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Examining alternatives in education : an evaluation of three academy programs

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**Examining
Alternatives in
Education: An
Evaluation of
Three Academy
Programs**

January 10, 1999

Examining Alternatives in Education:
An Evaluation of Three Academy Programs

by

Melinda E. Chmel

A Thesis

Presented to the Graduate and Research Committee

of Lehigh University

in Candidacy for the Degree of

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TABLE OF CONTENTS

LIST OF TABLES	v
LIST OF FIGURES	vii
ABSTRACT	1
INTRODUCTION	2
LITERATURE REVIEW	5
Demands for Alternatives	5
Options in Alternative Education	11
Evaluating Alternatives	17
Evaluation Questions	18
METHODS	19
Allentown School District Academies	19
Allentown Academy of the Arts	21
Health, Science, and Fitness Academy	26
Environmental and Allied Health Academy	31
Evaluation Procedures	36
Comparison Groups	37
Student Survey	44
Interviews with AAA Graduates	48
Teacher Survey	48
RESULTS	50
Grant Requirements	50
Multiple Group Comparisons	55
Student Survey	59
Teacher Survey Results	86
Interviews with AAA Graduates	96
CONCLUSIONS	99
Conclusions	99
Recommendations	101
Implications for Alternative Education	102
Limitations	104
Recommendations for Further Research	104
Issues Related to Evaluation Research	105

REFERENCES 106

APPENDICES 109

 Appendix A: Matched Group Sample Parameters 109

 Appendix B: Parental Consent Form for Student Survey 113

 Appendix C: Academy Student Survey 114

 Appendix D: Telephone Interviews with AAA Graduates 122

 Appendix E: Teacher Survey 123

BIOGRAPHY 126

LIST OF TABLES

CHAPTER THREE: METHODS

1. AAA Majors	23
2. Ethnic Background of AAA Students	25
3. Ethnic Background of HSF Students	30
4. Ethnic Background of ENV Students	35
5. Characteristics of ENV Students and the ENV Matched Sample	40
6. Characteristics of HSF Students and the HSF Matched Sample	41
7. 11 th Grade AAA Students versus Matched Sample	43
8. 12 th Grade AAA Students versus Matched Sample	43
9. Reliability Analysis of Student-level Scales in NELS:88	47

CHAPTER FOUR: RESULTS

Multiple Group Comparisons

1. Ethnic Background of Allen Students	56
2. Ethnic Background of ENV vs. Dieruff Students	57

Student Survey

3. Academy versus Regular District Courses	61
4. Specialized Nature of the Academy	61
5. Student Perceptions of their Teachers	65
6. In Class I Often Feel Put Down by my Teachers	66
7. Other Students Often Disrupt Class	67
8. Disruptions by Other Students Get in the Way of My Learning	67
9. There is Real School Spirit	68
10. Misbehaving Students Get Away With It	69
11. Hours Spent on Homework Each Week	71
12. Student Perceptions of Academic Subjects	72
13. Perceived Usefulness of Academic Subjects	73
14. I am Often Afraid to ask Questions in Class	74
15. Parental Participation	75
16. Monitoring School Work and Activities	77
17. Planning their High School Program	79
18. Discuss Selecting Courses with Parents	80
19. Plans for Future	80
20. Parents' Expectations for Students after Graduation	82
21. School Attendance	83
22. Academy Student Responses Self-Esteem Items	84
23. Perceived Control over Life	86

Teacher Survey Results

24. Teacher Perceptions of Academy Students	88
25. Perceptions of Academy Students versus Nonacademy Students	88
26. Teacher Satisfaction, Roles, and Workload	90
27. Aligning Curriculum with Academy Focus	91
28. Relationship between Academy Teachers and other District Personnel .	93

LIST OF FIGURES

CHAPTER THREE: METHODS

1. AAA Curriculum Structure 22

CHAPTER FOUR: RESULTS

1. Proportion of Free / Reduced Lunch Students in Academy vs District 57
2. Parental Participation in School Activities 78

ABSTRACT

Over the past five years, three academy programs have been established in the Allentown School District to provide interested students with the opportunity to participate in specialized programs in health, science, and fitness, environmental and allied health, and the arts. The present evaluation was undertaken at the request of the Allentown School District to provide academy funders, district officials, academy staff, the school board, and the community with information regarding student performance and the relative strengths and weaknesses of the academy system. This information was obtained from multiple group comparisons, a student survey, teacher survey, and interviews with select students and academy personnel. The results indicate that the academies meet the goals and objectives set by their funding agencies and that both students and teachers are pleased with their academy experiences. In fact, academy students feel more challenged, work harder, and enjoy academy classes more than regular district courses. Academy students also have higher attendance rates and lower dropout patterns than the district average; however, there were few significant differences between the academy and a matched group sample. According to a written survey, both academy students and their instructors are pleased with the student-teacher relationships within the academy and feel that the academy helps them meet their personal and academic goals. In addition to providing feedback to academy personnel and district staff, these results are also used to better understand the general effects of alternative education.

CHAPTER ONE INTRODUCTION

During the past five years, three academy programs have been established in the Allentown School District to provide interested students with the opportunity to participate in specialized programs in health, science, and fitness, environmental and allied health, and the arts. Although each academy has a unique structure, focus, and mission, they share common goals and objectives for academic excellence and student growth. By offering a specialized curriculum in a small school setting, each academy works to attract students with shared interests and motivation to create an atmosphere conducive to learning. But the mission of each academy goes beyond academics as each academy strives to use the students' interest and dedication to their field of study for positive academic growth and personal development. Using the small school environment, each academy attempts to establish positive student-teacher relationships and to foster an atmosphere of cooperation where students feel supported, guided, and ready to learn.

To offer such specialized programs within a traditional comprehensive school, each academy receives additional operational funds from the Pennsylvania Department of Education and other contributors. As part of each grant, the academies are required to provide evaluation information on the growth and integrity of each academy. To provide this information, the present evaluation was undertaken at the request of the Allentown School District. In line with the requirements of the Educate America Act Grant¹,

¹ The Educate America Act Grant is from the Pennsylvania Department of Education.

information was collected on enrollment, dropout, and attendance patterns as well as the curriculum goals and specific organizational structures used within each academy.

Although this information provided the academy funders with a broad understanding of the growth and integrity of each academy, it did not provide academy staff or school officials with information on student performance or the relative strengths and weaknesses of the academy system. To provide a more detailed analysis of the efficacy of each academy, the grant requirements were expanded to include a matched group design, student survey, teacher survey, and semi-structured interviews with select students and academy personnel. The overall goal of the additional evaluation was to provide useful, accurate, and insightful information that could serve as a basis for self-improvement.

By providing alternatives to traditional education that are free and available to all students in the community, the academy system is a form of alternative education. And like other alternative programs, it has been shaped by the demands of society. Since the 1960s, alternative education has worked to correct the perceived deficiencies in public education by using alternative forms of organization and pedagogy. Some programs have worked to desegregate schools while simultaneously improving the quality of education for all students. Other programs have used specialized curriculum themes to attract diverse students with similar interests to better engage them in the learning process.

But despite the different techniques used within alternative education, the overall goal has been to better meet the needs of a diverse student body. This includes ensuring that poor and minority children have an equal opportunity to participate and succeed in

these programs. In doing so, alternative programs are designed to help reduce the structural inequalities that are characteristics of traditional education. By increasing the knowledge and skills of poor and minority students, who are disproportionately placed in low academic tracks, alternative programs help reduce the reproduction of current social class structures.

Although the present evaluation was undertaken to provide academy funders and district officials with information on the efficacy of the academy system, the evaluation results also provide information on the general effects of alternative education.

Comparisons with district data reveal that the academies serve a large number of high-track students and relatively few poor and minority students. This demonstrates that simple modifications in organization, without fundamental changes in student recruitment, does not necessarily ensure that students of all levels and abilities will be served. For alternative programs to truly meet the needs of a diverse student body and fight the structural inequalities of traditional education, teachers and administrators must consciously and purposely recruit students of all academic level.

CHAPTER TWO LITERATURE REVIEW

OVERVIEW

The Allentown School District Academies, with their specialized alternative programs that are free and available to all students in the community, are a form of alternative education. As in other alternative programs, the context and character of the academy system has been shaped by the needs and demands of society. However, these demands have done more than create a need for alternative education, they have also shaped the structure and focus of alternative education programs. Magnet schools, schools-within-schools, and theme schools are only a few examples of the many different alternatives use to meet these demands and improve the education of all students. This chapter briefly examines these issues by looking at the history and character of alternative education and how these issues relate to the need for evaluation research.

THE DEMAND FOR ALTERNATIVES

The history of alternative education has been shaped by the events, beliefs, and values of society at large. And as the economic, political, and social pressures in society change, so do the demands placed on education, making education intrinsically tied to the perceived needs and demands of society. The Industrial Revolution, the rush into space, the demand for desegregation, the atmosphere of the 1960s, and the multitude of reports on the state of public education have all influenced the organization and structure of alternative education to varying degrees. In short, the support of alternative education has

risen and fallen with the public's changing ideas of what education should be.

The growth of American industry and the rise of urban centers led to increased demands for compulsory education. In the past, grammar schools had catered to students from wealthy families and provided few opportunities for children from other groups (Herbst, 1996). But growing industries needed more skilled workers to operate their factories and businesses. With an increase in the division of labor and need for specific skills, more and more Americans came to see education as a source of economic opportunity. In fact, Horace Mann, the leader of the public education movement, declared schools as “the great equalizer of the conditions of men...the balance wheel of the social machinery” (Bracey, 1995, p. 20). Compulsory education would ensure that all students, rich and poor alike, would receive the education needed to enter the work force and become productive members of society. But it was also seen as a way to protect children from child labor and to protect the nation from the lawlessness associated with crime and poverty in rapidly growing cities (Bracey).

The demands for compulsory education and moving from educating a select few to educating a nation required major changes in the structure of the public education system. The one-room schools of early America could not accommodate the rapid growth of students. New schools needed to be built to serve a large and diverse student body. Educators also needed to determine how these new schools would be organized and structured. Impressed by the efficiency of the factory system, educators adopted administrative hierarchies, prescribed curriculums, and age-specific grade levels based on the factory model. What emerged from these changes came to be known as traditional

education: self-contained, age-graded classrooms with one teacher working from an assigned curriculum (Ballantine, 1993). Within secondary education, comprehensive schools emerged based on these principles. Designed to serve students from various backgrounds, abilities, and interests, early proponents praised comprehensive schools for their ability to educate a diverse student body under one roof. Based on such a democratic ideal, comprehensive high schools became the model for secondary education by the early 1900s (Tanner, 1982).

However, soon after these changes took root, parents and educators began to question the effects of traditional education. Alternative organizational structures, curriculum plans, and instructional methods were soon developed to help correct the perceived deficiencies in comprehensive schools. By the 1920s, public support of alternative education was at an all time high. Progressive education, with its focus on child-centered, experiential learning, was seen as a humane and democratic alternative to the impersonal, inflexible, authoritarian model of comprehensive education. Schools were springing up all over the country based on Dewey's notion of progressive education (Koetzsch, 1997).

But excessive educational experimentation and the onset WWII caused many Americans to question the effects of progressive techniques. In 1957, public support came to an abrupt end when Russia launched the first satellite into space. *Sputnik* came to represent a threat to America's dominant position and educational reform was seen as the answer. Progressivism was attacked as "soft" on academics with too much focus on cooperation at the expense of individualism (Bracey, 1995). The Back-to-Basics

movement, with its emphasis on old-fashioned reading, writing, and arithmetic, promised to correct the effects of progressive education and better prepare our children for the technological positions that would keep the United States competitive (Ballantine, 1993).

By the 1960s, public priorities and concerns had shifted. Mixed opinions and strong beliefs surrounding the Vietnam War forced the public to reevaluate the social, political, and economic institutions in society. Parent, educators, and students alike were now questioning and reevaluating the relevance and structure of comprehensive education (Koetzsch, 1997). Schools began voicing concern over student dropout rates and the effects of at-risk status and many teachers worried about special students—the poor, disadvantaged, gifted, or shy—who fell through the cracks of a comprehensive school system (Young, 1990). Parents were also demanding choice from their public schools. They wanted education to reflect their personal values and ideas about what education should be.

