Undesirable	No Judgment
☐	☐	☐	☐	☐

Definitely Feasible	Possibly Feasible	Possibly Infeasible	Definitely Infeasible	No Judgment
☐	☐	☐	☐	☐

9. Develop cluster programs in fields such as business and construction that would introduce students to the range of occupational skills needed in those areas.

Very Desirable	Desirable	Undesirable	Very Undesirable	No Judgment
☐	☐	☐	☐	☐

Definitely Feasible	Possibly Feasible	Possibly Infeasible	Definitely Infeasible	No Judgment
☐	☐	☐	☐	☐

10. Provide more flexible scheduling to enable vocational students to take more nonvocational courses.

Very Desirable	Desirable	Undesirable	Very Undesirable	No Judgment
☐	☐	☐	☐	☐

Definitely Feasible	Possibly Feasible	Possibly Infeasible	Definitely Infeasible	No Judgment
☐	☐	☐	☐	☐

11. Continue efforts to keep the equipment in vocational laboratories (shops) current with that being used in the workplace.

Very Desirable	Desirable	Undesirable	Very Undesirable	No Judgment
☐	☐	☐	☐	☐

Definitely Feasible	Possibly Feasible	Possibly Infeasible	Definitely Infeasible	No Judgment
☐	☐	☐	☐	☐

12. Make greater use of cooperative education particularly for occupations where the equipment is very costly and/or changing rapidly.

Very Desirable	Desirable	Undesirable	Very Undesirable	No Judgment
☐	☐	☐	☐	☐

Definitely Feasible	Possibly Feasible	Possibly Infeasible	Definitely Infeasible	No Judgment
☐	☐	☐	☐	☐

13. Develop summer employment opportunities for vocational instructors that will help them keep up-to-date with the skills needed by employers.

Very Desirable	Desirable	Undesirable	Very Undesirable	No Judgment
☐	☐	☐	☐	☐

Definitely Feasible	Possibly Feasible	Possibly Infeasible	Definitely Infeasible	No Judgment
☐	☐	☐	☐	☐

14. Provide professional development for vocational instructors to add to their skills in the following areas:

a. reinforcing basic communication and computational skills in vocational classrooms and laboratories.

Very Desirable	Desirable	Undesirable	Very Undesirable	No Judgment
☐	☐	☐	☐	☐

Definitely Feasible	Possibly Feasible	Possibly Infeasible	Definitely Infeasible	No Judgment
☐	☐	☐	☐	☐

b. working effectively with instructors of related academic subjects.

Very Desirable	Desirable	Undesirable	Very Undesirable	No Judgment
☐	☐	☐	☐	☐

Definitely Feasible	Possibly Feasible	Possibly Infeasible	Definitely Infeasible	No Judgment
☐	☐	☐	☐	☐

c. working with at-risk students and others with special needs.

Very Desirable	Desirable	Undesirable	Very Undesirable	No Judgment
☐	☐	☐	☐	☐

Definitely Feasible	Possibly Feasible	Possibly Infeasible	Definitely Infeasible	No Judgment
☐	☐	☐	☐	☐

15. Include instructional material designed to strengthen communication, computation, and problem solving skills in all curriculum development and revision for vocational programs

Very Desirable	Desirable	Undesirable	Very Undesirable	No Judgment
☐	☐	☐	☐	☐

Definitely Feasible	Possibly Feasible	Possibly Infeasible	Definitely Infeasible	No Judgment
☐	☐	☐	☐	☐

16. Add related academic courses (Applied Academics) to all vocational programs.

Very Desirable	Desirable	Undesirable	Very Undesirable	No Judgment
☐	☐	☐	☐	☐

Definitely Feasible	Possibly Feasible	Possibly Infeasible	Definitely Infeasible	No Judgment
☐	☐	☐	☐	☐

17. Encourage instructors and students to participate actively in the student organizations for their vocational areas.

Very Desirable	Desirable	Undesirable	Very Undesirable	No Judgment
☐	☐	☐	☐	☐

Definitely Feasible	Possibly Feasible	Possibly Infeasible	Definitely Infeasible	No Judgment
☐	☐	☐	☐	☐

18. Make vocational education a full partner in dropout prevention/ recovery programs.

Very Desirable	Desirable	Undesirable	Very Undesirable	No Judgment
☐	☐	☐	☐	☐

Definitely Feasible	Possibly Feasible	Possibly Infeasible	Definitely Infeasible	No Judgment
☐	☐	☐	☐	☐

19. Create flexible alternatives for dropouts who wish to return to obtain vocational training and/or a General Educational Development (GED) diploma.

Very Desirable	Desirable	Undesirable	Very Undesirable	No Judgment
☐	☐	☐	☐	☐

Definitely Feasible	Possibly Feasible	Possibly Infeasible	Definitely Infeasible	No Judgment
☐	☐	☐	☐	☐

20. Make the community more aware of the adult/continuing education opportunities the public schools have available, particularly those at the Queen City Vocational Center.

Very Desirable	Desirable	Undesirable	Very Undesirable	No Judgment
☐	☐	☐	☐	☐

Definitely Feasible	Possibly Feasible	Possibly Infeasible	Definitely Infeasible	No Judgment
☐	☐	☐	☐	☐

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Please add any additional options you feel should be considered.

21.

Very Desirable	Desirable	Undesirable	Very Undesirable	No Judgment
☐	☐	☐	☐	☐

Definitely Feasible	Possibly Feasible	Possibly Infeasible	Definitely Infeasible	No Judgment
☐	☐	☐	☐	☐

22.

Very Desirable	Desirable	Undesirable	Very Undesirable	No Judgment
☐	☐	☐	☐	☐

Definitely Feasible	Possibly Feasible	Possibly Infeasible	Definitely Infeasible	No Judgment
☐	☐	☐	☐	☐

23.

Very Desirable	Desirable	Undesirable	Very Undesirable	No Judgment
☐	☐	☐	☐	☐

Definitely Feasible	Possibly Feasible	Possibly Infeasible	Definitely Infeasible	No Judgment
☐	☐	☐	☐	☐

24.

Very Desirable	Desirable	Undesirable	Very Undesirable	No Judgment
☐	☐	☐	☐	☐

Definitely Feasible	Possibly Feasible	Possibly Infeasible	Definitely Infeasible	No Judgment
☐	☐	☐	☐	☐

Thank you for your cooperation.
Please return the questionnaire in the envelope provided.