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Allies in Education

A Profile of:

Philadelphia High School Academies
Philadelphia, Pennsylvania

September 1987

Public/Private Ventures is a national, not-for-profit corporation that designs, manages and evaluates social policy initiatives designed to help those whose lack of preparation for the workforce hampers their chances for productive lives. Its work is supported by funds from both the public and private sectors.

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by Phyllis Snyder and Bernard J. McMullan

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THE SCHOOL/BUSINESS COLLABORATIONS STUDY

This profile of the Philadelphia High School Academies is part of an assessment by Public/Private Ventures of partnerships between business and education. The three-year study was funded by The CIGNA Foundation, The Edna McConnell Clark Foundation, The Exxon Education Foundation, The IBM Corporation, The Pew Memorial Trust, and The Rockefeller Foundation. The assessment addressed three basic issues:

- What is the nature of school/business collaborations? What achievements are expected?
- What types of youth are served by these collaborative efforts?
- What role does business play in the collaborations? How did business get involved? Why does it continue to be involved?

Public/Private Ventures has published Allies in Education: Schools and Businesses Working Together for At-Risk Youth, a two-year volume report these central questions. Profiles of nine different partnerships assessed as part of this project are included in the report's second volume.

PUBLIC/PRIVATE VENTURES

Public/Private Ventures is a not-for-profit corporation that designs, manages and evaluates social policy initiatives designed to help disadvantaged people, especially youth, become productively employed and self-sufficient.

To achieve that goal, P/PV works with schools, government, employment and training organizations, community-based agencies, foundations and business in a variety of ways:

- We design new strategies to remedy such pressing problems as the high dropout rate, illiteracy and youth unemployment.
- We evaluate the effectiveness of programs designed to confront these problems.
- We conduct multisite national demonstrations to rigorously test promising new solutions.
- We help the public and private sectors replicate initiatives that have proven effective.

From all our work, we distill the best practices and most significant research findings, and actively promote their use in the development of sound public policy.

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I. INTRODUCTION

The Philadelphia High School Academies are a set of four-year vocational preparation programs that are a partnership effort by business, labor and community organizations and the Philadelphia Public Schools. Academies seek to serve potentially "at-risk" youth by linking academic skills, vocational training and the prospect of employment for graduates. They offer students comprehensive required curricula, job maturity development, paid work experience and close teacher supervision. Academies report high average daily attendance, exceptionally low student dropout rates and high post-graduation employment rates. They served about 1,200 students in 1986.

ORGANIZATIONAL STRUCTURE

The four Academies, each concentrating on a distinct vocational area, are:

- The Academy of Applied Electrical Science;
- The Philadelphia Business Academy;
- The Academy of Automotive and Mechanical Sciences; and
- The Philadelphia Health Academy.

Each Academy is governed by a separate board of directors, which includes representatives of the school district and local businesses with interest in that Academy's vocational area. Each board provides direct support for their Academy programs through advisory panels and curriculum review teams. In addition, corporations represented on the board offer part-time and summer employment opportunities for Academy students. Most companies represented on the board are major financial supporters of the Academies and raise funds and solicit jobs from other Philadelphia businesses.

Although each Academy is separately incorporated, the group falls under the umbrella of a larger organization, the Philadelphia High School Academy Association (PHSAA). PHSAA is a separate organization that assists all Academies, working with them to set Academy policies and developing expansion plans. The PHSAA board of directors is composed of an executive director, board chairs and executive directors of the separate Academies, the superintendent of schools, the district director of career and vocational education and school district liaison to the Academies, and high level corporate executives of the Philadelphia business and labor community.

ACADEMIES IN OPERATION: THE GENERAL MODEL

The Academies have some general characteristics that distinguish them from other programs. Each Academy is a full four-year program with a specific vocational focus--automotive and mechanical science, electrical science, business or health care. Academies are housed within comprehensive high schools but operate as "schools within schools." Academy students take all classes from teachers assigned to the Academy; most teachers instruct only Academy students.

In general, the Academies do not serve as cross-district magnet programs; students are drawn from the student body that would normally attend the host high school. However, Academy representatives give presentations to eighth-graders, encouraging them to consider applying to an Academy. Also, teachers and counselors in the junior high feeder schools may recommend students to the Academies.

Students are selected on the basis of several criteria that are designed to identify the low-achieving students the Academies seek to serve. The criteria include:

- Low academic achievement, as indicated by math and reading skills below grade level;
- Test scores that rank between the 20th and 50th percentile within the district;
- Some demonstrated interest in the Academy program; and
- Attendance at school the majority of time.

Lead teachers, who serve as both primary recruiters and admissions officers for the Academies, report that they follow the academic performance criteria more closely than the attendance and interest criteria. Lead teachers say they are especially careful not to admit students who are above the criteria in academic performance. They report exercising more latitude in admitting students with poor attendance or little interest in the vocational area if junior high school teachers and guidance personnel recommend the student to the program. Academy records indicate that 73 percent of Academy students tested below the 25th national percentile in the California Achievement Tests (CAT) in either reading comprehension or mathematics skills. Thirty-five percent tested below the 25th national percentile in both reading comprehension and math skills.

Students take a standardized curriculum that meets both state academic graduation standards and vocational training requirements. The curriculum thus emphasizes both vocational and

academic courses. Instructors are encouraged to integrate vocationally relevant examples and experiences into their teaching whenever possible to underscore the link between basic skills education, job preparation and employment. Academies have lengthened the school day by one period to accommodate these dual requirements; consequently, students have few opportunities to take elective courses outside the curriculum.

Classroom work is supplemented in the upper grades by after-school and summer work experience. Teachers emphasize the development of both work skills and work maturity in preparing students for these positions. Business involvement in the Academies is substantial; it includes funding and personnel support, work study opportunities for students, classroom visits, curriculum advice and a variety of special programs for students.

These general characteristics constitute the overall Academy model. The individual evolution of each Academy may have brought about some variation in emphasis and approach, but the primary features are common to all.

HISTORY

The Academies began in 1969 as a response to community concerns about racial tension in Philadelphia and to the recognition that local corporations would become increasingly dependent on youth from Philadelphia public schools to fill their entry-level positions. At the time, dropout rates from public schools were approaching 50 percent and unemployment among minority youth was skyrocketing. Community leaders hoped to design a program, targeted at inner-city youth, that would keep them in school and prepare graduates for employment.

The Philadelphia Urban Coalition coordinated an effort to design a program that first linked basic skills to vocational training, then related skills training to employment. The Academy, as it came to be known, gained the support of business leaders and the school district, which agreed to run a pilot beginning in 1969. This Academy, the Electrical Academy, was housed at Thomas Edison High School, a school with the highest dropout rate and lowest attendance rates in the city. The pilot met many of its supporters' expectations and an executive director, Hendrik Koning, was recruited from the Philadelphia Electrical Company as a "loaned executive" for a one-year term. His tenure with the Academies was regularly extended and Koning continues to serve as executive director of the Philadelphia High School Academy Association.

In 1972, the Philadelphia Business Academy was opened in University City High School; a second Business Academy was opened at South Philadelphia High School three years later. The Academy

of Applied Automotive and Mechanical Sciences was established at Simon Gratz High School in 1974.

Following several years of relative stability, new national and local attention on school/business partnerships resulted in a flurry of activity within the Philadelphia Academies that led to creation of a new academy and expansion of existing programs. The Philadelphia Health Care Academy first admitted students in 1982. By 1986, the Business Academy had expanded to a total of five high schools and the Electrical, Applied Automotive and Mechanical Science and Health Care Academies were operating programs in a total of five other high schools. As this profile was being prepared, other vocational areas for new Academies were being considered, as was a new organizational structure to support an expansion to serve 5,000 of the approximately 50,000 Philadelphia public high school students.

CHARACTERISTICS

Public/Private Ventures included the Philadelphia High School Academies in its national assessment of school/business collaborations for several reasons:

- Longevity--In an environment in which school/business collaborations are often measured in months, the Philadelphia program has been operating since 1969.

- Size and expansion--The Academy program has grown steadily since its inception and is preparing for a substantial increase in its scope.

- Targeting--P/PV's review of other programs disclosed that relatively few programs are designed to serve educationally at-risk youth. The Academies are specifically committed to reducing the number of dropouts and avoiding recruitment of the most academically able students.

- Comprehensiveness--Few programs match the Academies in providing direct in-school training, work/study opportunities and careful counseling and placement.

- Substantial involvement by business community--The Academies receive considerable support from Philadelphia corporations, including financial backing, technical and advisory assistance and in-kind contributions.

- Joint responsibility--A strong sense of partnership is felt by both the business commitment and school in the Academies program.

- Research potential--The Academies offered sufficient numbers of students to conduct a quantitative assessment of postgraduation achievements.

SCOPE OF P/PV RESEARCH

Public/Private Ventures used both qualitative and quantitative approaches in its study of the Philadelphia High School Academies. Members of the research team visited six of the ten schools in which Academies are located. During school visits, semistructured interviews were conducted with the principal, the lead teacher of the Academy program, other Academy teachers, chairs of the academic departments with interests in the Academy, and students. During several school visits, we observed a variety of Academy classes and participated in meetings of business representatives who, as part of their support of the Academy, served on "school teams" to review program activities and accomplishments.

P/PV also interviewed the executive director of the Philadelphia High School Academies Association, the directors of the four Academies and their staff, and members of the school district staff, including the liaison for Academy programs and the director of vocational education. To grasp the role of the business community in the Academies, P/PV conducted a series of interviews with the PHSAA board members, including its chair and director of development. Representatives of major companies that supported the Academies (often members of the personnel department) were interviewed for their assessment of the abilities and accomplishments of Academy students and whether they were employable.

To assess the ability of the Academy model to meet its dual goals of dropout prevention and improved preparation for employment, P/PV undertook a two-part quantitative study of Academy students. First, P/PV conducted a survey of Academy graduates and two comparison groups of other graduates 18 months after graduation to assess their initial experiences in the labor market. Second, we reviewed the complete school district records of an entering cohort of Academy students to determine how many students completed the Academy, how many left the Academy but graduated from the host high school, and how many never graduated. These rates were compared with school and district completion rates for the same period.

ORGANIZATION OF THE REPORT

The remainder of this profile is organized as follows: Chapter II describes the general Academy model, its organizational structure and the role that the business community plays in its delivery and support. Chapter III describes the implementation of the general Academy model in each of the four Academies. Chapter IV presents the findings of the two quantitative portions of the profile, emphasizing the results of the graduate survey. Chapter V presents some of the key lessons that the Philadelphia High School Academies present for other school/business collaborations.

II. ORGANIZATIONAL STRUCTURE AND BUSINESS INVOLVEMENT

The Philadelphia High School Academies are frequently described as "schools within schools" and their management and organization reflect this dual structure. Academies operate as part of the school district but also maintain a separate management structure that is jointly funded by and accountable to business and schools.

SCHOOL ORGANIZATION

As part of the Philadelphia School District, the Academies are situated within comprehensive high schools and Academy students are subject to the basic academic requirements demanded of all high school students in the city. Academy students and teachers are responsible to the principal of the high school. Classroom space, equipment and faculty are primarily provided by the school district as they are for any other special program. However, the Academies' recruitment, course planning and coordination are overseen by lead teachers. The schools also make special provisions for the Academies, including the following:

- Academy students are "block-rostered," that is, their schedules are arranged so that they can attend classes together. Also, schedules of juniors and seniors who work after school are arranged to allow them to leave school early.