Within this new environment alternative education was reborn. Although initial support was rooted in idealistic views concerning choice, respect, and cultural pluralism (Young, 1990), the need for alternative education became more pragmatic as public education came under increasing fire and public scrutiny. Research reports and critiques of public education, such as *Death at an Early Age* (1967), *Crisis in the Classroom* (1970), and *Compulsory Miseducation* (1971), became national bestsellers (Smith, 1974). The media helped popularize these reports and fueled the public's perception that public education was failing.

These reports did more than outline the shortcomings of public schools, they

questioned the very nature of comprehensive education and its ability to educate all students. As early as 1973, the President's Science Advisory Committee reported that schools were failing to meet the needs of a diverse student body and that alternative programs would be needed to better serve all students. Other reports specifically questioned the effects of large classes, ambiguous goals, and low expectations and attacked many traditional schooling practices as inequitable.

Criticisms of ability grouping and tracking practices were particularly severe. Researchers have shown that dividing and segregating students into high and low curriculum tracks leads to differential outcomes (Vanfossen, Jones, & Spade, 1987). In fact, students in low tracks often have fewer resources and fewer opportunities to learn than students in high track courses (Oakes, 1985). To make matters worse, Oakes found that the division of students into high and low tracks coincides with race and socioeconomic status. Other educational critics have even argued that these divisions, with their subsequent effects on career opportunities and life chances, perpetuate current class structures, keeping the rich rich and the poor poor (McLaren, 1995).

But criticisms of comprehensive schools have not been limited to racial and socioeconomic divisions. Researchers have also charged that schools have even failed to meet the needs of the average student. In their famous report, *The Shopping Mall High School: Winners and Losers in the Educational Marketplace* (1985), Powell, Farrar, and Cohen concluded that comprehensive schools serve those at the top and bottom of the academic spectrum fairly well but treat the average student as "unspecial." Teachers expect less from these average students and seldom push them to succeed. They also

receive less time and attention from counselors and administrators, even though the unspecial make up more than 75 percent of all students. Many of these differences are due to the external support networks provided to gifted and special education students, support that the average students do not have. The advocacy of parents and educators for special groups works as a type of consumer demand that the school system responds to, making schools more like shopping malls than coherent educational institutions.

Other critics argue that comprehensive education has adverse effects on all students, special and unspecial alike. Researchers have found that students perceive school as boring and unpleasant and that students are not fully engaged in the learning process (Goodlad, 1983; Sizer, 1984). However, one of the most influential reports came from the National Commission on Excellence in Education, headed by the Secretary of Education T. H. Bell, entitled *Nation at Risk* (1985). The commission claimed that “the education foundations of our society are presently being eroded by a rising tide of mediocrity that threatens our very future as a Nation and a people” (p. 5). They went on to say that the decline in education would threaten America’s dominant position in industry and commerce. Something had to be done.

These reports, along with parental demands and societal concerns, have placed new demands on our schools. Although few groups agree on solutions to the shortcomings of public education, everyone agrees that something must be done to better meet the needs of all students. With the comprehensive school structure firmly in place, alternatives within education have emerged as a viable alternative to address current demands and offer varied solutions.

OPTIONS IN ALTERNATIVE EDUCATION

The demands placed on public education did more than revive America's alternative education movement, they shaped the form and direction of alternative school programs. Magnet schools, schools-within-schools, charter schools, and theme schools are only a few examples of the many different alternatives developed to meet the demands placed on education. With new organizational structures, curriculum plans, and instructional methods, alternative programs are being used to better motivate students, integrate schools and classrooms, prevent student drop outs, and improve the education of all students.

Characteristics of Alternative Schools

Alternative school programs have sprung up all over the country based on the various needs and demands of society. In fact, alternative programs do not adhere to any one structure or mission; instead, each program is developed to meet the needs of a specific community or to address a specific problem. Based on this rationale, an alternative public school is "any school that provides alternative learning experiences to those provided by the conventional schools within its community and that is available by choice to every family within its community at no extra cost" (Smith, 1974, pg. 14). In a comprehensive overview of alternative education programs, Young (1990) outlined the following characteristics that unite alternative programs:

- They use a clear mission that guide the organizational structure, curriculum, and instructional methods used.

- They use a focused instructional plan that emphasizes a certain curriculum, theme, or school climate.
- They use a student-centered approach to help develop the whole student.
- They use a small school environment where positive student-teacher relationships are emphasized.
- They use a noncompetitive environment so students do not feel they need to compete.
- There is more autonomy and greater flexibility for students, teachers, and principals.

What makes alternative school programs different than comprehensive schools is that they develop their curriculum, organizational structure, and instructional methods to meet the specific needs of students, teachers, and the community. By tailoring each program to meet specific needs, alternative schools are better able to establish a clear focus that guides its mission, curriculum, and structure (Young, 1990).

Types of Alternatives

There are many different ways in which alternative programs attempt to provide a positive change in organization, curriculum, and pedagogy that is in line with the school's mission and philosophy. Some programs are specifically designed to serve certain students or use a specialized curriculum theme while others may use traditional curriculum within a new school setting. Alternative schools may also combine a variety of these techniques to develop a unique program that best meets their needs. Academy programs, for example, create an alternative program within a comprehensive school by

using a specialized theme designed to bring together students with similar interests. And as each new program continues to borrow, modify, adapt, and develop new alternative techniques, each program becomes unique and the boundaries separating different categories becomes less distinct.

Despite this overlap, there are several broad categories that most alternative programs fit into: magnet schools, schools-within-schools, theme schools, and career academies. These programs have been developed in response to the public's demand for increased school choice and academic excellence. They have also been developed to correct the shortcomings outlined by educational researcher and reformers. Powell, Farrar, and Cohen (1985) and the President's Science Advisory Committee (1973), among others, have recommended that alternative schools use a special theme to attract and better motivate students.

Magnet Schools

Magnet schools were developed in response to social and legislative demands for school desegregation in the 1970s. As an alternative to mandatory busing, magnet schools use specialized curriculum themes to attract students from various ethnic backgrounds. Parents and students are free to choose a school program that best reflects their personal interests and goals. This open enrollment is used with racial quotas, resulting in voluntary desegregation (Metz, 1986).

As Gamoran (1996) explains, "when families choose a magnet school, they are asserting an interest in the school's particular mission" (pg. 43). Magnet schools use this interest to better engage students in the learning process. In fact, Gamoran found that

magnet school students scored higher in science, reading, and social studies tests than students from public comprehensive schools.

Schools-Within-Schools

The school-within-a-school model, which has become increasingly popular in urban school districts, was developed to help correct many of the perceived problems in comprehensive education. By dividing large schools into smaller units, the school-within-a-school structure is used to combine the economy of a large school with the close-knit atmosphere of a small school (Plath, 1965).

Each “mini-school” has its own administrative staff, guidance counselors, teachers, and students. This structure allows teachers to work in teams, thereby reducing the isolation between subjects (Plath, 1965). It also allows teachers to spend more time with individual students and allows them to better attend to individual needs and interests. All this can be done without reducing the cost saving features associated with large public schools (Ramsey, Henson, & Hula, 1967). Extensive services can still be offered to all interested students and schools can continue to offer a diverse curriculum to its student body.

Theme Schools

Alternative focus schools, also known as theme schools and high schools with character, are those programs that have a particular “academic thrust” or are designed to serve a particular group of students (Colvin, 1997). Most of these programs focus on a curriculum theme, such as drama, technology, math and science, or the humanities. Other programs use an instructional focus across all core and elective courses. To some extent,

magnet schools and schools-within-schools are a form of alternative focus schools; however, these programs can also operate as discrete units.

Career Academies

The structure and focus of career academies also overlaps with the school-within-a-school approach and borrows several techniques from alternative focus schools. In general, academy programs use a specialized career theme to attract and motivate students (Stern, Raby, Dayton, 1992). Each academy uses both academic and technical activities to demonstrate how academic skills are related to real-world jobs. In fact, using career-related examples in the classroom helps to increase the relevance of the curriculum, which is one of the ten goals in the nation's Goals 2000. Through various activities, students are also introduced to the expectations of work. Like many school-within-school programs, classes are often smaller to create a sense of community among students and teachers. Parents are also encouraged to become involved with the academy and teachers are given more opportunities to participate in planning and decision-making. Employers also help plan and guide the program and provide opportunities for field trips, site visits, and internships to gain real-world experience.

The Effects of Alternative Education

After a thorough analysis of the research to date, Young (1990) concluded that students within alternative schools have more positive attitudes toward school, their school attendance improves, and that their achievement increases as a result of the alternative program. The following characteristics help produce these results:

- a clear mission to guide their program.

- positive student-teacher relationships.
- instruction is related to the student's personal experience.
- the teachers complete a variety of roles to meet student's needs.
- small school atmosphere and noncompetitive environment.

Since the 1970s, relatively few evaluations have focused simply on the structure and effects of alternative schools. Most evaluations have concentrated on programs designed to for at-risk students. One influential study in this area was conducted by Gold and Mann (1984). Using a matched group comparison between at-risk students in alternative versus comprehensive programs, Gold and Mann concluded that alternative programs are more effective at reducing behavior problems and improving student perceptions.

Increased Opportunities

Alternative school programs do more than teach their students, they work to create increased opportunities for students in both work and life. With a strong commitment to equity, alternative programs are not designed to attract only the gifted students but rather work to include students of all racial, ethnic, and socioeconomic backgrounds (Colvin, 1997). This includes the disadvantaged students—the poor, minority, or at-risk students—that might otherwise fall through the cracks of a comprehensive system (Young, 1990). Some schools achieve this balance by admitting students by lottery or by focusing admissions requirements on interest rather than past academic performance or behavior.

In most traditional programs, disadvantaged students receive fewer resources and attention than other students in academic tracks (Oakes, 1985). By dividing and segregating students into these tracks and providing different educational opportunities, comprehensive schools create a structural inequality that helps perpetuate current class structures. Alternative programs, however, work to counter this effect by admitting students from all academic levels and by providing increased resources and personal attention. In essence, by increasing their opportunities in school, alternative schools increase their chances in life.

EVALUATING ALTERNATIVES

With such a wide variety of alternative organizational structures, curriculum plans, and instructional methods to choose from, teachers and administrators need information on the effects of various programs and techniques in order to make informed decisions regarding program implementation and improvement. Educators are not the only ones interested in better understanding the effects of alternative education. Parents, too, want information on the curriculum and teaching methods used in the classroom. The funding agencies that sponsor alternative programs are also interested in the design, implementation, and effects of various programs. This demand for formal feedback, which began in the 1960s, has led many lawmakers to use evaluation mandates to provide this information (Cook, 1986). In short, evaluations are conducted to provide feedback and accountability while simultaneously providing information to improve education.

In line with these goals, the present evaluation of the Allentown School District Academies was undertaken to provide academy funders, district officials, academy staff, the school board, and the community with information regarding student performance and the relative strengths and weakness of the academy system. The evaluation was specifically designed to answer the following questions.

EVALUATION QUESTIONS

- Is there a difference between attendance rates and drop out patterns for academy versus district students? Between academy students and a matched group sample?
- Do students like the academy better than regular district courses?
- Do students perceive the academy as useful and relevant to their future goals?
- How do academy students compare with other students across the country on such variables as school satisfaction and self-esteem?
- Are the student-teacher relationships within the academy positive and supportive?
- What are academy student doing after graduation and what is their orientation toward the academy?
- Are academy teachers satisfied with their experiences, roles, and responsibilities within the academy?
- What can be done to improve the academy system?

CHAPTER THREE METHODS

OVERVIEW

The present evaluation was undertaken at the request of the Allentown School District to provide information on the efficacy of the academy system to academy funders, district officials, academy staff, the school board, and the community. Information was collected on enrollment, dropout, and attendance patterns as well as academic achievement, student and teacher perceptions, curriculum goals, and organizational structures. This chapter describes the evaluation procedures used to gather this information and provides a brief description of each program in order to understand the goals and objectives of each academy and how these issues relate to the efficacy of the academy system.

ALLENTOWN SCHOOL DISTRICT ACADEMIES

Located within an ethnically diverse urban community, the Allentown School District serves more than 4,000 local high school students within its two public comprehensive schools. William Allen High School, with a teaching staff of approximately 145 instructors, serves more than 2,400 students in a five-building facility that stretches over an entire city block. Dieruff High School, Allen's sister school, serves over 1,500 students and employs approximately 95 instructors. Like other comprehensive public schools, students are grouped into academic and vocational tracks based on ability, interests, and future goals. More than 200 courses are offered to accommodate the diverse student body, and extensive educational and social services are available to all students.

Like many schools across the country, district officials are continuously looking for new ways to motivate and engage students in the learning process. In 1994, Panasonic's innovative education program visited Allentown as part of a national school reform initiative. With the financial support and technical assistance provided by Panasonic's educational consultants, three academy programs were established over a five-year period with two more programs scheduled to open over the next two years. Established in the fall of 1995, the Allentown Academy of the Arts, located within Allen High School, was the first academy of its kind within the Allentown school system. The Health, Science, and Fitness Academy, located within Allen High School, and the Environmental and Allied Health Academy, located within Dieruff High School, were established during the next two years.

Although each academy has a unique structure, focus, and mission, they share common goals and objectives for academic excellence and student growth. By offering a specialized curriculum in a small school setting, each academy works to attract students with shared interests and motivation to create an atmosphere conducive to learning. Classroom lectures, discussions, and interdisciplinary projects are complemented by field trips, public performances, and community service to better engage students in the learning process and to connect their educational experiences with their interests and future goals. But the mission of each academy goes beyond academics as each academy strives to use the students' interest and dedication to their field of study for positive academic growth and personal development. Using the small school environment, each academy attempts to establish positive student-teacher relationships and to foster an

atmosphere of cooperation where students feel supported, guided, and ready to learn.

Although the organizational structure and curriculum focus of each academy is unique to its purpose and the students it was designed to serve, the general structure of the academy system resembles the organizational structure of a school-within-a-school. And like other schools-within-schools, each academy is located within its respective public school, making each academy a part of the district system as well as its own discrete entity. Academy students share lockers, participate in extracurricular activities, and occasionally take classes with district students. The curricular focus of each academy also makes the academy system similar to other theme schools: including magnet schools, focus schools, and high schools with character.

Allentown Academy of the Arts

Allen High School's music, theater, and visual arts department has enjoyed a strong history of student participation and community support. For over fifty years, theatrical productions, musical ensembles, and student exhibitions have brought together students, teachers, parents, and community members. This widespread support and participation led the visual and performing arts instructors to envision a specialized program that would provide students with the opportunity to further their creative and performing talents. Thanks to the financial and technical assistance provided by Panasonic's innovative education program and support from district administrators, their vision took shape in 1994 as the Allentown Academy of the Arts (AAA). During the next year, the mission, scope, philosophy, and curriculum was developed and the academy was expanded to include a dance program. To accommodate the new academy, an unused

print shop in the school's basement was converted into a dance studio, black box theater, makeup area, and classroom. The arts academy opened in the fall of 1995 with 6 academy instructors and 90 students united by their talent and interest in the arts.

Mission

Through expert guidance, studio experience, and public performances, the arts academy strives to provide interested and talented students with opportunities for self-expression, artistic growth, and pre-professional training. The academy works to foster personal growth and problem solving skills while furthering creative and performing talents, enabling students to pursue their art interests in life, college, or career. As one instructor described, "Education in the arts is an education for life."

Structure

The arts academy is a two-year program available to interested and talented eleventh and twelfth grade students. Structured as a half-day program, students can major in music, theater, dance, or the visual arts. Beginning an hour earlier than regular district courses, AAA students are immersed in focused art activities followed by two periods of intensive coursework in their major (see Figure 1). After spending their mornings together, AAA students move to regular district courses to fulfill math, science, English, and social studies requirements.

FIGURE 1
AAA Curriculum Structure

Period	Class
0	Focused Art Class
1 - 2	Major (Theater, Dance, Music, or Visual Arts)
3 - 7	Regular District Courses

Curriculum

Through a combination of focused art activities and in-depth study in music, theater, dance or the visual arts, the arts academy strives to foster creative and performing talents. Focused art courses introduce students to a wide variety of art forms and techniques and allow students to gain experience in areas outside their major. Theater majors, for example, can participate in choral activities or gain experience in photography or three-dimensional art. Last spring, 41 percent of all academy students participated in focused art activities outside their major while other students used these courses to more fully immerse themselves in their major.

During first and second period, students learn the fundamental skills and techniques within their selected major (see Table 1). This includes vocabulary, history, and the skills and techniques within their art domain. In fact, academy staff believes that students should be taught to “evaluate, analyze, and interpret their art form through studies in technique, creative expression, and craftsmanship” (AAA Philosophy).

TABLE 1
AAA Majors

Major	Frequency
Visual Arts	40
Instrumental and Vocal	17
Theater	15
Dance	14

Outside of class, AAA students are given the opportunity to participate in thematic activities designed to increase their knowledge, understanding, and appreciation of all art forms. Last year, academy students saw the Lion King on Broadway and watched Disney’s animated production to study the different approaches and mediums

used to present a screen play. They also visited the Society of Illustrators and various art galleries in Greenwich Village, NY. Every other year, AAA students visit the local zoo as part of an integrated project examining the importance of animals in art. As part of the project, all academy students are given sketching lessons from the visual arts instructors.

Performances

In line with the mission of the academy, creative and performing talents are emphasized for music, theater, dance, and visual arts majors alike. Each year, AAA students participate in a wide variety of theatrical productions, music ensembles, gallery displays, and dance recitals at school and within the community.

Business Partnerships

The arts academy has established a network of informal business partnerships to serve as resources to the academy. Local artists and educators lend support to academy staff and offer internship opportunities for interested students. These partnerships are less formal than those used by the Health, Science, and Fitness Academy or the Environmental and Allied Health Academy, described in the following sections, due to the different requirements of each program. The arts academy, unlike the other academies, does not require community service or clinical placements but instead focuses on studio experience and public performances.

Admissions Requirements

Talented students are identified from within district art courses and encouraged to apply to the academy. Interested and talented students must submit an application in February of their sophomore year, although exceptions are made for eleventh grade

students if positions become available. Students interested in theater, dance, or music audition for enrollment and visual arts students submit their portfolio for review. Selected students are then interviewed by the AAA staff in order to describe the rules and expectations of the academy with a final parent interview held for selected students. Although attendance records and past academic performance is considered during this process, the academy is open to students from all academic levels, including at-risk students.

AAA Students

The arts academy serves a diverse group of eleventh and twelfth grade students united by their interests in the arts. During the 1997-1998 school year, there were 38 eleventh grade and 48 twelfth grade students, including 38 males and 48 females from a variety of ethnic backgrounds (see Table 2).

TABLE 2
Ethnic Background of AAA Students

Ethnicity	AAA Students
Caucasian	83% (71)
Hispanic	12% (10)
African American	5% (4)
Asian	1% (1)

The half-day structure of the arts academy allows students to enroll from a variety of academic levels, ranging from students in gifted to vocational tracks. During the 1997-1998 school year, 66 percent of the academy were enrolled in courses designated as gifted, honors, or advanced placement (AP) courses.

Health, Science, and Fitness Academy

The health care industry has tremendous opportunities for trained and qualified individuals interested in the health science field. Within mental health, emergency medicine, physical therapy, and a variety of other fields, there are a wide variety of career paths available to both high school and college graduates with the proper skills and experience. But within traditional high school programs, students interested in the health science field have relatively few opportunities to learn about the wide variety of career choices or the education and skills needed to acquire those positions. These opportunities led one instructor to envision an academy that would introduce students to the health science field through site visits, community service, interdisciplinary projects, and an integrated curriculum that would include math, science, English, and social studies requirements. After a year of careful planning and curriculum development, the Health, Science, and Fitness Academy (HSF) opened in the fall of 1996 with 6 instructors and 23 students united by their interests in health science field.

Mission

The HSF Academy is designed to introduce students to the career opportunities available in the health science field while simultaneously providing them with the academic foundations to enter the career of their choice. As the HSF coordinator explains, “we do not try to make students into doctors or nurses, we just try to introduce them to the career opportunities available in the health science field so they can decide what they want to be.” This belief reflects the academy’s clear purpose and guides the curriculum, instructional methods, and the overall educational experience of academy students.

Structure

The HSF academy is structured as a three-year program that runs from tenth through twelfth grade and serves both college and work-oriented students. The academy is based on a comprehensive integrated curriculum that includes math, science, English, and social studies requirements. Working as a team of teachers, the six academy instructors strive to use their “little school” structure to create a close knit environment conducive to learning. Academy students take the same designated courses with the same students and same teachers throughout their academy experience, creating a small school atmosphere within a large comprehensive school.

Curriculum

Within the classroom, students are emerged in a fully integrated curriculum that emphasizes health science and its connection with related subjects and skills. Designed to provide students with a strong background in both science and the health science fields, students complete coursework in biology, inorganic chemistry, physics, anatomy and physiology, and microbiology in addition to four courses in health science that range from advancements in health science and cardiovascular development to topics in health and fitness. Along with electives and foreign language requirements taken in regular district classes, the curriculum program fulfills college requirements and gives students real-world experience through community service, site visits, and seminars.

Class lectures and discussions are complemented by interdisciplinary projects and experiential learning activities. As part of a bio-chemistry and health science project, students create mobiles examining the relationships of elements in the body and within

health science courses, class projects are commonly linked with composition requirements. As part of a multistage process, students revise and resubmit their work to both English and science instructors. Similar team approaches are used across other courses, linking academic subjects as well as research and computer skills. Students also get to play the role of teacher in a peer-tutoring program with a local elementary school. Student portfolios are maintained for each student and include a resume, cover letter, and recommendations from their respective community service facilities. At graduation, students are presented with a certificate of completion in recognition of these achievements.

For students to truly explore and understand the options available in the health science field, the HSF staff believes that classroom learning must be complemented by real world experience. That is why all academy students are required to complete 50 hours of community service and participate in site visits made available through local business partnerships.

Business Partnerships

Through local business partnerships, the HSF Academy extends the learning experience beyond the classroom and into real world situations. As of May 1998, fifteen local businesses have joined forces with the academy to offer site visits, career awareness, skills training, and teacher training. Site visits to local businesses provide students with an opportunity to take a first hand look at what it is like to work in the health science field. Students are able to ask specific questions about the occupations available within the facility, related pay scales, and the amount of schooling and experience required for

each position. In line with the mission of the academy, each site visit is designed to give students a realistic view of the options and opportunities available in the health science field. Last year, academy students participated in eight site visits to area hospitals and local health science businesses and facilities.

The HSF Academy believes it takes more than academic skills to enter the health science field, it also takes interpersonal skills. So to help students make a successful transition from school to work, the academy invites guest speakers to teach students how to build a resume, apply for a job, interview, and dress for success.

Academy teachers also benefit from the business partnerships. Every year, academy teachers spend three days at local businesses to meet with health care professionals and establish contacts. This internship period provides teachers with the opportunity to evaluate the relevance of their curriculum and to share their experiences with academy students. Last year, teachers completed internships in occupational rehabilitation, respiratory therapy, and radiology at area hospitals and learned about sports medicine and pharmacology through several local businesses.

Advisory Board

The HSF advisory board consists of nine members from the surrounding business and educational community. Meetings are held once a month to discuss and review educational goals and programs. Advisory board members serve as resource links providing teacher training, student internships, and resource allocation. They also assist the academy by reviewing specialized courses and assessing standards of progress.

Admissions Requirements

The only requirement to be admitted to the HSF Academy is *interest*. Each year, the academy coordinator holds an information session for the ninth grade class to describe the HSF Academy program. Interested students can sign up for an interview with the academy coordinator. During the interview, the rules, regulations, and expectations of the academy are explained in detail, including a full description of the designated courses, completing 50 hours of community service, wearing business attire every Monday, and participating in out of class activities. If students are willing to meet these requirements and are interested in the health science field, they are admitted to the program. Although some students change their mind during this process, few are turned away for insufficient prerequisites. In fact, even though applicants are encouraged to take a college prep curriculum during their ninth grade year, exceptions are made for students who are behind in math but can handle the rigorous science requirements.