- Teachers of Academy students, who may also teach non-Academy students, are scheduled for a common free period, which is devoted to planning curriculum and discussing Academy students.

- The school district contributes extra funds to support the activities of the Academies. For every dollar contributed by business, the district provides an estimated dollar and a half above the level of support routinely allocated per student.

Since 1981, site selection for new Academies has involved a proposal and review process. Interested high schools are required to submit a proposal demonstrating their willingness to accept the particular requirements that hosting an Academy demands--such as block-rostering, scheduling Academy teachers for a common free period and arranging the schedules of junior and senior students who work to allow them to leave before the end of the school day. High school proposals are evaluated by individual Academies and the school district, and preference is

given to schools where the Academy will add substantially to the programs offered in the school.

The school district provides a full-time liaison between the Academies and the district. Barbara Goldsmith, an employee of the Department of Career and Vocational Education, functions as a troubleshooter and promoter for all of the Academies. Since the backgrounds of the executive directors are not in public education, Goldsmith's knowledge and experience in negotiating the regulations and demands of the school system and obtaining needed resources--teachers, equipment and funds--are invaluable. Since she functions within the system but does not report to individual school principals, she can assist the lead teachers in working with principals to make necessary accommodations. Her lack of attachment to any single Academy and her knowledge of the inner workings of them all enable her to judge their strengths and weaknesses. She makes suggestions to the directors and business people about changes she feels must be made and works with them and with the schools to implement improvements.

Early in the development of the Academies, Research for Better Schools (RBS), a Philadelphia firm specializing in educational research, developed a series of manuals that codified and explained the Academy's approach and method of instruction. RBS has also developed and run training sessions for Academy teachers that seek to help them understand business's perspective and incorporate vocational concepts into the academic curriculum.

An important issue for the Academies has been communication between school and homes and school and business community. A series of newsletters is published as a means of maintaining the flow of information and of recognizing outstanding attendance and performance of Academy students. Newsletters are published both by the PHSAA, which reports on the activities of all Academies, and by individual Academies, which devote their attention to their own programs and students.

EXTERNAL ORGANIZATION

The second part of the Academies' management structure consists of the executive directors and board of directors for each of the four academies. The executive directors work in offices outside the schools and devote the majority of their time to developing and maintaining business contacts, fundraising and managing the operation of the Academies. They meet regularly with their boards of directors, whose responsibilities encompass provision of jobs, presentations in individual classes, fund-raising and development and review of specialized curricula.
In 1981, the Philadelphia High School Academy Association was created as an nonprofit organization to serve all Academies. Its development represented an attempt to centralize some Academy

functions, to enlist financial support from Philadelphia firms not linked to a particular Academy and to plan for a possible expansion of the Academies. Hendrik Koning continues as executive director. The PHSAA Board includes the chair of each individual Academy board, as well as executives from companies and community organizations that have supported the Academies since their inception.

BUSINESS INVOLVEMENT IN THE ACADEMIES

The impetus for developing and managing the Academies came from business people and the Philadelphia Urban Coalition, who have provided a strength and continuity of business involvement unique in the school district. When each Academy was founded, one or several firms took responsibility for initiating the program. Their contributions included both human and material resources and represented a substantial investment. However, as the Academies have grown, the responsibilities of overseeing them have exceeded the time commitment of loaned executives and the nature of business involvement in Academy operations has changed.

Many of the companies that have continued to support the Academies through board membership, financial support and student jobs are among the largest and most prestigious firms in the city. For those firms and individuals whose interest and commitment has continued to be strong, substantial opportunities remain to guide and advise the executive directors and lead teachers as well as individual students. In interviews P/PV conducted with a number of business people who have worked with the Academies, their sense of responsibility for the Academy programs was apparent. However, this level of concern has been characteristic of a limited number of businesses and business people.

The fact that the Academies have never become a highly visible or widespread business program in Philadelphia or elsewhere may be a result of the substantial demands that the program has placed on businesses that are involved. However, as the Academies have grown, bringing an increase in the number of jobs needed as well as in level of funding, efforts have been made to recruit additional firms, including small and medium-sized firms with positions that may be more appropriate to the needs of Academy graduates. These firms have been given the option of contributing jobs or funds without additional involvement.

In recent years, the Academies have had to compete with several other school programs that also require serious and substantial commitment from business. The current superintendent of schools, Dr. Constance Clayton, has cultivated the school district's ties to the Philadelphia business community and has worked successfully with corporate leaders to initiate new efforts and to support ongoing programs, including the Academies. The Committee

to Support the Philadelphia Public Schools, founded in 1983 to foster business support for the schools, has designed and implemented several initiatives to which businesses have contributed approximately $500,000 annually as well as significant personal involvement. Other programs, including individual partnerships as well as citywide efforts, receive substantial corporate funds.

Although the origins and level of business participation vary in each of the Academies, there are certain elements that remain common to all and that have helped define the special nature of the program. Business contributions, which include both human and material resources, are fundamental to the basic purpose of the program, which is to link school and work without sacrificing basic skills instruction.

Business contributions generally fall under the following categories:

- Teacher stipends;
- Donation of equipment and supplies;
- Donation of funds;
- Provision of jobs during the summer, after school, and after graduation;
- Introduction of students to the world of work through tours of worksites, practice interviews and special classroom programs;
- Management of Academies;
- Membership on Academy advisory committees; and
- Curriculum development and review.

Donation of Funds and Equipment

The donation of funds has been only one aspect of a broader pattern of support. The extra funds have enabled Academies to treat students with flexibility and individual attention that are usually not possible in a large urban high school. The money is channeled to specific purposes. For example, teachers are paid to attend training sessions after school and to work on curriculum modification and program planning during the summer; lead teachers receive stipends for program coordination and for increased administrative responsibilities; telephones are installed in the classrooms of the lead teachers so they can contact parents regularly; and special materials are purchased.

Most equipment used to train Academy students is provided by the school district. The Academies have relied minimally on business contributions to supplement or update standard school equipment. However, P/PV observed that much of the equipment used to train students in the Academies, particularly the Business and Automotive Academies, was out-of-date.

Jobs and Exposure to the Demands of the Workplace

One of the primary attractions of the Academies, both during recruitment of students and during classes, is that regular attendance and good grades will lead to a good job. Introduction to the workplace is made early and includes frequent reminders of the requirements and standards of the business world. For example, business people from the Advisory Committee are invited to speak to classes, field trips that allow students to see different types of work environments are scheduled and students are given the opportunity to practice being interviewed.

During the first two years, students are assisted in obtaining summer jobs, primarily through existing city efforts like the Phil-a-Job program, which provide them with income as well as some understanding of workplace demands. By junior year, the most qualified students are sent on interviews for after-school jobs that will allow them to use the skills they have been developing in the Academy. By senior year, a large number of the students have been placed; the postgraduation placement rate of the Business Academy class of 1984 was 86 percent one year after graduation. Most jobs are in firms that have other connections with the Academies; often, the youth's supervisor or someone else in the firm serves on an Academy board. Their feelings of responsibility for youth assigned to them often exceed those they might have for another newly hired person; supervisors interviewed by P/PV reported regular meetings with the youth and careful monitoring of their work.

Management and Advising of Individual Academies

To ensure that Academy programs continue to prepare students for the real needs of the businesses where they hope eventually to work, each Academy has a board of directors composed of business professionals from firms and organizations related to the Academy's focus. Their responsibilities can include curriculum review, assessment of workplace readiness, and assistance with recruiting. Because of the importance attached to this advisory function and the desire to deliver specialized attention to each individual Academy, the Business Academy has developed separate teams for each of its five high schools. In addition to one or two representatives from the Business Academy board, each school's advisory team includes several other business people from the community.

Board members may spearhead the drive for contributions of money and jobs from other businesses but their major function is to serve as a link between the jobs and the classroom. Since the same companies frequently supply jobs and encourage employee participation in the Academies' program, board members are aware of problems that the students encounter when they are placed in jobs and are able to suggest areas of the curriculum that need changing or strengthening. This continuity of involvement, combined with the small size of the Academies, has led to strong ties between schools and businesses and has promoted a sense of responsibility among the companies.

Although the companies themselves are often large, there is a small network of people within the organization who maintain the ties. Personnel who choose to participate by supervising Academy students or joining an advisory board are frequently younger employees and a high percentage are blacks or women. While these employees are usually not upper management, they bring their company's prestige into the schools. Meetings of the business participation teams are held in the schools so members can observe classes and understand the school environment. Their visibility reinforces the students' sense that the business community is concerned about what happens in the Academy.

Curriculum Development and Review

Business representatives have played a crucial role in initial curriculum design but their continuing participation in the Academies has varied. As the Academies have become aware of the importance of reviewing and updating regular curricula to ensure that youths' vocational training prepares them for a changing job market, the lack of business participation has become apparent. As a result, Academy staff have begun to encourage greater business involvement in review of curriculum materials and advocate business participation in summer workshops to design new courses. Attention is also being paid to feedback from supervisors at worksites who inform Academy teachers about students' weaknesses on the job.

As the Academies have matured, the role of business has also evolved. In several of the Academies, businesses have gone beyond reacting to items presented to them by the executive director and the lead teacher and have taken the initiative in questioning existing policies in recruitment, choice of courses and job placement. At the same time, the Academies have encouraged greater participation from small and medium-sized businesses whose support consists entirely of hiring Academy students.

III. THE ACADEMIES: VARIATIONS ON A GENERAL MODEL

The four Philadelphia High School Academies offer interesting variations in their individual approach to and implementation of the general Academy model. While the Academies share common components--such as "schools within schools," block-rostering, advice and support from the business community, occupationally relevant education in both vocational and academic courses, and integration of work experience for students--each has adapted the general model to meet the requirements of host schools, the needs of students and the expectations of employers and business supporters.

This chapter summarizes P/PV's observations of the Academy program as it is implemented in the four Academies and their multiple locations. The variations P/PV observed are important because they indicate whether the Academies model can accommodate different environments and objectives.

Academies are described in the order in which they were founded. Within each description, the summary describes first the factors surrounding the creation of the Academy; second, current implementation of the Academy, emphasizing significant variations from the general model; and third, key issues for the future.

THE ELECTRICAL ACADEMY

The Electrical Academy at Edison High School opened in 1969. Many of its initial practices continue, both in the two Electrical Academies and in the other Academies as well. The Electrical Academy was developed jointly by representatives of business and the school system, targeting youth who were at risk of failure in the school district. To ensure that it reached the target population, the school chosen to house the Academy was one that served a high percentage of at-risk youth. Edison had the lowest attendance rate and highest dropout rate of any school in the city.

Program planners hoped to offer participating youth something beyond regular classes--specifically, preparation for and, ultimately, placement in a job. Basic skills were given equal importance to vocational preparation, and the language and skills needed on the job were incorporated into the basic skills instruction as much as possible.

The choice of electricity for the vocational focus reflected the significant involvement of representatives of the Philadelphia Electric Company and the Bell Telephone Company, as well as other electrical and communications industries. The urgency the planning body seemed to feel to begin a school program as quickly as

possible meant that a company's willingness to play a substantial role in design and implementation of the new Academy influenced selection of the vocational area. This sequence also set a precedent for developing other Academies; industry willingness to "sponsor" an Academy dictated the choice of vocational area rather than an assessment of areas of job growth within the city.