HSF Students

The academy serves students of various backgrounds and abilities united by their interests in the health science field. During the 1997-1998 school year, the academy included 27 tenth grade and 25 eleventh grade students, including 18 males and 34 females from a variety of ethnic backgrounds (see Table 3).

TABLE 3
Ethnic Backgrounds of HSF Students

Ethnicity	HSF Students
Caucasian	67% (35)
Hispanic	17% (9)
African American	8% (4)
Asian	8% (4)

The academy includes students from a variety of academic levels. Last year, 44 percent were enrolled in courses designated as gifted or honors courses and the remaining 56 percent were enrolled in college-prep and general level courses. The academy coordinator purposely recruits students from a variety of academic levels in order to create diversity within the academy and to provide all students, including both high and low track students, with the opportunity to participate in a specialized program.

Environmental and Allied Health Academy

Over the last several years there has been increasing concern regarding the relative ineffectiveness of the school-to-work transition. Employers in a variety of fields have reported that high school graduates are not adequately prepared to successfully enter the work force and often require basic training that should be provided in high school. This concern led one Dieruff instructor to envision an academy that would improve the school-to-work transition and give students experience working with employers. After a year of careful planning, the Environmental and Allied Health Academy (ENV) opened in 1995 with five instructors and 14 students. The new academy was based on a comprehensive, integrated curriculum that included math, science, English, and social studies requirements that would serve both college and work-oriented students. Heavy emphasis was placed on clinical training, all geared toward improving the school-to-work transition.

Mission

The mission of the ENV Academy is intrinsically tied to the reason it was formed: to improve the school-to-work transition. This mission has led academy instructors to

place a great deal of emphasis on clinical placements and applying classroom techniques to field experience. These projects are designed to give students the academic knowledge and skills needed to work in the environmental or allied health field.

Structure

The ENV Academy is structured as a comprehensive four-year program that runs from ninth through twelfth grade and serves both college and work-oriented students. The academy is based on an integrated curriculum that includes math, science, English, and social studies requirements. Like the Health, Science, and Fitness Academy at Allen High School, ENV students take classes with the same teachers and students throughout their high school experience, creating a small school atmosphere that fosters positive student-teacher relationships and to better engage students in the learning process.

Curriculum

As part of the academy program, ENV students can major in marine and environmental science, allied health, or veterinary science. Specialized courses are offered for each academy major with special opportunities for students to gain experience outside the classroom:

- Beginning in ninth grade, marine and environmental science majors complete four years of coursework in environmental studies and marine science. Special topics include marine biology, ichthyology, marine mammalogy, and marine invertebrate zoology. Marine and environmental science majors comprise more than 75 percent of all academy students.

- Allied health majors begin their specialized courses in tenth grade with increased coursework and clinical training in eleventh and twelfth grade. Students take Pharmacology in tenth, Anatomy and Physiology and a CNA certification course in eleventh, followed by a clinical placement in twelfth.
- Veterinary Science students also begin with Pharmacology in tenth grade followed by Comparative Anatomy in eleventh and a clinical placement in twelfth.

In addition to offering specialized courses, the ENV Academy integrates a Native American theme across all academy courses. Based on a national curriculum, Native American studies is used to teach ecological studies in science class, mythology in English class, cultural studies in social studies class, health and wellness in physical education class, and art and nature in art class. As part of the thematic curriculum, ENV students visit a Navaho reservation to study desert ecology and archaeology.

Emphasis is also placed on developing research skills and executing long-term individual projects. Beginning in ninth grade, academy students formulate a four-year research project. They begin by submitting a proposal for their project followed by a paper describing their data collection procedures. The actual work is completed during their junior and senior year. Once the research is complete and the results are written, each student presents their work to a review committee for evaluation. Teaching packets using Native American themes, a bat conservation and mythology project, and a reptile and amphibian adoption program and are a few examples of ongoing projects.

Outside of class ENV students participate in a wide variety of educational activities designed to apply classroom material to actual fieldwork. Students complete

over 200 hours of clinical training in local hospitals, businesses, and environmental and allied health facilities. And to integrate environmental studies with other subjects, ENV students participate in a water quality monitoring project. Last year, ENV students adopted a stream to monitor for an entire year and presented their analysis to the Delaware National Consortium. In addition to the scientific analysis, ENV students researched the history of the area, did creative writing about the area, and put together art projects that reflected what they enjoyed most about the project. Academy students also serve as mentor to children at a local elementary school and periodically engage in peer-teaching activities.

Business Partnerships

The ENV Academy has established over 60 partnerships with local educators, environmental groups, and businesses. Each partnership serves as a resource to the academy and provides students with clinical experience and internship opportunities. Partners include educators from local universities and representatives from such companies as Lucent Technologies as well as officials from the Game Preserve and a national recycling project.

Advisory Board

Academy parents serve as the ENV advisory board, meeting once a month to discuss and review the direction of the academy. Two parents from each grade also serve as parent advisors, helping with field projects, fundraising, and finances.

Admissions Requirements

Once a year the academy coordinator visits local middle schools to deliver a presentation on the academy to all eighth grade students. The academy program and curriculum are described as well as the academy rules and expectations. Interested students are encouraged to sign up for a student interview that more fully reviews the characteristics of the academy. If students are still interested, a student-parent interview is scheduled to clarify the rules and expectations and a joint contract is signed based on the discussion. Although attendance and past academic performance are considered for each prospective student, interest is the most important prerequisite for admission.

ENV Students

The academy serves a diverse group of college and work-oriented students united by their interest in environmental science and allied health. During the 1997-1998 school year, the academy served 61 students: including 29 ninth grade, 15 tenth grade, and 17 eleventh grade students. These students included 22 males and 39 females from a variety of backgrounds. In general, the ethnic composition of the ENV Academy is roughly equivalent to the ethnic diversity in Dieruff High School (see Table 4).

TABLE 4
Ethnic Background of ENV Students

Ethnicity	HSF Students
Caucasian	75% (46)
Hispanic	15% (9)
African American	7% (4)
Asian	3% (2)

The ENV Academy serves students from a variety of academic levels, including students from honors, college-prep and general level tracks. Last year, 16 percent were enrolled in

courses designated as gifted, honors, and advanced placement (AP) courses and the remaining 84 percent were enrolled in college-prep and general level courses. This integration reflects the academy's efforts to serve both college and work-oriented students as they attempt to improve the school-to-work transition.

EVALUATION PROCEDURES

Overview

In line with the Educate America Act Grant requirements, an evaluation of Allentown's School District academies was undertaken for the 1997-1998 school year. The grant required each academy to provide information on enrollment, dropout, and attendance patterns as well as a brief description of curriculum goals and specific organizational structures. Although this information provided the academy funders with a broad understanding of the growth and integrity of each academy, it did not provide academy staff or school officials with information on student performance or the relative strengths and weaknesses of the academy programs.

To provide a more detailed analysis of the efficacy of each academy, the grant requirements were expanded to include a matched group design, student survey, teacher survey, and semi-structured interviews with select students. Interviews were also conducted with academy personnel throughout the data collection period (March through November 1998) in order to learn more about program development and implementation. Data was collected from a variety of sources including school records, personal interviews, and written surveys as well as booklets, pamphlets, and reports produced by each academy. The overall goal of the additional evaluation was to provide useful,

accurate, and insightful information that could serve as a basis for self-improvement.

Comparison Groups

Academy students were compared with two different groups of students in order to provide two distinct and informative perspectives on the effects of academy membership. The first comparison was made between academy students and district averages on key indicators. This information provided a broad understanding of how academy students are doing in comparison to their public school counterparts. Using a matched group sample, academy students were also compared with district students who possessed similar characteristics in order to provide a more detailed understanding of how the academy affects academic performance.

The comparisons with district data served as a starting point in the evaluation. Students were compared with the district average on attendance patterns and dropout rates. Additional comparisons were made on ethnicity and free or reduced lunch status to determine the extent to which academy student composition is proportional to the district average. However, comparisons could not be made between academy students and the district average on academic variables. Academy students, by the very nature of being in an academy, are different from the district average. Academy students are more likely to take advanced or college level courses and may be more motivated to do well in school.

Using a matched group design corrected for many of these differences. Students of similar backgrounds and academic abilities were selected to provide a more equivalent comparison base. The parameters for the matched group sample included grade level, level of courses, gender, ethnicity, and free or reduced lunch status. Comparing students

of similar backgrounds and ability on grade point average, attendance, dropout status, disciplinary records, and standardized test scores would provide a more accurate understanding of the effects of academy membership by permitting significant differences to be attributed to academy membership rather than preexisting demographic variables.

Selecting a Matched Sample

Before a matched group sample could be obtained, a database had to be created for each academy program in order to identify the characteristics of academy students. School records were used to access information on gender, age, ethnicity, free or reduced lunch status, grade level, attendance, disciplinary record, grade point average, and enrollment status. Courses taken during the 1997-1998 school year were also included for each academy student (N = 199). This information was entered in a database (SPSS 7.5 for Windows) in order to easily summarize and analyze information.

To select a matched group sample, a list was compiled of courses taken by academy students during the 1997-1998 school year. This list served as the initial criterion for selecting a matched group sample. Within the HSF and ENV academies, science and math courses were used to determine "level of courses" and science, math, and English were used for the arts academy. For each class, the grade level and gender of students was included as part of the criterion, resulting in a list of 88 parameters (see Appendix A). Separate lists were calculated for each academy to obtain independent matched group samples for each academy.

For example, in the HSF academy, many students take Geometry and Bio-inorganic Chemistry in tenth grade. However, Bio-inorganic Chemistry is not offered as a

district course and had to be substituted by Chemistry I. The parameter for these levels of courses were:

- 10th grade males in Geometry 321
- 10th grade females in Geometry 321
- 10th grade males in Chemistry I 411
- 10th grade females in Chemistry I 411

A list would then be generated for each parameter to identify district students for the matched sample. However, tenth grade HSF students also take other levels of math such as Algebra I and Honors Geometry. A parameter had to be developed for each variation, resulting in the 88 parameters described above.

For each parameter, a list of district students taking the equivalent course was generated by the district computer center. The lists were then cross-checked to find students taking equivalent courses. Once a list of these students was generated, school records were accessed to determine ethnicity and free and reduced lunch status. Students were selected on these variables in order to find students of similar backgrounds and ability. This procedure ensured that the correct *proportion* of each variable was represented in the matched group sample but did not match all the individual characteristics of each academy student with the exact same characteristics in each district student. The specific selection procedure for each academy program is described below.

ENV Matched Group Sample

Sixty Dieruff students were selected to serve as the matched group sample for the ENV Academy. Students were first selected based on math and science courses, grade

level, and gender (see Appendix A). Ninth grade students, for example, were matched on biology and one of the following math courses: Principles of Algebra and Geometry, Algebra I, Algebra II, or Honors Algebra II. A list of Dieruff students enrolled in ENV equivalent courses was obtained. Students were then selected to reflect the ethnic composition and socioeconomic status² of ENV students (see Table 5). Once an equivalent proportion of student characteristics was obtained, the remaining students were randomly selected. This procedure resulted in an equivalent proportion of student characteristics in each group: including gender, grade, ethnicity, and students receiving free or reduced lunch (see Table 5).

TABLE 5
Characteristics of ENV Students and the ENV Matched Sample

	ENV Students	Matched Sample
TOTAL N	61	60
Gender: males	22	21
females	39	39
Grade: 9 th	29	29
10 th	15	15
11 th	17	16
Ethnicity: Caucasian	46	43
Hispanic	9	8
African American	4	4
Asian	2	5
SES: Do not receive assistance	45	44
Receive free or reduced lunch	16	16

² Socioeconomic status is measured by free or reduced lunch status.

HSF Matched Group Sample

Fifty-two students from within Allen High School were selected to serve as the matched group sample for the HSF Academy. Like the ENV sample, students were first selected based on math and science courses, grade level, and gender. In tenth grade, for example, students were matched on their level of math (Algebra I, Geometry, or Honors Geometry) and their level of science (Chemistry or Honors Chemistry). This procedure resulted in 22 parameters for both tenth and eleventh grade students (see Appendix A). Allen students enrolled in these courses were identified. Students were then selected to reflect the ethnic composition and socioeconomic status of HSF students (see Table 6). Once an equivalent proportion of student characteristics was obtained, the remaining students were randomly selected. This procedure resulted in an equivalent proportion of student characteristics in each group: including gender, grade, ethnicity, and the number of students receiving free or reduced lunch (see Table 6).

TABLE 6
Characteristics of HSF Students and the HSF Matched Sample

	HSF Students	Matched Sample
TOTAL N	52	52
Gender: males	18	17
females	34	35
Grade: 10 th	27	27
11 th	25	25
Ethnicity: Caucasian	35	37
Hispanic	9	8
African American	4	6
Asian	4	1
SES: Do not receive assistance	38	35
Receive free or reduced lunch	14	17

AAA Matched Group Sample

Eighty-two students from Allen High School served as the matched group sample for the arts academy. Students were first selected based on their level of courses (for math, science, and English), grade level, and gender. This procedure resulted in 58 parameters for eleventh and twelfth grade students (see Appendix A). Allen students enrolled in equivalent courses were identified. Students were then selected to reflect the ethnic composition and socioeconomic status of AAA students (see Table 7 and 8). Once an equivalent proportion of student characteristics was obtained, the remaining students were randomly selected. However, there were fewer district students under each parameter, resulting in a smaller selection base. This limitation produced several differences between the academy and matched group sample. However, these differences are relatively small and do not pose major threats to the validity of the comparisons.

There are more students in the eleventh grade matched sample ($N = 41$) than in the arts academy ($N = 39$), resulting in more females in the matched sample (see Table 7). There are also more African Americans and Asians in the matched sample than in the academy.

TABLE 7
11th Grade AAA Students versus Matched Sample

	AAA Students	Matched Sample
TOTAL N	38	41
Gender: males	15	15
females	23	26
Ethnicity: Caucasian	33	28
Hispanic	1	7
African American	4	3
Asian	0	3
SES: Do not receive assistance	33	35
Receive free or reduced lunch	5	6

There were fewer students in the twelfth grade matched sample (N = 41) than in the arts academy (N = 48), resulting in eight fewer males in the matched group sample. There were also fewer Caucasians, more African Americans, and more free or reduced lunch students in the matched sample than in the art academy (see Table 8).

TABLE 8
12th Grade AAA Students versus Matched Sample

	AAA Students	Matched Sample
TOTAL N	48	41
Gender: males	23	15
females	25	26
Ethnicity: Caucasian	38	22
Hispanic	9	12
African American	0	5
Asian	1	2
SES: Do not receive assistance	38	25
Receive free or reduced lunch	10	16

Comparisons between Academy Students versus the Matched Group Sample

Comparisons were made between the academy students and the matched group sample on grade point average, disciplinary records, drop out status, and attendance patterns. Independent t-tests were used to test the significance of each comparison. The data were also examined using K-S Lillifors and Levene tests to ensure the statistical assumptions were met.

Student Survey

The mission of each academy goes beyond academics as each academy strives to use the students' interest and dedication to their field of study for positive growth and development. Using a small school environment, each academy attempts to establish positive student-teacher relationships and foster an atmosphere of cooperation where students feel supported, guided, and ready to learn. The personal nature of these objectives makes student perceptions and satisfaction an important component of the academy experience. In order to determine the extent to which each academy has reached these goals, a student survey was administered in the spring of 1998. The survey was specifically designed to answer questions regarding student perceptions of the academy, themselves, and their future:

- Do students like the academy better than regular district courses?
- Do students perceive their academy experience as useful and relevant to their future plans?
- Do academy students perceive student-teacher relationships as positive and supportive?

- Do students believe the academy environment is conducive to learning?
- How often do academy students receive help with planning their high school program and what are their future plans?
- How do academy student's feel about math, science, English, and social studies and how much time do they spend on homework?
- Do academy parents play an active and supportive role in their child's education?
- How do academy students compare with the national average on such variables as school satisfaction, self-esteem, and parental participation?

Survey Design

In the spring of 1998, Allentown academy students were asked to complete a short paper-and-pencil questionnaire as part of the academy evaluation. Students were informed that participation was voluntary and that parental consent was required. Permission slips were sent home with academy students to obtain parental consent and to inform parents of the academy evaluation (see Appendix B). The survey was administered by academy instructors during class time and took approximately 10 to 20 minutes to complete.

The survey consisted of relevant questions from a national student survey developed for the National Educational Longitudinal Study (NELS:88) with additional questions specifically designed for academy students (see Appendix C). Using a likert-scale format, students were asked a series of questions regarding their satisfaction with the academy, student-teacher relationships, discipline practices, school climate, and self-esteem. Students were also asked questions regarding how much time they spend on

homework, how they feel about certain subjects, how often they speak with teachers or counselors regarding their future plans, and parental participation and expectations.

The most notable advantage of using a national survey in the present evaluation was that the attitudes, values, and beliefs of academy students could be compared with students across the country. The NELS:88 study was particularly suited for this analysis given the large sample size that included students from rural, suburban, and urban schools and reflected an average of how students feel nation wide. Frequency distributions were used to compare academy students with the national average (weighted scores) on select topics such as discipline, parental participation, and school spirit.

Background and Reliability of the NELS:88 Survey

The National Educational Longitudinal Study (NELS:88) is part of a longitudinal effort designed to provide information on the personal and environmental factors that affect student performance. Beginning in 1988, 25,000 eighth students were surveyed as part of the base year assessment (the present student survey includes questions from this eighth grade survey). Their parents, teachers, and principals were also surveyed as part of the study. Between 1988 and 1994, students were reassessed at two year intervals with modified surveys designed to add age and grade appropriate questions. Of the 40,000 public and private schools across the country, 1000 agreed to participate in the study. Within each school, 24 students were randomly selected to participate with an additional 2 to 3 students selected to ensure Asian and Hispanic representation. The 25,000 students sampled in NELS:88 were selected to represent the 3 million eighth grade students attending school in 1988. Weighted scores were used to compensate for unequal

probabilities of selection and to adjust for the effects of non responses and missing data, allowing researchers to make generalizations to the national populations sampled by NELS:88.

As part of the NELS:88 study, inter-item reliability of scales were calculated using Cronbach's Alpha. The reliability of student-level scales are only reported for the questions used in the present evaluation study, which included questions on school problems, locus of control, self-concept, and teacher quality (see Table 9). These questions were in likert-scale format ranging from strongly agree to strongly disagree. The reliability is highest for the statements regarding school problems and was somewhat lower for statements regarding teacher quality, self-concept, and locus of control.

TABLE 9
Reliability Analysis of Student-level Scales in NELS:88

Questions	Cronbach's Alpha
School Problems	.920
Locus of Control	.678
Self-Concept Scale	.785
Teacher Quality	.758

Academy Survey Response Rate

The survey response rate was extremely high within the Health, Science, and Fitness academy (92%) and the arts academy (87%) with a somewhat lower response rate within the Environmental and Allied Health academy (54%). Each survey was reviewed by the researcher to assess the validity of students' responses and consistency across items. Overall, the quality of responses was high. Students within each academy provided thoughtful answers to both scaled items and open-ended questions.

Interviews with AAA Graduates

Short, structured telephone interviews were conducted with 1998 AAA graduates in order to obtain information on their current status and their orientation toward the academy. Students were asked to describe the strengths and weaknesses of the academy program and how the academy has benefited them after graduation. Students were also asked if they are currently working or attending college and whether or not they were using what they learned in the academy in their present situation (see Appendix D). If the student was unavailable, their parent or guardian was asked to provide this information. Although parental responses may or may not reflect student perceptions, it provided useful information parental orientations toward the academy. Although the interviews were conducted six months after graduation, the combined response rate was 42 percent (information was obtained on 20 of the 48 graduates): 55 percent of which included student responses and 45 percent were parental responses.

Teacher Survey

A short paper-and-pencil questionnaire was administered to all academy instructors in the fall of 1998 (see Appendix E). The questionnaire included both scaled items and open-ended questions regarding the academy environment, student-teacher relationships, perceptions of students, and teacher satisfaction. Several questions were also included regarding the relationship between academy staff and other school personnel as well as efforts at aligning curriculum with the academy theme. The survey was complete by 14 of the 17 academy instructors (82 % response rate), including 4 of the 6 AAA instructors, 3 of the 5 ENV instructors, and all seven HSF instructors. To ensure

confidentiality, names were not included on the survey and the results were reported in aggregate form.

CHAPTER FOUR RESULTS

OVERVIEW

The present evaluation was designed to provide information on the growth and integrity of each academy and to provide district officials, academy staff, the school board, and the community with information on student performance and the relative strengths and weaknesses of the academy system. This chapter describes the evaluation results from the grant requirements, multiple group comparison, student survey, teacher survey, and semi-structured interviews with AAA graduates used to provide this information.

GRANT REQUIREMENTS

The Allentown School District Academies receive financial assistance from the Pennsylvania Department of Education and other generous contributors in order to provide organizational support and to offer specialized educational activities. As part of each grant and in line with the accountability requirements of funding agencies, each academy must meet specific performance standards and provide evaluation information on an annual basis. The results obtained for the Educate America Act Grant are presented to better understand how the Allentown School District Academies have met the requirements of the Pennsylvania Department of Education.

As part of the Educate America Act Grant, each academy is required to provide information on enrollment, attendance, and dropout patterns and to provide information on the nature of the thematic units, business partnerships, and advisory boards within

each academy. This information was designed to provide the Pennsylvania Department of Education with information on the growth and integrity of each academy.

In general, each academy program has met the requirements of the Educate America Act Grant: enrollment and attendance rates have increased, dropout rates are lower than the district average, and thematic units, business partnerships, and advisory boards are being used to provide academy students with specialized learning activities.

Academy Enrollment

According to the Educate America Act Grant, the number of students in each academy must increase by 15 percent over the number for 1996-1997.

- The number of students in the ENV Academy has increased by 110 percent since the 1996-1997 school year. During 1996-1997, the ENV Academy served 29 ninth and tenth grade students. In 1997-1998, enrollment increased to 61 students in ninth through eleventh grade.
- The HSF Academy has doubled in size since its inception in 1996 (100% increase). During 1996-1997, the HSF Academy served 26 tenth grade students. In 1997-1998, enrollment increased to 52 students in both tenth and eleventh grade.
- The number of students in the arts academy has increased by 12% since 1996-1997. This number is lower than the growth rate in the other two academies due to the different organizational structures used in each academy. The ENV and HSF academies each acquired a new grade level last year. As an eleventh and twelfth grade program, the arts academy maintains relatively stable enrollment numbers.

Academy Attendance

According to the Educate America Act Grant, the academy attendance rate must be three percent higher than the high school average daily attendance rate.

- The attendance rate within the ENV Academy (95%) is 7 percent higher than the average daily attendance rate for Dieruff High School (88%)³.
- The attendance rate within the HSF Academy (91%) is 6 percent higher than the average daily attendance rate for Allen High School (85%).
- The attendance rate within the arts academy (93%) is 8 percent higher than the average daily attendance rate for Allen High School (85%).

Academy Dropout Rate

According to the Educate America Act Grant, the academy drop out rate must be 20 percent lower than the district average rate. As of August 1998, only one academy student of 199 has dropped out of school. In 1997-1998 the district average drop out rate was 5 percent, making the academy drop out rate considerably lower.

Thematic Units

According to the Educate America Act Grant, each academy must offer thematically integrated units.

-Environmental and Allied Health Academy

- The ENV Academy integrates a Native American theme across each class. Based on a national curriculum, Native American studies is used to teach ecological

³ The attendance rates are calculated using two different methods due to the type of information available through the district office; the district reports that the numbers are comparable. The average daily attendance rate for each high school is computed by dividing the average number of students in attendance each day by the average daily membership. The attendance rate for all academy students is calculated by subtracting the average of the total number of excused, unexcused, in-school and out-of-school suspensions from the total number of days in the school year (183). The percentage of days present is then calculated.

- studies in science class, mythology in English class, cultural studies in social studies class, health and wellness in physical education class, and art and nature in art class. To complement these classroom projects, ENV students visit a Navaho reservation to study desert ecology and archaeology.
- ENV students also participate in a water quality monitoring project that integrates environmental studies with other subjects. The ENV students adopt a stream to monitor for an entire year and then present their analyses to the Delaware National Consortium. In addition to their scientific studies, ENV students research the history of the area, do creative writing about the area, and put together art projects that reflect what they enjoy most about the project.