Participation of company representatives as well as school district personnel in the design of the program led to companies' loan of employees for one-year teaching stints. Business also provided work experience to Academy students by supplying contract work for the in-school shop and offering summer and postgraduation jobs. In addition to the substantial in-kind contributions of staff and equipment that business has made to the Electrical Academies, they have supplied funds to supplement the school district budget. Some of the funding supports summer workshops in which teachers plan and design curriculum materials.

Current Operations

There are currently two Electrical Academies. One is the original site at Edison High School, which has a capacity of 100 students in grades 9 through 12 and a current enrollment of 96. A new Edison High School and Technical Center is under construction; when it opens in 1988, the capacity for this Academy site will increase to 250 students. The second Academy opened at Bartram High School in 1984. It has a capacity of 120 students and a current enrollment of 65 in grades 10 through 12. Fifty-five 9th-graders have been identified as pre-Academy students, but have not yet entered a full Academy program. Bartram was chosen as the second Academy site because of the absence of similar vocational programs in Southwest Philadelphia.

The executive director of the Electrical Academies is Johannes Ponsen, who was hired in 1978 to manage the organization and fundraising efforts. He was the first full-time employee of the Academies, which had been managed by executives loaned by Philadelphia Electric Company.

The lead teacher at Edison came to the school from industry in 1969, and saw the role of the Academy as improving both the skills and the attitude of the youth, who he characterized as "not cream but skim milk." One of the most significant differences between the Academy students and other students at Edison is the dropout rate. Fifty percent of the school's population leaves school before graduation, primarily between 9th and 10th grade. According to the Electrical Academy's records for the 1984-85 school year, 81 students were enrolled at Edison Academy at the beginning of the year and the number remained the same at the end of the year. In the teacher's opinion, the small class size and the extra attention teachers can give to students are major factors in the success of the Academy program. Recently,

the Academy has paid four teachers to provide after-school tutoring two days per week.

The chair of the English Department at Edison has taught in the Academy program since it began. He described its initial focus as dropout prevention through assisting youth to gain jobs. However, he recalled that it quickly became obvious that basic skills were as necessary as work-related skills in preparing the youth for jobs. To bolster that connection in the minds of the Academy youth, the teachers developed special curriculum materials in math, English and social studies that incorporated electrical concepts, issues and vocabulary into their subject matter. For example, in a class on the social and economic history of America the students read about and discuss union issues and workers' rights.

The Electrical Academy had relied on the in-school shops to provide work for many of the students both after school and during the summer. Two of the largest suppliers of work were Bell Telephone, which paid the youth to dismantle old telephones to salvage reusable parts, and the Philadelphia Electric Company, which hired them to clean meters. Changing technology and a changing market have reduced the number of jobs from both sources and it has been difficult for the schools to find replacement work that would allow the shop to continue functioning. The executive director has been looking for more part-time jobs outside the school.

Many of the jobs that Electrical Academy students fill during the summer and, in some cases, after graduation do not require specific electrical training. At several of the work sites visited, the youth performed building maintenance or office construction tasks. Some of the limitations on available jobs reflect union regulations, but the youths' skills frequently do not permit more complex work.

To ensure that the youth are learning relevant skills, Ponsen has begun to involve the members of his board in the educational as well as the management aspects of the Academy. Members were involved in the program design when Bartram opened and participated in summer workshops to develop new curriculum materials. Following the lead of the Business Academy, Ponsen organized teams of five board members to visit the schools more frequently and also to develop a new unit on electrical drafting, which is important to companies in the vocational area.

When Ponsen became director, he increased the number of business people on the advisory board to 30 in order to broaden sources of jobs and fundraising responsibilities. Ponsen feels that their increased participation in the Academies has encouraged them to make more jobs available to the students. Financial support comes from individual businesses and trade associations; the

Electrical Association holds an annual banquet to benefit the Academy. Total annual contributions from a fairly stable number of sources have been approximately $130,000 in recent years.

Issues of Concern

Although the Electrical Academy was the original model for subsequent Academies, there are several aspects of its operation that are not common to the others. Unlike other Academies, the Electrical Academy has drawn regular support in its fundraising and job development activities from the local trade association in the vocational area. Much of the students' work experience is obtained in the in-school shop. Because of its relative longevity, the director has faced certain problems and made some changes. The Electrical Academies, therefore, offer insights into how the original model has been modified and how well it continues to work. Its continued small size (not until 1984 did a second Electrical Academy open), its difficulties in recruiting students and finding sufficient work to keep them busy, and its development of a changed role for its business advisory board have implications for the other Academies as well.

Size and Recruitment of Student Population

Both Electrical Academies operate at less than their maximum capacity. Among the likely causes are increased competition with other special programs offered by the Philadelphia schools, the fact that Edison is considered an undesirable school, a fairly passive recruiting system and the lack of student interest in electrical careers. Edison has resorted to assigning students to the Academy who had applied to another program at the school and had not been accepted. Given the problems that Edison was already experiencing in recruiting an adequate number of students, one questions the decision to launch a second Electrical Academy.

Use of Private Sector Board Members

For most of the Electrical Academy's life, private sector involvement has been limited to a few companies. Although their strong and continued support was crucial to the Academy's continued existence, it also acted as a barrier by not forcing the Academy to seek increased participation from a more diverse group of companies. It also limited both the Academy's ability to develop jobs for the students and its sensitivity to the changing needs of companies. The recent broadening of the board's role may help bring the curriculum more in line with the changing demands of business and prepare youth for the jobs that really exist.

Integration of Vocational and Academic Work

For most youth, the chance to obtain a job is the major Academy incentive; jobs are used by the teachers as lures and rewards to get students to complete academic work. The focus has changed to establishing a link between mastery of basic skills and mastery of skills needed for the job. Teachers are working to integrate this linkage into the curriculum.

THE PHILADELPHIA BUSINESS ACADEMY

The second Academy to be developed was the Business Academy in 1972. It has grown to be the largest of the four Academies and, currently, has programs in five Philadelphia high schools. In part, the growth of the Business Academies has been due to the number of entry-level jobs that require business skills in Philadelphia's service-oriented job market. The growth also reflects the organization and operation of the Business Academies, which are more structured in management and more aggressive in job development activities than the other Academies. Because of their growth and location in five different schools, the Business Academies provide a good opportunity to examine both the management of multisite Academies and the impact of different high school environments on Academy operation. In addition, like a number of the programs included in P/PV's study of school/business collaborations but unlike the other Academies, the Business Academy places considerable emphasis on learning the requirements of the workplace, personal development, basic skills development and motivation. Although some attention is paid to the acquisition of specific vocational skills, they are emphasized less than in other Academies.

The current director of the Business Academies, Frank Remmey, originally served the Academies as a loaned executive, beginning in 1977. Two years later, Remmey was named a full-time employee. He works from an office in the Philadelphia Saving Fund Society building.

The first Business Academy was established at University City High School. It was followed by a second Academy at South Philadelphia High School in 1975, a third at William Penn High School in 1981 and a fourth at Strawberry Mansion High School in 1984. P/PV staff observed Business Academy operations during the 1985-86 academic year. At that time, Business Academy staff and advisory committee members were planning a fifth Academy that opened in the fall of 1987 at Roxborough High School. Like its predecessor (the Electrical Academy), the first Business Academy was launched through the primary sponsorship of one company, the Philadelphia National Bank (PNB). The bank president eventually convinced other banks and insurance companies to participate as

well. The Academy was initially managed by a series of loaned executives from PNB.

The Philadelphia Business Academy, Inc., is a nonprofit corporation that employs the executive director and a part-time secretary. Their salaries are paid out of the approximately $100,000 in funds contributed by local business that Remmey is responsible for raising. These funds also pay the rent, provide stipends to lead teachers for program coordination activities after school and during the summer, compensate Academy teachers for planning and staff development activities, purchase materials and equipment not provided in the regular school budget and provide incentives and awards for students. Remmey is assisted by two job developers whose salaries are paid by the Philadelphia Private Industry Council.

Remmey strives to manage the Business Academies like a business and has defined and centralized procedures and format for all sites. His office develops and circulates forms that can be used by all the Business Academies and provides a means by which sites can share materials and ideas. He has created teams of business people to work in schools to supplement the board of directors that oversees all five Business Academies.

Remmey spends the majority of his time managing the Academies and maintaining contact with the business community. He works closely with Barbara Goldsmith, the liaison to the school administration, meets regularly with the lead teachers and visits individual schools. He emphasizes the importance of job-readiness in working with the Academy staff and ensures that communication skills and development of student self-esteem are incorporated into all Academy classes. Unlike the other Academies (notably the Electrical and Health Academies, where integration of academic and vocational coursework is an important goal), the Business Academies emphasize the requirements of the workplace and incorporate such topics as interviewing techniques and appropriate dress and behavior into regular classes. Schools have developed various methods of rewarding youth for good attendance in school and success on the job. Interviews with business people and observation of students at Academy events confirmed that the Business Academies have been successful in fostering a sense of pride and cohesiveness among their students and parents.

Variations on the Business Academy Model

Although there is a common model for the Business Academies, they all operate within different school environments, a fact that influences recruitment, the quality of available teachers and the level of support from school administrators. Because of the Academies' target population, the high schools chosen to house them often have a high percentage of youth who are considered to

be at risk of dropping out of school or are considered unlikely to find jobs even if they graduate. However, these schools may also have been chosen to house magnet (i.e., more selective) programs that stimulate competition for students and resources. During the 1985-86 school year, P/PV staff visited three Business Academies chosen by the executive director for their diversity. Two, William Penn and South Philadelphia, are included in the report because they demonstrate clear environmental differences; they are also illustrative of both the strengths and weaknesses of the Business Academy model.

William Penn Business Academy

William Penn Business Academy has an enrollment of 157 students in grades 10 through 12. The program began including 9th-graders in the fall of 1986, increasing the enrollment to 174. William Penn, which serves predominantly black students in North Philadelphia, also houses a communications magnet school. The position of lead teacher rotates among the Academy teachers and was held by Valerie Prattis for the second consecutive year in 1986. The program enjoys strong support from the school administration and business department. Academy students are block-rostered and teachers have a common free period when they can meet. The school's population has decreased--from 3,000 in 1975-76 to 1,400 in 1986. The school's administration welcomes programs like the Academy or the communications magnet to draw students to William Penn.

The Academy's recruiting effort has gone beyond the normal feeder schools for William Penn in an effort to find the strongest students in the eligible pool. Teachers felt that the Academy students were highly visible within the school because they were together for most of their classes. The chair of the business department at William Penn thought they were viewed as an "elite" by other business students and as special by themselves. Their attendance rate, like that of the majority of Academy students, is close to 90 percent; each student's home is called every time he/she is absent and students are instructed to call when they are ill as they would do on a job.

The school team members, the business people who advise the William Penn Academy, hold bimonthly meetings at the school, taking the opportunity to visit classes. Team members also conduct interviews with youth and their presence and participation are obvious to the students. Prattis was eager to see the business people get more substantially involved; at a meeting observed by P/PV, she raised the possibility of involving team members in the recruitment of ninth-graders for the following year. Those present seemed responsive to Prattis's suggestion and offered other types of participation, such as speaking to classes about the demands of the workplace and working with students individually.