Health, Science, and Fitness Academy

- Each student creates a mobile as part of an interdisciplinary bio-chemistry and health science project examining the relationships of elements in the body.
- Within health science courses, class reports are commonly linked with composition requirements. As part of a multistage process, students revise and resubmit their work. The science instructor assesses the scientific content of each report and the English instructor helps students correct and improve grammar, punctuation, and sentence structure.
- The eleventh grade students participate in a year-long interdisciplinary project that links English, history, research, and computer skills. While writing a history research paper, students learn research and computer skill and simultaneously work to improve their English skills.

Allentown Academy of the Arts

- Academy students come together twice a year to participate in integrated field projects that focus on the interrelationships within the arts. During the 1997-1998 school year, AAA students saw the Lion King on Broadway and watched Disney's animated production to study the different approaches and mediums used to present a screen play. AAA students also visited the Society of Illustrators and various art galleries in Greenwich Village, NY.
- Every other year, AAA students visit the local zoo as part of an integrated project examining the importance of animals in art. As part of the project, all academy students are given sketching lessons from the visual arts instructor.

Business Partnerships and Advisory Boards

According to the Educate America Act Grant, each academy must establish an advisory board that meets regularly and establish ten business and industry partnerships for training and mentoring.

The Environmental and Allied Health Academy has over 60 partnerships with local educators, environmental groups, and businesses. Each partnership acts as a resource to the academy and provides ENV students with clinical experience and internship opportunities. Partners include educators from local universities and representatives from such companies as Lucent Technologies as well as officials from the Game Preserve and a national recycling project. The ENV Academy has also established a formal advisory board of academy parents. Every month, a parent meeting is held for all academy parents to discuss and review the direction of the academy.

Two parents in each grade also serve as parent advisors to help with field projects, fundraising, and finances.

Fifteen local businesses have officially joined forces with the Health, Science, and Fitness Academy to offer site visits, career awareness, skills training, and teacher training. Almost 200 local businesses also serve as informal resources linking academy students with community service opportunities. The HSF Academy advisory board consists of nine members from the surrounding business and education community. Meetings are held once a month to discuss and review educational goals and programs. Advisory board members serve as resource links providing teacher training, student internships, and resource allocation. They also assist the academy by reviewing specialized courses and assessing standards of progress.

As of August 1998, the arts academy has not established formal business partnerships or an advisory board; however, AAA instructors have informal business links with community members and organizations that serve as resources to the academy. During the 1998-1999 school year, the arts academy plans to formalize these relationships and establish an advisory board.

MULTIPLE GROUP COMPARISON

Academy students were compared with two different groups of students in order to provide two distinct and informative perspectives on the effects of academy membership. The first comparison was made between academy students and the district average. This information provided a broad understanding of how academy students are doing in comparison to their public school counterparts. Using a matched group sample,

academy students were also compared with district students who possessed similar characteristics in order to provide a more detailed understanding of how the academy affects academic performance.

Academy versus District Average

Comparisons were made between academy students and the district average on academic and personal variables: including attendance, dropout rates and the proportion of students from various ethnic and socioeconomic backgrounds.

As described in the previous section, the attendance rates within the academy are six to eight percent higher than the district average. Dropout rates are also lower among academy students than regular district students.

However, these differences must be interpreted in light of the similarities and differences between academy students and the district average. To determine the extent to which the academy student composition is proportional to the district average, comparisons were made on ethnicity and free or reduced lunch status.

The results indicate that there are a disproportionately high number of Caucasian students and low number of Hispanic students across each academy. This is true for the academies in both Allen High School (see Table 1) and Dieruff High School (see Table 2).

TABLE 1
Ethnic Background of Allen Students

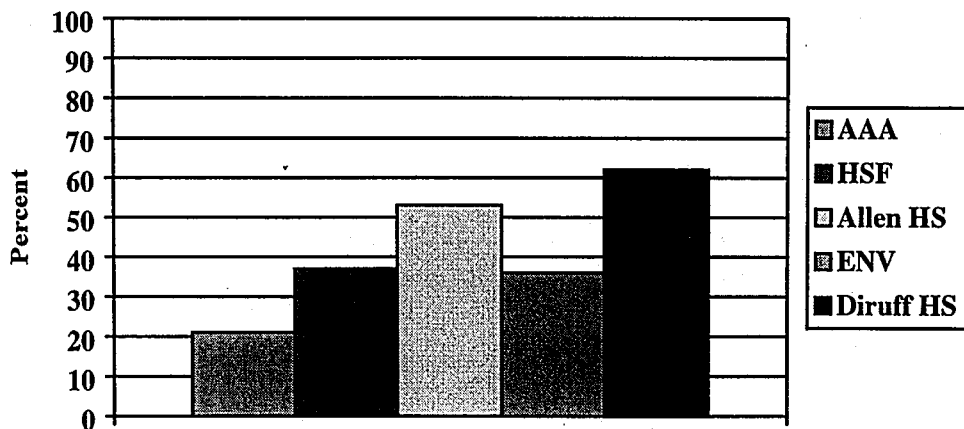
Ethnicity	AAA Students	HSF Students	Allen High School Average
Caucasian	83% (71)	67% (35)	52% (1276)
Hispanic	12% (10)	17% (9)	34% (823)
African American	5% (4)	8% (4)	11% (280)
Asian	1% (1)	8% (4)	3% (71)

TABLE 2
Ethnic Background of ENV vs. Dieruff Students

Ethnicity	ENV Students	Dieruff High School Average
Caucasian	75% (46)	48% (774)
Hispanic	15% (9)	38% (614)
African American	7% (4)	11% (169)
Asian	3% (2)	3% (48)

There are also fewer students who receive free or reduced lunch within each academy. Within the arts academy, 21 percent receive free or reduced lunch as opposed to 53 percent of students within Allen High School. A similar trend is seen in the HSF Academy, where only 37 percent receive free or reduced lunch status. Within the ENV Academy, only 36 percent receive free or reduced lunch status as opposed to 62 percent within Dieruff High School.

FIGURE 1
Proportion of Free and Reduced Lunch Students



Academy versus Matched Group Sample

The academy students were compared with a matched group sample to examine the effects of academy membership on academic performance. Specific comparisons were

made on the number of days tardy, excused absences, unexcused absences, disciplinary records, and grade point average. In general, there were few significant differences between the academy and matched group sample. Attendance patterns were only significantly different for the arts academy, and cumulative and term grade point averages were only significantly different for the ENV Academy. Across each academy, there were no significant differences in number of excused absences or disciplinary citations.

Attendance

The attendance patterns for the arts academy were significantly different than those for the AAA matched group sample. Academy students had fewer unexcused absences ($M = 1.93$) than the AAA matched group ($M = 6.06$), $t(118.79) = 2.73$, $p < .01$. They were also late to class ($M = 5.43$) significantly less than their matched group sample ($M = 16.17$), $t(99.71) = 4.02$, $p < .001$. This is a considerable difference given that AAA students begin class an hour earlier than regular district course. There were no significant differences in attendance patterns between academy students and the matched sample in either the HSF or ENV academies.

Grade Point Average

The cumulative and term grade point averages within the ENV Academy were significantly different from those within the ENV matched group sample. The cumulative GPA was higher in the matched group sample ($M = 2.5535$) than in the academy ($M = 2.2191$), $t(113.93) = 2.37$, $p < .05$. The term GPA for 1997-1998 was also higher in the matched group sample ($M = 2.5415$) than the ENV Academy ($M = 2.1269$), $t(119) = 2.79$, $p < .01$. The rigorous academic requirements within the ENV Academy help

account for this difference. Students within the ENV Academy are required to complete a four-year research project and participate in 200 hours of clinical experience in addition to completing the requirements of college-prep curriculum.

In the AAA and ENV Academy there were no significant differences in grade point average between academy student and the matched group sample.

Caution

These results should be interpreted with caution. The matched group sample for each academy was selected through an extremely rigorous process, making the matched sample almost identical to academy students. Although this process helps reduce the effects of confounding variables and increases the validity of the comparisons, only large significant differences can be detected. Furthermore, the sample size was relatively small within the academy (N = 199) and matched sample (N = 194) and therefore reduced statistical power.

STUDENT SURVEY

The mission of each academy goes beyond academics as each academy strives to use the students' interest and dedication to their field of study for positive growth and development. Using the small school environment of the academy system, each academy attempts to establish positive student-teacher relationships and foster an atmosphere of cooperation where students feel supported, guided, and ready to learn. The personal nature of these objectives makes student perceptions and satisfaction an important component of the academy experience. To determine the extent to which the academy has reached these goals, students were asked to respond to a series of statements regarding

their perceptions of school and the academy⁴: including statements regarding the specialized nature of each academy, the relevance of the curriculum to their interests and future goals, and the nature of student-teacher relationships, discipline, and school spirit. Students were asked to agree or disagree with each statement on a four-point scale where 1 = strongly agree, 2 = agree, 3 = disagree, and 4 = strongly disagree.

When student responses were consistent across each academy, with an equal number of AAA, HSF, and ENV students agreeing with the statement, the results are reported as a group average. Likewise, when the results varied across each academy, the results are reported separately⁵. When available, comparisons are made with national responses to better understand how academy students compare with other students across the country.

NOTE: These responses may not include the students who left the academy system to return to regular district courses: AAA (N = 4), HSF (N = 4), and ENV (N = 8).

Perceptions of School and the Academy

Academy students are generally pleased with the specialized nature of each academy and enjoy the close-knit environment that distinguishes the academy from regular district courses (see Table 3). In fact, across each academy students agree that they feel more challenged (46% strongly agree, 40% agree), work harder (27% strongly agree, 48% agree), and enjoy the academy more than regular district courses (64% strongly agree, 32% agree).

⁴ Response Rate: 92% HSF, 87% AAA, and 54% ENV.

⁵ Statistical tests were not used to determine the extent to which the academies differ on these statements. The unique focus, structure, and mission of each academy precludes the needs for such comparisons.

TABLE 3
Academy vs. Regular District Courses

Question	Strongly Agree	Agree	Disagree	Strongly Disagree
The academy is more challenging than public school classes.	46% (71)	40% (62)	13% (20)	1% (2) ⁶
I work harder in the academy than I did in my regular public school classes.	27% (41)	48% (75)	23% (35)	3% (4)
I like the academy better than regular public school classes.	64% (99)	32% (49)	3% (5)	1% (2)

Students also feel that the specialized nature of their academy program allows them to tailor their high school experience to fit their interests and future plans (see Table 4). Across each academy, more than three-fourths of all students agree that the academy curriculum allows them to concentrate on their interests (39% strongly agree, 51% agree) and that the academy projects are individualized to fit their needs (28% strongly agree, 53% agree). Likewise, 96 percent of all academy students agree or strongly agree that what they have learned will be useful in their future.

TABLE 4
Specialized Nature of the Academy

Question	Strongly Agree	Agree	Disagree	Strongly Disagree
The academy curriculum allows me to concentrate on my interests.	39% (61)	51% (79)	8% (13)	1% (2)
My academy classes and projects are individualized to fit my needs.	28% (43)	53% (82)	18% (28)	2% (3)
What I have learned in the academy will be useful in my future.	53% (82)	43% (67)	3% (4)	1% (2)

⁶ Numbers may not total 100% due to rounding error.

In fact, when students were asked to describe what they like best about the academy, students commonly listed characteristics associated with the specialized nature of each academy:

- It focuses on my primary interest that I could not get in other classes. It also gives so many opportunities in the other arts as well – Arts Academy
- The challenge of the projects and the personal challenge to go further – Arts Academy
- Gives you an idea about how college is going to be – Arts Academy
- The way I get to express my own ideas and put them down on paper or any other media – Arts Academy
- All the classes are linked together in one way or another – HSF Academy
- I like everything about the academy, but mostly its programmed for the college prep – HSF Academy
- I like going on site visits to see what the business world is really like – HSF Academy
- I like that it focuses on my interests and gets me some “hands on” experience – ENV Academy
- Get you ready for what you want to be in life, gives you a start in life in your fields – ENV Academy
- We further our knowledge in our topic area more than we would in regular district classes – ENV Academy

Given such favorable comments, it is no surprise that relatively few students are unsatisfied with their academy experience. In fact, only 3 percent strongly agree and 10 percent agree with the statement “I often get bored in academy classes” and only 10 percent of all academy students agree or strongly agree that they “often think about transferring out of the academy.”