In their zeal to suggest ways they could improve the Academy and obtain more and better jobs for "their" students, members suggested that the recruitment process might be made even more selective. The team's discussion revealed a tension that has become more apparent as the Academies seek to enlist more business support. For some of the business people who recently became involved in the Academies, either through supervision of youth on the job or through the participation of their company, the way to success for the Academy program is seen as going after students who will be able to perform well in jobs in prestigious corporations. However, many of the Academies' original supporters emphasize that the purpose of the Academies is to serve at-risk youth and that success should be measured by achievement of that goal.

During the Academy visit, P/PV interviewed several students who were among the 50 percent of Academy seniors who work after school They had chosen to attend the Academy and were pleased with the jobs they had obtained. Similarly, employers interviewed generally singled out the William Penn students because of their positive attitudes and willingness to learn. However, as with other Business Academy students, their skills did not always meet employers' expectations. Even supporters of the Academy program admit that the majority of Academy students they supervise are less prepared than students from other programs or newly hired entry-level employees. Some said that better communication between school and businesses might adjust expectations and help ensure an appropriate job for Academy students. Some also felt that the Academies had to work harder to bring students to a more acceptable level of competence.

South Philadelphia Business Academy

The administration at South Philadelphia High School provides less support to the Business Academy than the principal at William Penn. As a result, the model at South Philadelphia is not as well-developed. There is also some resistance to aspects of the Academy model within the community served by the school. For example, it is difficult to convince students to take jobs outside their immediate community or to convince female students to wear skirts to conform to the code of a downtown office.

The South Philadelphia Business Academy had a total enrollment of 168 students in the fall of 1985 and a total capacity of 175. Ninth-grade students were included in the program for the first time that year, a change that was welcomed by Ron Ferraro, lead teacher of the Academy, as a means of recruiting more students. He had been experiencing difficulty filling Academy classes for several reasons. First, overall student population was declining. In addition, Philadelphia high schools, like many other urban high schools, offered students at all levels of academic ability a range of special programs to which they could

apply. Ferraro's assessment was that the popularity of business programs in Philadelphia was declining. By recruiting students in the eighth grade, the year that all students make high school choices, the Academy is able to attract youth from a wider range of schools.

Few accommodations have been made to the Academy at South Philadelphia High School. Schedules have not been arranged so that Academy teachers have a common period when they can meet and share information about their students, and the participating stu-dents do not attend classes together. An observer does not sense the same pride in having the Academy in the school that one senses at William Penn. Still, teachers continue to give high priority to job-readiness and good attendance. According to Ferraro, the program provides support to the youth that is not available in a regular vocational program because it instructs them about appropriate attitudes for the business world before going to work and it brings benefits from the involvement of business.

But business involvement is more limited in South Philadelphia High School. Although business resources are available to the Academy and school team meetings are held several times a year, giving business people the opportunity to visit classes, busi-ness's role in the school is largely limited to fundraising and job development. In fact, some faculty and administration express concern with the ease with which the youth are able to obtain jobs. The problem, they say, is that students fail to learn how to get jobs on their own, and, not having had to struggle, may be too ready to leave a job if they find it "boring." The majority of the youth perform well at their jobs, but several supervisors and Business Academy teachers cite some students' unwillingness to adapt to the prevailing dress code or to "travel" to jobs in center city.

Issues of Concern

The Business Academies exhibit a number of strengths, including steady growth, organized operation, a willingness to experiment and continuing focus on student motivation. However, to continue to serve youth and meet the expectations of the business community as they have done in the past, they must resolve a number of problems:

- Not all Academy students are trained on word processors, which puts them at a disadvantage, particularly in large companies that may hire other students who have had such experience. Although attitude and job-readiness are important and deserve the continuing attention of the Academies, business expects to hire students with up-to-date vocational skills.

- The Business Academies, like the other Academies, have emphasized retention of youth in school. In some instances, this has been done by diminishing the rigor of academic and vocational training. Also, the Business Academies have given job-readiness equal importance with skill development. Both factors, combined with the poor academic background and performance of Academy students, has meant that many students graduate and are placed in jobs with skills that are weak. The Academies must assess how to continue serving an at-risk population while improving the quality of their preparation.

- The Business Academies have been strongly supported by some of Philadelphia's largest firms. Partly because of the weaknesses noted above and partly because of the increased need for jobs that will result from their planned expansion, the Academies may have to turn to small and medium-sized firms in the future. The expectations and level of pressure in such firms may suit Academy students better.

THE ACADEMY OF APPLIED AUTOMOTIVE AND MECHANICAL SCIENCE

The Academy of Applied Automotive and Mechanical Science began operations in 1974 as the third Philadelphia Academy. The Automotive Academy was first hosted by Simon Gratz High School, where it remained until 1984, when the Academy transferred operations to West Philadelphia High School. The Auto Academy, as it is called, is principally supported by the Sun Company, which loans a full-time executive, Richard White, as director of the Academy and provides the lion's share of the Academy's funding. In addition to the Sun Company, supporters of the Academy include representatives of automobile manufacturers and other organizations in the transportation industry.

In a recruitment flyer, the Academy describes itself as an "academic and vocational program designed to prepare you for employment upon graduation or for further education or a combination of employment and further education....The Academy can prepare you for a career in the automotive field."

Student Training

The Automotive Academy builds, perhaps more than any other Academy, on an existing vocational education tradition. The Philadelphia school district offers a number of vocational programs in automotive repair, of which the Academy is but one example. Although it emphasizes both basic skills and vocational

skills, its activities focus on training youth in automotive repair skills.

Students gain work experience in the Automotive Academy in several ways:

- Vocational coursework, including repairing, disassembling and reassembling automotive systems on prototypes or donated vehicles;
- After-school work on vehicles left by regular customers who contract with the academy to have repairs done; and
- After-school work at area garages or fleet service departments of large organizations.

Vocational Coursework. As part of their coursework in vocational classes, students learn the fundamentals of diagnosing and repairing automotive systems. Some of this work is done using "teaching" prototypes; other work is done on vehicles kept in the workshop for instructional purposes. The Academy is not alone in this "hands-on" instructional approach; it is found in most automotive vocational education classes. However, the Academy is the only high school in the state certified to teach automotive emission control testing and auto safety inspection curricula.

After-School Repairs. The lead teacher characterizes some of the Academy operations as an automotive repair shop within the school district. As in many vocational automotive programs, community members often bring cars that require servicing to the Academy workshop. Students receive the customer, write up the service order, and organize and complete the work. Academy teachers laud this type of experience because it closely approximates the "real world."

Individuals or businesses donate used or unwanted vehicles to the Academy to get tax write-offs. Academy students undertake repair of the donated vehicles, which are often resold. The profits that are generated from the sale are used to upgrade tools and equipment in the shop. Academy teachers cite the restoration of these donated vehicles as a way that students can get "hands-on" experience in automotive repair. Academy instructors were less positive in their assessment of new vehicles, which are often donated by area car dealers. Customarily, the dealers do not give the academy title to the vehicle and it cannot be resold. Also, the car or truck itself is in perfect running condition; thus its instructional value is limited to disassembling and reassembling different mechanical systems. Teachers contend that this exercise has limited value to students because it does not challenge them to find a problem and repair it.

After-School Work. Students are frequently placed in part-time, after-school jobs at area auto dealers, auto repair shops and service stations. The lead teacher and other teachers, using their contacts with local businesses, attempt to place students in these jobs to give them experience. However, these placements are limited by age restrictions (minimum of 18 years of age) at most businesses; usually, only seniors are old enough to be placed in these off-campus jobs. A job placement counselor, who also works with the Business Academy, places Auto Academy students.

Effects of Moving Academy Operations

The lead teacher at West Philadelphia High School Auto Academy is Matthew Proctor, who joined the school district directly from an automobile repair service he owned in the city. Proctor contends that while at Simon Gratz, the program really did not function as an Academy. The Simon Gratz principal gave little support to the Academy: students were not block-rostered nor were they expected to follow a rigid Academy curriculum. No discernable "team" of teachers was assigned to the Academy and teachers in nonvocational areas made little attempt to modify their courses to incorporate vocational concepts. After considerable wrangling, the Academy moved out of Simon Gratz High School and into West Philadelphia. In West Philadelphia, the Academy was given much more support from the principal. Students enrolled in the Academy were block-rostered and teachers across disciplines were assigned tentatively to the Academy team and began to incorporate relevant automotive and engineering examples in their coursework.

The Automotive Academy is a popular program with students. Proctor has had little difficulty recruiting students to fill the 37 9th-grade slots for the 1985-86 school year and has a waiting list of 9th- and 10th-graders. Program size is limited by the availability of instructors and the size of the shop facility. Richard White reports that about 15 percent of students drop out of the program each year. Of the 92 students enrolled in the Academy at West Philadelphia in 1984-85, 10 dropped out of school and four others entered other programs in the high school. Similar numbers of students dropped out of the Academy when it was at Simon Gratz. These rates are somewhat higher than reported by other Academy programs, but are expected to improve as the West Philadelphia program becomes established.

The effect of the switch from the original high school to West Philadelphia was not without consequences. First, the majority of students who enrolled in the Academy at Simon Gratz remained at the host high school and did not or will not graduate from an Academy. Second, when the Academy opened at West Philadelphia, all students already enrolled in the automotive program at West Philadelphia were automatically placed in the new Academy. Thus,

1985 Academy graduates had actually participated in the Academy for a single year; not until 1987 will the Academy graduate students who had been enrolled in it for a majority of their high school education and not until 1988 will graduates have experienced the full four-year program.

A third consequence of the transfer of the Automotive Academy from Simon Gratz to West Philadelphia was that the facilities for vocational training at West Philadelphia were not as good. Located in a school district building a block from the high school, the facilities suffer from poor lighting, old equipment and few work areas (bays). The school district and the Academy had agreed to relocate the Automotive Academy to West Philadelphia with the expectation that the existing facility would be modernized soon after. However, three years later, the Academy is still attempting to offer a vocational training curriculum with outdated equipment and techniques that are no longer current. The lack of new equipment also means that students graduating from the program may not have been exposed to the newest computer-assisted diagnostic techniques nor be familiar with the new technologies that are found in most new vehicles.

Continuing Issues

The Automotive Academy is still in a state of flux. It has yet to recover from its dramatic change in venue and has not yet graduated students who have participated in the full four-year program at its new site. Of course, the move to West Philadelphia has meant that a regular Academy model has been instituted--students are block-rostered, an Academy teaching team has been created and efforts have been made to integrate vocational materials in basic skills courses.

The lack of adequate facilities remains one of the major constraints on the Automotive Academy. The vocational training facilities at West Philadelphia High School are poor. Instructors and students work in shop conditions that are outdated and poorly maintained and expectations of new facilities have not been realized.

More than any other Academy, sponsorship of the Automotive Academy is dominated by a single organization--the Sun Company. Its support has been generous throughout the history of the Academy but may also have limited the ability of other organizations to get involved in more than a token manner. The Academy has taken some steps to recruit a more active board that is not overshadowed by Sun. Executive Director White hopes that Sun's dominance of the Academy will diminish by 1988 and other organizations will come forward to support the program.