When asked to describe what they like least about the academy, 10 percent reported that there is nothing they dislike about their academy. The most common

criticisms were in regards to the amount of coursework and other students in the academy. Several students reported that there was too much homework or that their projects were too difficult. As might be expected in any high school program, there were also criticisms regarding other students in the program. Some students feel that favoritism as well as competition exists between students.

There were also several critiques of the academy structure. Within the arts academy, several students reported that there is not enough integration between the art, theater, dance, and music departments. Several students also reported that they would like the arts academy to be available from ninth through twelfth grade, rather than being limited to the last two years of school.

Within the HSF Academy, on the other hand, students commonly reported that there is too much work at the end of the semester and several students from both the HSF and ENV Academy reported that they feel isolated from non academy students. Common criticisms within each academy are reflected in the following remarks:⁷

- I don't like how you are only allowed one major – Arts Academy
- Having to be here at 7:15 – Arts Academy
- The lack of unity or even cooperation between the concentration areas (i.e. art, music, theater, dance) – Arts Academy
- What I like least is the fact I could only be in the academy for two years. It was for juniors and seniors only – Arts Academy
- I wish it could be even more specialized – HSF Academy
- Everything gets crammed in at the end of the year (research papers, projects, and class trips) – HSF Academy

⁷ These comments are from an open-ended question and only reflect what some students dislike about the academy and are not proportional to the opinions of all respondents.

- I don't like being in the same class with all the same students – I wish there was more diversity. I don't like my schedule being so full. I need some periods to take other classes I might enjoy rather than the scheduled curriculum – HSF Academy
- Sometimes I want to be with other kids than just academy kids – ENV Academy
- Mostly the extra work, but I know that it's helping me – ENV Academy
- Sometimes not organized – ENV Academy

Student-Teacher Relationships

Across each academy, students feel that student-teacher relationships are an important part of academy experience and help establish a close-knit environment where students feel welcomed and appreciated. In fact, many students listed teachers, students, and the family-like atmosphere as their favorite aspect of the academy:

- We're like a family – togetherness! Arts Academy
- I like the teachers and types of activities we do – Arts Academy
- The academy teachers care about their students – Arts Academy
- I like staying with the same group of students all day and I also like the fact that I'll have the same teachers throughout the years I'll be here – HSF Academy
- I like the fact that students and teachers develop a stronger relationship and everybody in our classes is willing to work and everybody is willing to work for higher goals. This is the first year I am being challenged and I am still on the honor roll – HSF Academy
- I like the close-knit feeling of a family relationship between teachers and students. My teachers know me well and we get along more like friends – HSF Academy
- It's like a family, we all get along great and they are always there for you – ENV Academy
- How the teachers always help out their students – ENV Academy
- The teachers really help you and I feel like I'm needed – ENV Academy

Such positive results were also found when students were asked to agree or disagree with statements regarding student-teacher relationships (see Table 5). In fact, more than 85 percent of all academy students strongly agree (14%) or agree (74%) that students get along well with teachers and that their teachers are interested in students (25% strongly agree, 60% agree) and listen to what they have to say (23% strongly agree, 60% agree). Likewise, three-fourths of academy students agree or strongly agree that their teachers praise their efforts when they work hard.

Across each academy, students are also pleased with the quality of their teachers: 25 percent strongly agree and 63 percent agree that “the teaching is good.” These results are slightly higher than the national average where 85 percent of high school seniors agree that the teaching is good and 81 percent believe teachers are interested in students.

TABLE 5
Student Perceptions of their Teachers

Question	Strongly Agree	Agree	Disagree	Strongly Disagree
Students get along well with teachers.	14% (22)	74% (115)	12% (19)	0% (0)
The teaching is good.	25% (39)	63% (97)	10% (16)	2% (3)
Teachers are interested in students.	25% (39)	60% (94)	14% (22)	1% (1)
When I work hard on schoolwork my teachers praise my efforts.	18% (28)	58% (90)	22% (34)	3% (4)
Most of my teachers really listen to what I have to say.	23% (36)	60% (93)	14% (22)	1% (2)

Although these results were consistent across each academy, there were significant differences between academy students regarding the punitive nature of their teachers. Within the arts academy, 91 percent agree or strongly agree that they feel put

down by teachers as opposed to only 15 percent of HSF students and 12 percent of ENV students (see Table 6).

TABLE 6
In Class I Often Feel Put Down by my Teachers

	AAA	HSF	ENV
Strongly Agree	31%	0%	3%
Agree	60%	15%	9%
Disagree	9%	54%	33%
Strongly Disagree	0%	31%	55%
Total	N = 75	N = 48	N = 33

Caution

The differences should be interpreted with caution; there are many possible explanations for this result. First, this difference is somewhat inconsistent with how AAA students responded to five other statements regarding students-teacher relationships: including “students get along well with teachers,” “teachers are interested in students,” “when I work hard my teachers praise my efforts,” and “most of my teachers really listen to what I have to say” (see Table 5). This item may also reflect the different organizational structures between the AAA, ENV, and HSF academies. The HSF and ENV academies are based on a full-day program where students meet with the same teachers for every class. The arts academy, however, is a half-day program. After spending their mornings together, AAA students move to regular district classes to complete their math, science, English, and history requirements. In this structure, students encounter a greater variety of teachers with different classroom practices. This item may therefore reflect their encounters with district teachers rather than academy staff. It is also possible that students do feel put down by their academy instructors. With so many

possible explanations, further research should be conducted to determine the source of this result.

Atmosphere

Although academy students enjoy the small school atmosphere within each academy, more than half of all academy students report that “other students often disrupt class.” This is true for students in the HSF, ENV, and arts academy alike (see Table 7).

Fifty-three percent of academy students also feel that “disruptions by other students get in the way of their learning.” This is higher than the national average where only 34 percent of students report that other students get in the way of their learning.

**TABLE 7
Other Students Often Disrupt Class**

	AAA	HSF	ENV
Strongly Agree	14% (10)	17% (8)	12% (4)
Agree	64% (47)	40% (19)	46% (15)
Disagree	22% (16)	35% (17)	33% (11)
Strongly Disagree	1% (1)	8% (4)	9% (3)

**TABLE 8
Disruptions by Other Students Get in the Way of My Learning**

	AAA	HSF	ENV	National
Strongly Agree	12%	13%	15%	7%
Agree	41%	44%	33%	27%
Disagree	44%	42%	39%	53%
Strongly Disagree	2%	2%	12%	13%
Total	N = 74	N = 48	N = 33	N = 21188

School Climate

Within the ENV Academy, 85 percent of academy students feel that “there is real school spirit” in Dieruff High School. This is considerably higher than the national average, where 72 percent of high school seniors agree that there is real school spirit in

their school. It is also higher than the average within the art academy and HSF Academy in Allen High School, where less than half of all academy students feel there is real school spirit (see Table 9). But this difference should be interpreted with caution – it may be more related to the atmosphere within each *school* rather than the atmosphere within each academy.

TABLE 9
There is Real School Spirit

	AAA	HSF	ENV	National
Strongly Agree	3%	2%	21%	14%
Agree	27%	30%	64%	58%
Disagree	57%	54%	15%	24%
Strongly Disagree	12%	13%	0%	4%
Total	N = 74	N = 48	N = 33	N = 21188

Discipline

Opinions regarding the general rules and discipline practices within each academy were relatively neutral. An equal number of academy students agreed (45%) or disagreed (43%) with the statement “discipline is fair,” with relatively few students stating that they strongly agreed (9%) or strongly disagreed (4%). A similar response pattern was seen for the statement “rules for behavior are strict,” indicating that students perceive academy rules as neither too permissive nor too overbearing.

Although students across each academy expressed similar opinions regarding rules and discipline, there were significant differences in their perception of discipline enforcement. Over 79 percent of the arts academy students believe that “misbehaving students get away with it” as opposed to 54 percent in the HSF Academy and only 36 percent in the ENV Academy (see Table 10).

TABLE 10
Misbehaving Students Get Away with It

	AAA	HSF	ENV
Strongly Agree	13%	8%	18%
Agree	65%	46%	18%
Disagree	21%	35%	55%
Strongly Disagree	0%	10%	9%
Total	N = 75	N = 48	N = 33

Caution

Such a significant difference may be explained, in part, by the different organizational structures used across each academy. The HSF and ENV academies are based on a full-day program where students meet with the same teachers and same students for every class. The arts academy, however, is a half-day program. After spending their mornings together, AAA students move to regular district classes to complete their math, science, English, and history requirements. In this structure, students encounter a greater variety of students and teachers with different discipline practices. In addition to structural differences, the nature of the classroom activities may also help account for this difference. The HSF and ENV academies are predominantly academic and use more traditional instructional methods to present material. Within the arts academy, on the other hand, student activities are less formal and students are able to spend more time working independently.

Homework

As might be expected, homework patterns differed across each academy. In general, most academy students spend one to three hours on each subject each week with few students spending more than four hours on one subject (see Table 11)⁸.

Students in the arts academy spend less time on science homework (59% report they do not do science homework at all) than HSF (48% do less than 1 hour and 27% do 1-3 hours) or ENV students (31% do less than 1 hour and 38% do 1-3 hours), but this difference does not control for students in the arts academy who are not taking a science course. In other subjects, the amount of time spent on homework was more consistent across each academy with students generally spending less than one hour and up to 3 hours on homework and students generally spend more time on math and English than social studies homework.

⁸ Time spent on homework could not be compared with the national average. Students not taking math, for example, were still added to the frequency distributions to calculate a national average causing results to be inconsistent with the present analysis.

TABLE 11
Hours Spent on Homework each Week

	None	Less 1 hour	1-3 hours	4-6 hours	7-9 hours	10 or more
MATH						
AAA	26% (19)	26% (19)	43% (32)	4% (3)	0% (0)	1% (1)
HSF	6% (3)	42% (20)	46% (22)	6% (3)	0% (0)	0% (0)
ENV	0% (0)	19% (6)	59% (19)	13% (4)	9% (3)	0% (0)
SCIENCE						
AAA	59% (42)	20% (14)	17% (14)	1% (1)	0% (0)	0% (0)
HSF	23% (11)	48% (23)	27% (13)	2% (1)	0% (0)	0% (0)
ENV	0% (0)	31% (10)	38% (12)	22% (7)	0% (0)	9% (3)
ENGLISH						
AAA	10% (7)	28% (21)	43% (40)	5% (4)	1% (1)	1% (1)
HSF	8% (4)	38% (18)	48% (23)	4% (2)	2% (1)	0% (0)
ENV	0% (0)	38% (12)	53% (17)	9% (3)	0% (0)	0% (0)
SOCIAL STUDIES						
AAA	19% (14)	35% (26)	39% (29)	4% (3)	3% (2)	0% (0)
HSF	17% (8)	52% (25)	31% (15)	0% (0)	0% (0)	0% (0)
ENV	3% (1)	19% (6)	63% (20)	13% (4)	0% (0)	3% (1)
OTHER SUBJECTS						
AAA	16% (12)	22% (16)	55% (41)	5% (4)	0% (0)	1% (1)
HSF	17% (8)	38% (18)	44% (21)	2% (1)	0% (0)	0% (0)
ENV	0% (0)	26% (8)	61% (19)	7% (2)	3% (1)	3% (1)

How Academy Students Feel About Certain Subjects

In general, academy students look forward to English, social studies, and science class and believe that these subjects will be useful in their future. Even though few academy students look forward to math class, they believe math will be useful in their future.

Although AAA students look forward to English (67% agree or strongly agree) and social studies (53%) more than math (24%) or science (49%), they rank math (73%) and English (93%) as most useful in their future (see Table 12 and 13).

Within the HSF Academy, students look forward to science (91%), social studies (85%), and English (82%) more than they do math (42%) but rank math as most useful to their future (92%) with science close behind (90%). Likewise, ENV students look forward to science (92%), social studies (85%), and English (82%) more than math (51%) but rank science (97%) and English (97%) as most useful to their future.