THE PHILADELPHIA HEALTH ACADEMY

The Philadelphia Health Academy is the newest of the Scademies. First enrolling students in Fall 1982, the Academy expanded to a second site in 1985. The Health Academy's adaptation of the Academy model distinguishes it from the other Academies along several dimensions. In contrast with the other three Academies, the principal focus of the Health Academy is on enhanced academic training to prepare graduates for admission to two- and four-year colleges in health and allied health curricula; vocational training is limited, and job placements are restricted primarily to summer positions. The Health Academy's goals emphasize academic preparation for a health-related career:

- To give students a realistic understanding of career possibilities in health care work;
- To develop in the students the basic skills and work attitudes known to be necessary for employment in the health care field;
- To provide students with the academic background required to qualify for entrance into health care training programs after high school.

The Health Academy, then, does not prepare students for entry-level positions. Rather, its aim is to provide students with the academic foundation they need to enter a two- or four-year program toward certification in a health-related field. Support for the Health Academy comes from a consortium of private corporations and not-for-profit organizations. Supporters include public and private hospitals, the local health care providers union and the school district.

The Health Academy was jointly initiated by several hospital administrators and the local health care workers union at the suggestion of leaders of the Philadelphia Academies and the school district. At first, health care administrators were concerned that the union would object to the training of high school students in health care in a privately sponsored program. However, Henry Nicholas, the local and national president of the National Union of Hospital and Health Care Employees (1199C), surprised the planning group by not only allowing students into the hospitals as part-time workers, but requesting that the union be heavily involved in the development of the Academy. He noted that the 20,000 local union members had a stake in the Philadelphia School District and that his union was willing to help in any way it could.

Nicholas appointed Dr. James T. Ryan, a member of the union staff, to work with the planning committee to develop support for the Academy. Ryan would eventually serve as its first executive

director. Several meetings were held during Spring 1982 to outline a program for the Academy. These meetings yielded critical decisions regarding the new Academy's goals, structure and operations. Planning group members emphasized their desire for a program that was low-budget, involving little bureaucracy and offering few frills. Members solicited the advice of other health care professionals to identify what types of jobs in health care would be available in the 1990s and what skills would be needed to fill these positions.

Interestingly, the first program model proposed for the Academy drew heavily upon the models used in other Academies that emphasize skills and training necessary for entry-level positions. In particular, the model proposed a six-month training practicum in a health care setting. This model was rejected by Academy planners, who wanted a program that was almost totally academic, with little if any direct vocational training. As Ryan recounts the discussions, planning team members said repeatedly, "We'll do the training. We want students with skills in science and math, not specific job skills."

The result was a Academy model that differs sharply from other Academies. The Health Academy was the first Academy to enroll students in the ninth grade[1] and to lengthen the school day by one period. During students' projected four years in the Academy, they are expected to follow the curriculum described in Table III.1.

This curriculum requires four years of a foreign language--specifically, Spanish. Academy planners believe familiarity with Spanish will benefit students entering health care professions. Students are instructed in Latin during the second semester of their senior year to prepare them for the medical and pharmacological terms they will encounter in college or at work. Considerable emphasis is also placed on mathematics and science--four years of each are required. This greatly exceeds the science and math graduation requirements of other high schools. As in other Academies, classwork in each subject area attempts to introduce health-related topics and examples. For example, in the Health Academy at Martin Luther King, Jr. High School, Spanish teachers use a workbook entitled Spanish for Medical Personnel.

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[1] Prior to this time, all Academy enrollments began in 10th grade, matching the grades served by the Philadelphia high schools. Subsequently, all Academies and the school district itself expanded high schools from three to four grades.

Table III.1

EXPECTED COURSE SEQUENCE
PHILADELPHIA HEALTH ACADEMY

9th Grade	10th Grade	11th Grade	12th Grade
English I	English II	English III	English IV
Spanish I	Spanish II	Spanish III	Spanish/ Latin
Algebra I	Geometry	Algebra II	Elementary Functions
Biology	Chemistry	Physics	Advanced Placement Chemistry or Advanced Placement Biology for Health Majors
World History	American History	Social Studies	
Physical Education	Physical Education/ Health	Physical Education/ Health	
Reading	Typing/ Computers	SAT Prepara-tion	

The program for the Health Academy is stringent and demanding. However, Academy advocates were adamant in their support for a program that would serve "at-risk" youth. According to James Ryan, who eventually became the first executive director of the Health Academy, the recruitment qualifications for students to enter the Academy were based on an assessment of the minimum reading and mathematics knowledge graduates would need to enter a postsecondary health training program. Admissions personnel told Academy planners that students would need to test at 9th- or 10th-grade levels to qualify for their programs. Health Academy planners then worked backwards and determined that students entering the Health Academy would need to read at the 4th- or 5th-grade level to meet the college admission standards four years later. As Ryan points out, without the rigorous program Academy students follow, it is unlikely that most participants would have qualified for collegiate-level training had they remained in the regular school system.

The Health Academy is an interesting adaptation of the general Academy model. As Carole Hamer, the new executive director of the Health Academy puts it, "the other Academies infused a vocational training program with academics. In the Health Academy, we infused an academic curriculum with a vocational orientation."

Getting the Health Academy under way was not achieved without difficulties. Once the planning committee had sketched out its program and gained the support of health care professionals and school officials, it was left with the task of actually setting up the Academy. Martin Luther King, Jr. High School was selected as the site. Teachers were recruited for the Academy by Ryan and Barbara Goldsmith of the school district. The Health Academy enrolled its first class of 34 students midway through the fall of 1982. In a push to get the Academy under way, students were recruited directly from classrooms. Academy teachers had little definite information that they could give students about the Academy and little screening of this initial class was done. It was expected that many from this class would exit the program before graduating.

After the initial year, students were recruited in a more orderly fashion. The lead teacher, John Pizzollo, spoke before assemblies at feeder junior high schools, encouraging students to apply to the Academy. Pizzollo and other teachers emphasize the "separateness" of the Academy. As one teacher put it, parents like sending their children here because it is like a private school. In fact, even the Health Academy brochure underscores this attribute of the Academy, noting: "Its core of teachers provides personal academic attention and counseling to a small

student body over a four-year period, much as in a private school."

Health Academy teachers at Martin Luther King, Jr. reported some difficulty recruiting students because of a problem unrelated to the program. MLK had been moved to the site of a former junior high school because asbestos had been found in its original building. Many students who might have been attracted to the Academy were reluctant to enroll because they didn't want to attend a "junior high school."

The Health Academy curriculum requires that students take one more period of classwork each day than students enrolled in the comprehensive host high school. "Zero period," as this extra classtime is called, begins 50 minutes before the other students arrive. Despite this extra period at the beginning of the day, most Academy students maintain their after-school commitment to extracurricular activities--plays, sports, clubs. In addition, students also have the opportunity to take specially designed courses, which are offered at the school by the local community college.

As the first Health Academy class completed its senior year, 17 of the original 34 students graduated from the program. Another nine students were expected to graduate from the regular high school. Although this indicates a higher level of attrition than is generally reported by other Academy programs, both Ryan and Pizzollo noted that this class had been the pilot and that recruitment had been haphazard. They expect considerably improved results in years to come.

The postgraduation intentions of this class distinguish them from most graduating seniors. Of the 17 Academy graduates, 14 had been accepted and were planning to attend area colleges and universities, including one graduate who had received a five-year scholarship to Drexel University; and three planned to enter the armed forces. Nine of the graduates expected to pursue health care or allied health training.

Continuing Issues

The Philadelphia Health Academy appears to have a strong foundation on which to build. It has weathered the initial implementation phase quite well and has recently expanded to a second site at Overbrook High School. Although the Academy continues to experiment with new curricula, issues and approaches, the basic Health Academy approach seems well-established. From the initial results of its first graduating classes, the Academy has begun to meet its goal of preparing students to enter college-level programs and pursue allied health training.

The major problem facing the Health Academy is financial support. More than one-half of the supporting organizations of the Health Academy are nonprofit health institutions that are themselves competing for funds. As a group, these organizations can contribute little financial assistance to the Academy. As a result, a large share of the Academy costs are being borne by the school district and the Philadelphia High School Academies Association. The need for a stable source of Health Academy support is at the top of the agenda of the new Health Academy board chair.

IV. EFFECTIVENESS OF THE ACADEMIES

The Philadelphia High School Academies seek to achieve two goals--dropout prevention and improved preparation for employment. This chapter analyzes the Academies' ability to meet these goals by quantitatively assessing the Business Academies. We have restricted our assessment to Business Academy graduates for two reasons. First, each of the other Academies had compelling grounds for not undertaking a survey of their graduates[2] and the small size of the graduating classes for each made it unlikely that we would be able to obtain reasonable indicators of job market experience. Second, the district's regular business education program provided a sound comparison group for a study of the Business Academies. Therefore, the findings in this chapter cannot technically be ascribed to the other Academies. However, as the previous chapter has shown, the Business Academy employs the Academy model in its most developed and, at present, best-executed form. Thus, the findings presented in this chapter are a good reflection of the potential of the Academy model.

The analyses are based on two research efforts undertaken by P/PV as part of its assessment of the Academies. The first is a study of all students entering 10th grade in the Business Academy in 1981. Records of these students were traced to determine each student's final completion status--graduated or dropped out before graduating. Results from this analysis provide evidence of the Academies' "holding power."

The second research effort was a telephone survey designed to collect retrospective job market experience information from a sample of Business Academy graduates and two comparison samples--(non-Academy) business curriculum graduates and graduates of other programs in the three schools hosting the Business Academies. All individuals surveyed graduated in 1985 and were surveyed in late 1986 and early 1987 about their experiences in employment and education in the 18 months since graduation.

RESEARCH DESIGN

P/PV adopted two different strategies in assessing the Academies. First, to consider the ability of the Academies to affect dropout

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[2] As previously noted, the Health Academy did not graduate its first class until June 1986; 1985 Automotive and Mechanical Sciences graduates from West Philadelphia High School had only been in the Academy for their senior year. Students who had been in the Automotive Academy at Simon Gratz had not participated in the Academy during their senior year. Finally, the Electrical Academy graduated only 17 students in 1985.

rates among Academy students, P/PV conducted a search of school records to ascertain the school terminations of a single cohort of Business Academy students. Using school district records, all students entering the Business Academy in 1981 were tracked from the time of their enrollment to the time they left the school district by graduating, withdrawing or dropping out. Since students do not ordinarily declare a major in the 10th grade, we could not develop a comparison group of non-Academy business majors. Instead, we compared our results to graduation rates for the general school population.

Second, to assess the effect of the Academy program on employability among graduates of the Academy, P/PV conducted a retrospective survey of recent graduates to determine their job market experience in the first 18 months after graduation. For this part of the analysis, P/PV adopted a comparison group strategy. The principle behind a comparison group is identifying a group whose experiences will closely approximate those the treatment group would have had in the absence of the treatment program. Comparison of outcomes between the two groups yields an estimate of the program's impact. The quality and validity of this impact estimate depends on whether the experiences of the comparison group accurately reflect what would have happened to the participants had they not participated.

Two comparison groups were identified in order to assess the Academy's program impacts. The first was the group of all students in the same school at the same time as program participants who were not in a business program. A second comparison group was the group of students from the same school who had participated in a similar vocational program. Thus, the findings for Academy graduates were compared with two other groups of high school graduates--graduates of a business education curriculum and graduates from other programs in the same school. Business students are similar to Academy students in that they receive similar curricula, while the graduates from other curricula are similar to Academy students in that in the absence of the program, Academy students most likely would have been among this group of nonspecializing students. Details of these two assessments and their findings are presented in the following sections.

HIGH SCHOOL TERMINATION STATUS OF 1981 ACADEMY STUDENTS

For this part of the analysis, P/PV wanted to assess the ability of the Academies to keep students in school. For a variety of

reasons,[3] it was impossible to develop an adequate comparison group for entering cohorts of Academy students and P/PV collected information only on students entering the Business Academy in 1981. Thus, the results speak only to the levels of graduation and attrition experienced by the Business Academy and are not compared with any other Academies' graduation and attrition rates.[4]

Data were collected using original Academy class lists at the three high schools with Business Academy programs in 1981--South Philadelphia, University City and William Penn. Using centralized student data records, each student's completion status was obtained.[5]

To determine whether students graduated from the Academy program, graduation lists prepared by the Business Academy were consulted. Students appearing on this list were counted as Business Academy graduates. Students reported as having graduated by the school district but not appearing on the lists were counted as other program graduates.

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[3] Specifically, central school district records are not organized in a manner that would allow us to identify and access information solely on Academy students. Academy enrollment records are kept by the individual schools and individual Academies only. Moreover, these enrollment records do not contain academic information that would form the basis for identifying the characteristics of an appropriate comparison group. In particular, it would be impossible to identify students who would have enrolled in another vocational program, since this decision may be made as late as the 11th grade. By that time, some students would have dropped out of school.

[4] It should be noted the 1981 was the year in which the Academies began to reexamine their structure and mission. During that year a full-time school district liaison to the Academies was appointed and a series of new policies and procedures were developed.

[5] Several problems were encountered in this process. First, records could not be accessed for a few students born before January 1966. However, review of graduation lists from the Academy reduced this number. The nine whose records were still unavailable are reported in the table as "No Listing," and have been excluded from the base for calculations. In addition, one student left the Philadelphia School District and is excluded from the base. Finally, three students had central records that had not been updated to reflect a final status. These are listed as "Undetermined Final Status." The degree of imprecision introduced by these 13 cases with missing data is $\pm$ 3.4 percent for either the graduation rate or the dropout rate.

Table IV.1 summarizes the results of a review of the completion or attrition status of all 10th-grade students enrolled in the Business Academy in the fall of 1981 for whom data could be obtained.[6] Of the 145 students for whom we have any information, 76.6 percent graduated. Of these, the large majority (94 of 111 or 85%) were Academy graduates. Thirty-one students (21.4%) were reported as having dropped out without graduating.[7]

Assumptions based on the results reported in Table IV.1 must be tempered, since the study is based on a cohort analysis that begins with a 10th-grade class. Academy programs have since expanded to include 9th-graders, so it is likely that some increase in cumulative dropout rates will occur. Nationwide dropout rates are especially high between 9th- and 10th-grades and level off in the last two years of high school. As Academies seek to serve 9th- through 12th-graders, they will likely experience higher attrition rates.

This analysis demonstrates that the Academy, despite its claims of virtually no attrition, is unable to ensure that all students entering the program will eventually graduate, either from the Academy or some other program. However, the 21.4 percent dropout rate for this cohort compares favorably with estimates of the citywide high school dropout rate from Philadelphia public schools. Recent information released by the school district suggests that the dropout rate for all high school students, including those in specialized magnet and college preparatory programs, is approximately 33 percent. However, any comparison of our finding with this rate must be viewed with caution, since the methods of computation vary.

As previously described, our estimate of completion and dropout rates for the Business Academy relies on data for a single cohort that entered the Academy program in Fall 1981. Data was obtained by tracing their records until a final termination status (graduated or dropped out) was found. In contrast, the school district rates are based on a synthetic estimate using rates for all 9th- to 12th-grade students enrolled in the high schools during a single (1985-86) school year. The school district esti-

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[6] Prior to 1985, all Philadelphia high schools served only students in the 10th through 12th grades. Beginning in 1985, some high schools expanded to include 9th-graders. By 1985, however, all Academy programs had 9th grades.

[7] In order for a student to be classified as having dropped out, the school attendance office must ascertain by personal visit that the student has dropped out and must make an attempt to determine the student's reason for leaving school.

Table IV.1

COMPLETION AND ATTRITION RATES
AMONG 1981 10TH-GRADE BUSINESS ACADEMY COHORT

	Number of Students	Percentage
Total Enrollment	145[a]	100.0%
Graduated	111	76.6
From Business Academy	94	64.8
From other program	17	11.7
Dropped Out from School*		
Undetermined	3	2.1

[a] The Academy enrollment list included 155 students. However, no information was centrally available for nine students born before January 1966 and one student who transferred from the district.

* It was impossible to determine from school district records whether students dropped out of school directly from the Academy. However, review of records by Academy officials indicate that only one or two students dropped out of school from the Academy between 1982 and 1986. Most dropouts returned to the regular school for some time before leaving.

mate combines the completion and dropout rates for each grade to derive four-year completion and dropout rates. The different methods used in computing these rates, the inclusion of 9th-graders in the school district estimates and the different time periods from which the data were drawn combine to limit conclusions we can draw based on this comparison.

As indicated in earlier chapters, the Academy recruits students who have below average grades and score between the 20th and 50th percentiles within the district on standardized tests. Students are primarily selected for the Academy because they are at risk of dropping out of high school based on poor academic achievement and disaffection with school, though they must also express interest in the vocational area. According to Academy records, 73 percent of Academy students tested below the 25th national percentile in either reading comprehension or math skills tests at the time of enrollment. More than a third (35%) tested below the 25th percentile in both. Although there likely is some self-selection bias in joining the Academy, the program's graduation rate is encouraging.

POSTGRADUATION JOB MARKET EXPERIENCES OF ACADEMY GRADUATES

P/PV's effort to assess the effect of the Academy model on postgraduation experiences involved surveying 367 1985 graduates from the three Philadelphia public high schools hosting full Business Academy programs.[8] The survey sought data concerning the postgraduation educational and employment experiences of these students in the 18 months since they had graduated. Three samples of graduates were surveyed--Business Academy graduates, graduates of other business education programs and graduates of other types of programs. All students graduating from either the Academy or the business education programs in each school were sampled. A random sample that represented almost one-third (29.6%) of other curriculum graduates constituted the third group.

Both comparison groups--the business education program graduates and graduates of other programs--provide useful indicators by which we can gauge the effect of the Academy, but both also have inherent limitations as comparison groups. The "other curriculum" group appears to be a natural comparison point for Academy graduates since, in the absence of the program, most Academy students would probably have been in this group. However, there

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[8] The three schools--University City, South Philadelphia and William Penn--were the only sites graduating Business Academy students in 1985. The other two Academy sites--Strawberry Mansion and Roxborough--began operation in 1983 and 1986 respectively and have not yet graduated any students.

are two likely important differences between Academy graduates and this group. First, according to Academy selection criteria, Academy students are drawn from academically troubled students, who were performing below grade, with a large majority testing below the 25th percentile. On average, therefore, the sample of "other curriculum" graduates can be expected to do better academically. Second, students in an Academy are distinct from "other curriculum" graduates in the type of training they have received.

If one believes that performance in school is an indicator of performance in the workplace, the implication of the academic difference between Academy and "other curriculum" graduates is that Academy graduates will not do as well in job situations. However, the difference in training received by Academy graduates and "other curriculum" graduates may translate into Academy graduates' work experiences being considerably different. Specifically, given the emphasis of the Business Academy on employment, graduates may be more likely than other students to obtain jobs related to their training. The latter implication suggested the need for another comparison group composed of graduates of a similar vocational training program.

The second comparison group is composed of graduates who took a business education curriculum while enrolled. These graduates were surveyed because they had taken courses similar to those of Academy graduates. In fact, Business Academy students are officially counted as in the business education curriculum when schools report vocational education enrollments to state education officials. The business education program graduates are also a useful comparison group because they are likely to be in competition with Academy graduates for entry-level positions.

However, just as "other curriculum" graduates differ from the treatment group, comparison between Academy and business education vocational students graduates must be approached with caution. Entry into any vocational education program in Philadelphia, including the business education program, is limited to more academically able students. Again, we can expect graduates of these programs to do better than Academy graduates.

In all, the two comparison groups are imperfect but useful. The business education program comparison seeks to control for the type of training students receive; the "other curriculum" comparison seeks to obtain some estimate of what Academy students may have done had they not entered the Academy. However, because Academy students are selected on the basis of lower achievements, academic comparisons between Academy graduates' performance and the performance of either comparison group will be biased against finding positive effects from Academy participation. Thus, if no impacts (or even negative impacts) are found, it will be impossible to distinguish whether the study is evidence of an

ineffective program or of the limitations of the research design. On the other hand, positive findings will reflect impacts assessed against a considerably more stringent standard.

The survey[9] of the participants and comparison groups was designed to collect information about four principal topics:

- Postsecondary educational experience;
- Postsecondary employment experience, including detailed information on the three most recent jobs the respondent had held since graduation;
- An assessment of job search strategies used the last time the respondent looked for employment; and
- Respondent characteristics.

FINDINGS FROM THE GRADUATE SURVEY

The remainder of this chapter reports findings from the graduate survey about their job market experiences. Findings are reported separately for each sample--Academy graduates, Business Education graduates and "other curriculum" graduates. Differences between Academy graduates and the other two samples that are statistically significant at a 5 percent level are indicated in accompanying tables by an asterisk (*).

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[9] The survey was conducted between mid-November 1986 and mid-March 1987 by Response Analysis Corporation (Princeton, New Jersey). Prior to the initiation of the survey, personalized letters were sent to the last known address of all graduates in the sample, introducing the study and notifying them that they would soon be contacted for an interview. A second letter was sent to all nonrespondents during the fourth week of the field period. The survey relied primarily on telephone contact and interviewing but was supplemented in later stages by in-person interviewing. In instances where the respondent was unavailable but a knowledgeable individual could be identified to provide basic data on the respondent, information was collected from a qualified proxy; data were collected in this manner in 17 cases. The most frequent proxy was the respondent's mother. Appendix IV.1 summarizes the survey field experience. A total of 367 cases were completed, representing an overall response rate of 70.4 percent. Completion rates were virtually identical across the three samples.

Analyses are presented in the following order:

- Summary demographic descriptions of the samples;
- Indicators of activity (employment and/or enrollment in postsecondary education) since graduation;
- Characteristics of postsecondary education activities;
- Characteristics of employment activities; and
- Job search activities.

Characteristics of the Samples at Time of Survey

Table IV.2 compares the three samples on a selected set of demographic variables. Comparative information for the graduating classes of the three schools is reported for sex and race/ethnicity.

The samples vary considerably in sex and race. Only one-fifth of Academy and business education graduates are male; in contrast, almost half of the other graduates are male. Note that, among the universe of all graduates from the three high schools, males represented only 37 percent of all graduates. This is consistent with data reported by the Philadelphia Business Academy. Business education curricula, either at the Academy or in traditional vocational programs attract more females than males. The curriculum's emphasis on clerical training, introductory accounting and secretarial/stenographic skills tends to limit its appeal for males.

Black students represent over 90 percent of the Academy sample. The distribution of black and white business education graduates more closely approximates the racial characteristics of the schools' graduating classes. Asian students are not represented in the Academy sample and are also underrepresented among the sample of business education graduates. The findings are consistent with Academy reports, which indicate that 85 to 90 percent of Academy students are black.

The samples shared similar characteristics on several variables. At the time of the interview, the vast majority were single, a large portion were living at home with parents, and about one in five reported having children.

Activities Since Graduation

Table IV.3 presents the average number of months Academy and other graduates were engaged in either employment or education in

Table IV.2

COMPARISON OF SAMPLES AND UNIVERSE
ON SELECTED DEMOGRAPHIC VALUES

	Academy Graduates	Business Education Graduates	Other Curriculum Graduates	All Graduates from the 3 High Schools
Percent Male	17.3	20.5	47.1*	37.3
Race/Ethnicity				
Black	90.7%	78.7%*	74.7%*	74.6%
White	6.7	19.7	10.0	14.1
Hispanic	2.7	0.8	3.5	3.0
Asian	0.0	0.8	11.8	8.3
Percent Living at Home (with parents)	85.3	79.5	85.9	NA
Percent Single	97.3	94.3	95.9	NA
Percent with Children	23.0	21.3	16.5	NA
Total	75	122	170	1,122

*Indicates the value of the indicated group is statistically different from that of Academy students at a 0.05 level of significance.

NA = not available.

Table IV.3

AVERAGE MONTHS ENGAGED
IN WORK OR SCHOOL DURING
18 MONTHS FOLLOWING GRADUATION

	Academy Graduates	Business Education Graduates	Other Curriculum Graduates
Employed or in School	11.83	10.90	9.80*
Employed	11.02	9.38	8.32*
In School	3.05	3.65	3.33
Simultaneously Employed and in School	2.24	2.13	1.85
Sample Size	75	122	170

*Indicates the value of the indicated group is statistically different from that of Academy students at a 0.05 level of significance.

the 18 months following graduation. Academy and business education graduates spent more time either in school or employment than "other curriculum" graduates. While no statistically significant difference is apparent between Academy and business education graduates in number of months engaged, the difference between the Academy and "other curriculum" graduates is significant. The key factor in this difference is the nearly three-month advantage Academy students hold in time employed since graduation. No statistically significant differences between the groups were observed for months of school enrollment, but the significant difference in the number of months led to a significant difference overall.

Table IV.4 presents the employment or educational status of respondents from graduation to time of interview. For all samples, between 19 and 24 percent reported being neither employed nor enrolled in education at the time of the interview; however, only 5 percent reported not having worked or enrolled in an educational program since graduation. Academy graduates were more likely to be employed or in school at the time of the survey than either of the other samples but neither difference is statistically significant.

There are important differences in how Academy graduates and the comparison group respondents were engaged at the time of the survey. Graduates were divided into two groups based on their current activities. The first group includes those who reported principally being enrolled in school (who might also work part time). The second group includes those who reported principally being employed (who might also attend school part time). Academy graduates were significantly more likely to be principally engaged as workers than "other curriculum" graduates and somewhat more likely to be engaged as workers than graduates of a business vocational model. More than 60 percent of all 1985 Academy graduates reported being principally engaged in work at the time of the survey. (An additional 8% worked part time while attending school.) Fifty-five percent were employed full time.[10] In contrast, slightly more than half (53%) of the business education graduates and only 42 percent of other graduates were primarily engaged in work 18 months after graduation. (An additional 10% of business education graduates and 13 percent of "other curriculum" graduates reported working while attending school). Forty-seven percent of the business education graduates

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[10] Respondents reported the average number of hours they worked each week. Full-time work was defined as working an average of 30 or more hours per week. Part-time work was defined as working fewer than 30 hours per week. In considering enrollment, respondents were asked to indicate whether they were enrolled part time or full time.

Table IV.4

EMPLOYMENT AND ENROLLMENT
STATUS BY SAMPLE AT TIME OF SURVEY

	Academy Graduates	Business Education Graduates	Other Curriculum Graduates
Unengaged At Time of Survey	19.0%	23.7%	24.1%
Idle Since Graduation	5.4	4.9	5.3
Employed or Enrolled in Past	14.6	18.8	18.8
Engaged At Time of Survey	81.0	76.3	75.9
Engaged Principally as Student	17.8	22.1	35.4*
Engaged Principally as Worker	63.6	53.3	42.4*
Sample Size	75	122	170

*Indicates the value of the indicated group is statistically different from that of Academy students at a 0.05 level of significance.

and 35 percent of the "other curriculum" graduates were employed full-time when the survey was taken.

Conversely, Business Academy graduates were somewhat less likely than business education graduates and significantly less likely than "other curriculum" graduates to be enrolled as a student at the time of the survey. Only 18 percent of Academy graduates characterized themselves as primarily students. About 22 percent of business education graduates and more than 35 percent of other graduates were engaged primarily in educational activities 18 months after graduation.

This section suggests that Academy graduates were engaged in the job market with greater frequency than "other curriculum" graduates who completed school with them in 1985 and were employed at approximately the same rate as graduates from a traditional business vocational program. Based on these data, the Academy appears to achieve its mission of preparing its graduates for sustained entry into the labor force. Although Academy graduates did not as a rule shun postsecondary education (see Table IV.4), employment was their primary focus 18 months after graduation.

Characteristics of Postsecondary Education Activities

While Academy graduates were more likely than other graduates to be employed 18 months after graduation and to have sustained that employment during that time, many engaged in some type of postsecondary education. Table IV.5 summarizes the educational experiences of those from all samples who enrolled in postsecondary education classes since graduation.

Academy graduates reported the lowest incidence of enrollment (46.7%) since graduation. In addition, among Academy graduates who had ever enrolled, fewer (68%) enrolled on a full-time basis. Academy graduates and business education graduates shared a number of similar educational experiences that distinguish them from "other curriculum" graduates. Specifically, both overwhelmingly attended programs located in Philadelphia and tended to enroll in business programs of relatively short duration with the intention of obtaining a certificate. Graduates from non-business high school curricula were more likely to attend schools outside of Philadelphia, following a curriculum other than business in longer-term programs that culminate in a bachelor's degree.

These findings are consonant with P/PV's observations and with discussions with Academy staff and students. While most Academy graduates are oriented toward employment, many have taken advantage of educational assistance provided by their employer. As a result, they tend to enroll on a part-time basis in

Table IV.5

POSTSECONDARY EDUCATION EXPERIENCE
FROM EACH GROUP AMONG THOSE
EVER ENROLLED

	Among Those Ever Enrolled in School		
	Academy Graduates	Business Education Graduates	Other Curriculum Graduates
Enrolled Full-Time	67.6%	75.7%	82.6%
Remain enrolled	65.7%	51.4%	64.2%
Philadelphia-based Institution	91.4%	90.0%	74.3%*
Business Curriculum	74.3%	62.3%	38.7%*
Average Program Length (in weeks)	89.3	78.2	120.6*
Expected Degree			
Certificate	54.3%	48.5%	35.9%*
Associate	31.4	33.3	19.4
Bachelor	14.3	15.2	42.7*
None	0.0	3.0	1.9
Total Number Ever Enrolled (Percent of Total Sample)	35 (46.7)	70 (57.4)	109 (64.1*)

*Indicates the value of the indicated group is statistically different from that of Academy students at a 0.05 level of significance.

Philadelphia institutions, pursuing employment-related studies and selecting a certificate or associates degree.

Characteristics of Employment Activities

Table IV.6 summarizes the work experience of respondents in the 18 months following graduation. All employment experiences, including multiple-job information and information from respondents who were unemployed at the time of interview, were used in these analyses.

In general, the findings for the total employment experience indicate that Academy graduates did not differ from either business education or "other curriculum" graduates on many basic employment indicators, including average hours worked per week and starting and ending pay rates, and the number of different companies for whom they had worked. However, Academy graduates were twice as likely to have been employed by a Philadelphia Business Academy corporate supporter as graduates in the other groups. Academy graduates were also more likely to have been promoted in any job since graduation--significantly more than other business education graduates. However, this finding may be misleading since it is possible that Academy graduates may have been employed at a lower level position than other graduates: despite the higher incidence of promotions, Academy graduates do not have higher wages.

Employment characteristics of graduates who were working at the time of the survey are presented in Table IV.7. Among graduates employed 18 months after graduation, roughly three-quarters of both Academy and business education graduates were employed full time. Fewer (63%) graduates from other curricula were employed full time. Although this difference is substantial, it is not statistically significant.[11] The average number of hours worked per week, however, did not vary significantly across the three groups. Finally, while employed Academy graduates reported earning an average of $4.90 per hour in their current jobs, their pay rates did not significantly differ from those of other graduates.

Some differences in employment characteristics do distinguish the three groups. First, while both Academy and business education

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[11] Restricting these analyses only to employed graduates reduces the total number of cases used in analyses. This reduction decreases the likelihood that statistically significant differences will be observed. In consequence, the following discussion of current employment information focuses on trends in the data and notes statistically significant differences as they occur.

Table IV.6

SUMMARY CHARACTERISTICS OF JOB MARKET EXPERIENCE SINCE GRADUATION BY SAMPLE

	Among Those Ever Employed Since Graduation		
	Academy Graduates	Business Education Graduates	Other Curriculum Graduates
Average Number of Hours Per Week	34.0	32.8	32.2
Average Starting Hourly Pay at First Job	$ 3.83	$ 4.00	$ 4.03
Total Hourly Pay Increase Since Graduation	$ 0.90	$ 1.11	$ 0.65
Ever Worked for PBA Supporter	51.6%	22.5%*	26.5%*
Ever Promoted Within a Company	38.1%	23.8%*	30.2%
Average Number of Different Companies Employing Respondent Since Graduation	1.9	1.9	1.8
Sample Size	63	101	136

*Indicates the value for the indicated group is statistically different from that of Academy students at a 0.05 level of significance.

Table IV.7

CHARACTERISTICS OF EMPLOYMENT 18 MONTHS AFTER GRADUATION AMONG WORKING GRADUATES BY SAMPLE

	Among Those Employed at Time of Survey		
	Academy Graduates	Business Education Graduates	Other Curriculum Graduates
Employed full time	77%	74%	63%
Average Hours Worked per week	35.5	34.4	33.8
Employed by PBA Supporter	37%	17%*	12%*
Employed in Philadelphia	90%	90%	78%
Promoted within this Company	41%	25%	30%
Occupational Distribution			
Clerical	54%	53%	25%*
Service	15	21	29
Sales	8	8	19
Other	23	18	27
Current Hourly Wage	$ 4.90	$ 5.14	$ 4.96
Sample Size	53	77	93

*Indicates the value of the indicated group is statistically different from that of Academy students at a 0.05 level of significance.

graduates were equally likely to be employed in Philadelphia, employed Academy graduates were again significantly more likely to be employed by Philadelphia Business Academy corporate supporters than the employed graduates from the other two groups.

This finding indicates that one benefit of graduating from the Academy is access to the Academy's supporting companies. Since these companies represent many of the "blue chip" employers in the city, this advantage is substantial.

Second, employed Academy graduates led graduates from the other groups in rate of promotion in their current jobs. Forty-one percent reported having been promoted since they began working with the current employer. However, this higher promotion rate is not statistically significant and, again, did not translate into higher wages for Academy students. Finally, the majority of both Academy and business education graduates held clerical jobs, while the jobs of "other curriculum" graduates were more evenly distributed across occupations.

Job Search Activities

One of the central objectives of the Philadelphia Business Academy is to teach students how to search for a job. Table IV.8 reports the steps that respondents took the last time they looked for a position. In general, Academy graduates used each of the different job search techniques described more frequently than graduates in the other two groups. Academy students were much more likely to use applications, past employment contacts and direct contacts with employers in their search than other graduates. In addition, Academy graduates used other techniques, such as private and public employment services, visits to personnel offices, reading help wanted pages and contacting high school teachers, as frequently as other graduates. More important, Academy graduates used significantly more techniques in searching for a job than graduates in either of the other groups. The large number of job search strategies used by these students indicates that Business Academy graduates were persistent in their job search, suggesting a high level of motivation to find employment.

One surprising finding was that few Academy graduates (19.7%) said they had contacted the Business Academy office in their most recent job search. Despite the key role that this office plays in preparing students for jobs during high school, graduates do not appear to rely on the office for continued assistance after graduation.

Table IV.8

JOB SEARCH ACTIVITIES USED THE
LAST TIME RESPONDENT LOOKED FOR A JOB

	Among Those Who Ever Looked For a Job		
	Academy Graduates	Business Education Graduates	Other Curriculum Graduates
The last time you looked for a job did you . . .			
Complete a job application?	98.6%	89.8%*	88.0%*
Look in the help wanted pages of the newspaper?	70.4%	62.7%	56.0%*
Call a company to find out if a job was available?	73.2%	57.6%*	54.4%*
Go to a company personnel office to find out if a job was available?	54.9%	57.6%	53.5%
Mail or drop off a resume to a company?	52.9%	33.9%*	33.9%*
Contact the company where you worked during high school?	39.4%	28.4%	11.5%*
Go to a state or city employment center?	29.6%	33.9%	30.4%
Go to a private employment service?	23.9%	13.6%	18.0%
Contact a teacher or someone at your high school to help you find a job?	21.1%	17.8%	15.8%
Average Number of Activities Reported	4.6%	3.9%*	3.5%*
Contact the Business Academy office about finding a job?	19.7%	N/A	N/A
Sample Size	71	118	159

*Indicates the value of the indicated group is statistically different from that of Academy students at a 0.05 level of significance.

SUMMARY

In this chapter, findings from two analyses of the impact of the Academy model on students and graduates have been presented. In the first analysis, completion and dropout rates were determined by reviewing the school records of students that enrolled in the Business Academy in 1981. This analysis indicates that approximately three-quarters of the entering cohort graduated. This is comparable to the 67 percent completion rate for the total district, which, as we noted earlier, includes 9th-graders, who were excluded from participation in the Business Academy. We consider this a high completion rate, especially when one considers that Business Academy students are generally believed to be a dropout-prone group for whom a much lower graduation rate might be predicted.

The second, more extensive analysis was based on a retrospective survey of the employment and educational activities of 1985 Academy graduates, business education graduates and graduates from other curricula. The findings from this analysis suggest that Academy graduates do as well as or better than graduates from business and other curricula on most employment indicators. That Academy graduate performance is on par with or exceeds that of the two comparison groups is important, since both groups were characterized as being more academically able than Academy graduates.

Among other important findings were that Academy graduates are more likely than members of the comparison groups to be employed 18 months after graduation and appear to have considerably greater access to Business Academy corporate sponsors as employees. Finally, Academy graduates use a wider variety of employment search activities when looking for new jobs than other graduates. This suggests that their Academy training has broadened their understanding of effective strategies for securing employment.

V. CONCLUSIONS

Inclusion of the Philadelphia High School Academies in P/PV's study of school/business collaborations presented an opportunity to examine a model that was different from other sites in several important respects:

- In existence since 1969, the Academies had an established history and record, and could shed light on factors that contributed to the institutionalization and growth of a collaborative effort. Simultaneously, their duration and need to evolve allowed observation of the decisions and changes that confront a mature program.

- Businesses are involved in a variety of ways and share responsibility for Academy functioning. Business people provide advice on management and curriculum development, help prepare students for the work environment and offer jobs to youth who are ready. The Academies offer researchers the opportunity to look at such examples of sustained business involvement, to determine how they may have influenced the program's development and to categorize the nature of firms that choose to become and to remain involved.

- The Academies represent a structured model of school/business collaboration that has been used in a range of schools within a single system. The program has been tried in a number of schools and a number of vocational areas. The extent to which the model has been transferred successfully to other schools within the district or imported to other environments as a finished product has implications for replication of collaborative programs.

STRENGTHS AND WEAKNESSES OF THE ACADEMY MODEL

Findings from P/PV's study of the Academies demonstrate that the Academies' institutionalization and growth within the school district is largely due to the quality of the model. Its structure and operation incorporate many of the features that are generally considered effective in keeping at-risk youth in school and in helping them obtain further training or employment. These factors include the Academies' small size and the amount of personal attention provided to students both by teachers and by business people. In addition, the careful integration of academic and vocational curricula helps youth understand the importance of school in preparing them for later life. Finally,

the knowledge that meeting academic and attendance requirements will lead to jobs is a significant motivator.

P/PV's study of the impact of the Business Academy on students and graduates shows that approximately three-quarters of the youth who entered the Academies in 1981 graduated three years later. When this is compared with estimated school district completion rates of approximately 65 percent, the Business Academy graduates appear to have performed well. The Academies' graduation rate is even more impressive when the characteristics of the population are taken into account. Academy students are recruited based on records of poor academic achievement, low motivation or poor attendance--many are students teachers identified as likely to drop out of school. A large majority test in the lowest quarter of nationally normed tests in both reading comprehension and math skills.

P/PV's graduate survey shows that Business Academy students were well-equipped for the working world when they graduated from high school. The 81 percent who were either employed or enrolled in educational programs at the time of the survey (a higher percentage than either comparison group) reported longer periods of employment and greater frequency of promotion than those in the comparison groups. In addition, more than one-half of Academy graduates worked for companies identified as Business Academy supporters, including many of the most desirable firms in the city. It is unlikely that most students would have even applied for employment in these companies in the absence of the Academy. Academy graduates also reported more effective use of job search strategies in finding jobs than other graduates. Academy graduates, however, did not report higher wages or working more hours per week on average. On these measures, Academy graduates closely approximate the experiences of business education and "other curriculum" graduates.

The primary weakness of the Academies is the variability in implementation observed across schools. Even within the same city and school district, differences in level of support from administrators, teachers and business people affect the Academy's ability to deliver education, job preparation and training of consistently high quality. This variability has affected recruitment and placement efforts and, in several cases, has jeopardized the continued operation of the Academy. Although the degree of autonomy enjoyed by directors and lead teachers is a bonus, in that it grants them a level of control unusual for school programs, it may also lead to poor decisions and choices of focus for individual Academies. The inconsistent quality of the Academies indicates the need for some limits on autonomy and for more accountability, particularly in light of the superintendent's desire to expand the program. At the same time, the program's variability also indicates the importance of allowing

schools and businesses that are implementing the Academy model to participate in adapting it to their requirements.

IMPACT OF ACADEMY EXPANSION

After the school district made public its desire to expand the Academy program to serve larger numbers of at-risk youth in Philadelphia, the PHSAA debated whether the existing Academy model as well as its structure and management can handle the 5,000 youth that Superintendent Clayton seeks to enroll. In mid-1986, the PHSAA engaged the Conservation Company, a Philadelphia consulting firm, to determine when, if and how the proposed expansion should occur.

Although the conclusion of the Conservation Company's study was that Academy capacity could be doubled to serve 3,600 students within the next five years, it also determined that "both day-to-day operations and long-term planning and development are inadequate to meet the demands of the existing program, much less a larger one" (the Conservation Company: 1987:i). Many of the report's subsequent recommendations address the management and budgetary changes that must be made to achieve the proposed goal. The report also suggests a selection process for developing new Academies; selection of vocational areas has been made quite casually in the past, with the possible exception of the Health Academy. The recommendation is to develop new Academies that match areas of most likely employment growth, a change that would improve the process and prepare graduates for the job market they will face.

The proposed expansion has placed the Academy's development at a crossroads. At a time when the seriousness of the dropout problem is forcing urban school districts to devise programs to convince youth of the benefits of remaining in school, often with substantial business involvement the Academies offer a tested model. But as the Academy looks toward possible expansion, many of its strongest supporters caution that the key aspects of the model, such as small class size and personal attention, must not be lost. In addition to the Conservation Company's finding that the current management structure does not appear adequate to meet the demands of a larger and more complex program, P/PV's assessment of current Academy operation reveals other areas that will require careful scrutiny and perhaps modification before the proposed expansion is implemented:

- Continued sensitivity to changes in the job market are important for successful education and training of Academy youth. The Academies that have effectively involved members of the business advisory committee in curriculum planning and job placement have been most

successful. However, the process must be built into the operations of all Academies.

- The quality and currency of the equipment is important in programs that promote graduates to business as work-ready. Two of the Academies, the Automotive and the Business Academy, did not have adequate, up-to-date equipment at the time of our observations. The problem has been most serious for the Automotive Academy, which has been severely hampered by the lack of an adequately equipped in-school garage. If the school district budget does not allow purchase of up-to-date equipment, the Academies must find ways to increase contributions of funds or equipment by business.

- The Academies have benefited from the sponsorship of prominent Philadelphia businesses, who have offered extensive resources to Academy students and given them access to desirable entry-level jobs. However, faced by the need for more jobs and by the recognition that even after four years in the Academy program the skills of many students are not sufficient for large, high pressure firms, the Academies must make renewed efforts to better prepare students and broaden their recruitment outreach to include more medium-sized businesses. For such businesses, whose resources are frequently limited, involvement in the Academies may be restricted; for example, they may be able to offer jobs or advisors but not both.

- The responsibilities and requirements that are involved in housing an Academy have not always been met by school administrators. Although requirements have been clearly detailed, principals of the host high school have not always been eager to meet the scheduling and logistical requirements that acceptance of the Academy should impose.

- The most successful business involvement has taken place in Academies that involved businesses in Academy operation and did not restrict involvement to provision of jobs. The Academy model was developed with substantial business input and its implementation required not only funding but advice, curriculum review and interaction with students. The Automotive Academy had not fully implemented the model during the early years of the program and only recently has the director begun to enlist a full complement of support from participating businesses.

The Academies offer a comprehensive, tested model for reaching dropout-prone youth, helping them graduate from high school and obtain and keep a job. The Philadelphia School District has recognized the program's strengths and seeks to expand it to serve more youth. As part of the process, the school district and the management of the Academies must carefully assess what makes it work. Businesses and the schools should jointly plan and implement a model that is adequate to meet the new demands of an expanded program.

As this report was nearing completion, the Board of the PHSAA voted to implement changes in management and development for the Academies in preparation for an expansion of the Academies to serve 3,600 students by 1992. The Board accepted many of the recommendations made by the Conservation Company, including consolidation of certain administrative functions at the association level and a more streamlined management and fundraising process. In order to accomplish the expansion, the Board has launched a major recruitment campaign aimed at broadening support for the Academies within the Philadelphia business community.

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