TABLE 12
Students' Perceptions of Academic Subjects

Question	AAA	HSF	ENV
I usually look forward to Math Class			
Strongly agree	12% (9)	8% (4)	15% (5)
Agree	12% (9)	33% (16)	36% (12)
Disagree	41% (31)	38% (18)	33% (11)
Strongly disagree	35% (26)	21% (10)	15% (5)
Look forward to Science			
Strongly agree	7% (5)	29% (14)	46% (15)
Agree	41% (28)	29% (14)	46% (15)
Disagree	37% (25)	33% (16)	9% (3)
Strongly disagree	15% (10)	8% (4)	0% (0)
Look forward to English			
Strongly agree	12% (9)	13% (6)	33% (11)
Agree	55% (41)	42% (20)	49% (16)
Disagree	25% (19)	42% (20)	9% (3)
Strongly disagree	8% (6)	4% (2)	9% (3)
Look forward to Social Studies			
Strongly agree	12% (9)	10% (5)	39% (13)
Agree	41% (31)	48% (23)	46% (15)
Disagree	41% (31)	40% (19)	9% (3)
Strongly disagree	5% (4)	2% (1)	6% (2)

TABLE 13
Perceived Usefulness of Academic Subjects

Question	AAA	HSF	ENV
Math will be useful in my future			
Strongly agree	28% (21)	44% (21)	44% (14)
Agree	45% (33)	48% (23)	53% (17)
Disagree	20% (15)	4% (2)	0% (0)
Strongly disagree	7% (5)	4% (2)	3% (1)
Science will be useful in my future			
Strongly agree	21% (15)	58% (28)	84% (27)
Agree	43% (30)	31% (15)	13% (4)
Disagree	26% (18)	6% (3)	0% (0)
Strongly disagree	10% (7)	4% (2)	3% (1)
English will be useful in my future			
Strongly agree	37% (28)	46% (22)	50% (16)
Agree	56% (42)	44% (21)	47% (15)
Disagree	7% (5)	6% (3)	3% (1)
Strongly disagree	0% (0)	4% (2)	0% (0)
Social Studies will be useful in my future			
Strongly agree	20% (15)	23% (11)	25% (8)
Agree	51% (38)	49% (23)	44% (14)
Disagree	24% (18)	19% (9)	25% (8)
Strongly disagree	5% (4)	9% (4)	6% (2)

Academy students also feel comfortable asking questions in class, although this was more true in science, social studies, and English than in math class.

In the AAA and ENV academies, approximately 25 percent of academy students agreed or strongly agreed with the statement “I am often afraid to ask questions in math class” and only 12 percent of HSF students agreed with this statement (see Table 14).

In the AAA and HSF academies, less than 20 percent agreed that they were afraid to ask questions in science, social studies, or English class. The results were even lower in the ENV Academy, where less than 10 percent agreed that they are afraid to ask questions in science, social studies, or English class.

TABLE 14
I am often afraid to ask questions in class

	AAA	HSF	ENV
MATH CLASS			
Strongly agree	4% (3)	2% (1)	0% (0)
Agree	20% (15)	10% (5)	25% (8)
Disagree	56% (42)	52% (25)	38% (12)
Strongly disagree	20% (15)	35% (17)	38% (12)
SCIENCE CLASS			
Strongly agree	3% (2)	4% (2)	0% (0)
Agree	3% (2)	13% (6)	9% (3)
Disagree	59% (40)	33% (16)	25% (8)
Strongly disagree	35% (24)	50% (24)	66% (21)
ENGLISH CLASS			
Strongly agree	4% (3)	0% (0)	0% (0)
Agree	11% (8)	6% (3)	9% (3)
Disagree	57% (43)	50% (24)	36% (12)
Strongly disagree	28% (21)	44% (21)	55% (18)
SOCIAL STUDIES			
Strongly agree	8% (6)	0% (0)	3% (1)
Agree	9% (7)	13% (6)	3% (1)
Disagree	55% (41)	40% (19)	34% (11)
Strongly Disagree	28% (21)	48% (23)	59% (19)

Parental Participation

Across each academy, parents play an active and supportive role in their child's education. In fact, over three-fourths of all academy students talk with their parents about things they study in class as well as school activities and events of particular interest to them (see Table 15). In fact, academy students discuss their educational programs and interests with their parents more than high school students across the country.

TABLE 15
Parental Participation

	AAA	HSF	ENV	National
Talk to Parents About School Activities or Events of Interest to You				
Not at All	16% (12)	19% (9)	0% (0)	25% (3601)
Once or Twice	21% (16)	33% (16)	27% (9)	52% (7750)
3 or More Times	63% (47)	48% (23)	73% (24)	23% (3539)
Talked with Parents About Things You've Studied in Class				
Not at All	13% (10)	17% (8)	3% (1)	22% (3190)
Once or Twice	37% (28)	27% (13)	28% (9)	59% (8700)
3 or More Times	49% (37)	56% (27)	69% (22)	20% (2979)

Academy parents also require students to help with household responsibilities: 51 percent in AAA, 56 percent in HSF, and 73 percent in ENV report that they are often required to do chores (see Table 16).

Academy parents also check to see if students did their homework. This was more common among ENV students (76% check often) than either HSF (23%) or AAA students (13%). Academy parents generally limit the amount of time students can go out with friends on school nights (see Table 18), but this was more common among ENV

students (42%) than HSF (27%) or AAA students (25%) and was comparable to the national average (33%). This difference may be related to the age differences between the three academies. The ENV Academy respondents were ninth through eleventh grade. The HSF students, on the other hand, were in tenth and eleventh and the AAA were all juniors and seniors.

It is less common for parents to limit the amount of time they allow their children to watch television. Only 7 percent of students in AAA, 6 percent in HSF, and 21 percent in ENV report that their parents often limit the amount of time they spend watching TV. This is consistent with national data, where 10 percent of high school sophomores report that their parents often limit the amount of time they spend watching TV.

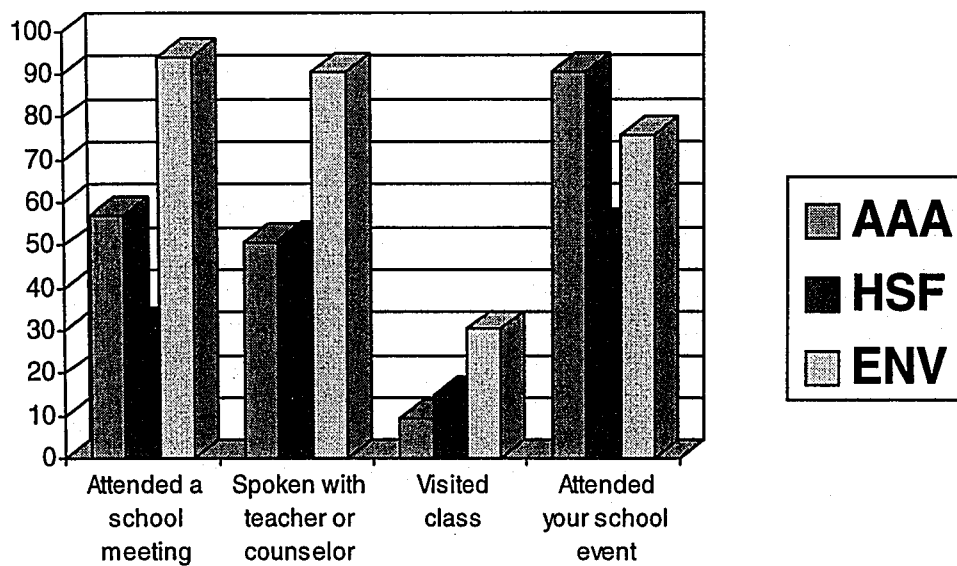
TABLE 16
Monitoring School Work and Activities

	AAA	HSF	ENV	National 10th Grade
How often do parents check on your homework?				
Often	13% (10)	23% (11)	76% (25)	29%
Sometimes	23% (17)	27% (13)	12% (4)	31%
Rarely	29% (22)	25% (12)	9% (3)	26%
Never	35% (26)	25% (12)	3% (1)	18%
Require you to do chores?				
Often	51% (38)	56% (27)	73% (24)	50%
Sometimes	29% (22)	19% (9)	15% (2)	32%
Rarely	17% (13)	19% (9)	12% (4)	12%
Never	3% (2)	6% (3)	0% (0)	5%
Limit the amount of time you can watch television?				
Often	7% (5)	6% (3)	21% (7)	10%
Sometimes	14% (10)	17% (8)	27% (9)	21%
Rarely	18% (13)	23 (11)	33% (11)	27%
Never	62% (46)	54 (26)	18% (6)	42%
Limit the amount of time for going out with friends on school nights?				
Often	25% (19)	27% (13)	42% (14)	33%
Sometimes	24% (18)	31% (15)	27% (9)	33%
Rarely	29% (22)	15% (7)	18% (6)	19%
Never	21% (16)	27% (13)	12% (4)	15%

Academy parents also come to school events and participate in school meetings. The frequency of parental participation varied across each academy and may reflect the different opportunities available for participation (see Figure 2). Within the arts academy, public performances and exhibitions are open to parents, teachers, and the community alike. The ENV director also holds meetings with academy parents on a regular basis and the HSF director keeps in contact with academy parents through phone calls and personal meetings.

FIGURE 2
Parental Participation in School Activities

Based on percent in attendance as reported by academy students*



*For all categories, N = 75 for arts academy, N = 48 for HSF Academy, and N = 33 for ENV Academy.

Planning their Future

Academy students commonly meet with guidance counselors and instructors to plan their high school program. In fact, over three-fourths of all academy students have met with a counselor or teacher at least once. The way in which students plan their high school program, however, differs across each academy. Students within the arts academy meet with counselors (53%) more than students in the HSF (29%) or ENV academies (39%) whereas more HSF (38%) and ENV (64%) students have met with their instructors to plan their high school program than AAA students (27%, see Table 17).

This difference may be related to the different organizational structures used in each academy. Students within the arts academy take their math, science, English, and social studies requirements in regular district classes. Since the placement in such courses differs by ability and interest, it is essential for AAA students to meet with their guidance counselors to plan their high school programs. Within the HSF and ENV academies, on the other hand, the designated programs and curriculum ties planning more directly to academy instructors.

TABLE 17
Planning their High School Program

	AAA	HSF	ENV
Speak with a Guidance Counselor			
Not at all	10% (7)	15% (7)	3% (1)
Once or twice	37% (27)	56% (27)	58% (19)
Three or more times	53% (39)	29% (14)	39% (13)
Speak with a Teacher			
Not at all	19% (14)	23% (11)	6% (2)
Once or twice	54% (40)	40% (19)	30% (10)
Three or more times	27% (20)	38% (18)	64% (21)

Across each academy, students also report that they commonly discuss selecting courses or programs with their parents (see Table 18). In fact, academy students discuss these matters with their parents more often than other students across the country.

TABLE 18
Discuss Selecting Courses or Program with Parents

	Academy Students	National Average
Not at All	12%	27%
Once or Twice	46%	57%
Three or More Times	42%	15%
Total	N = 156	N = 21188

After Graduation

In order to better understand what academy students plan to do after graduation, students were asked how far in school they think they will get. The majority of students across each academy plan to graduate from college (44% in AAA, 31% in HSF, and 49% in ENV) with more academy students planning to attend postgraduate school than the national average (see Table 19).

TABLE 19
Plans for the Future

	AAA	HSF	ENV	NATIONAL AVERAGE*
Will not finish high school	0%	6%	0%	1%
Will graduate but won't go any further	1%	2%	3%	6%
Will attend and / or graduate from a 2yr school	4%	4%	6%	11%
Will attend college	7%	17%	0%	14%
Will graduate college	44%	31%	49%	33%
Will do post-graduate work	43%	40%	42%	30%
TOTAL	N = 72	N = 48	N = 33	N = 21188

*The national average data is based on condensed categories of the original data (12th grade).

In general, these plans coincide with what the students' perceive as their parent's expectations. Parental expectations for graduating college are slightly higher among AAA and HSF parents than students: 57 percent of AAA parents expect their student to graduate college and only 44 percent of AAA students plan to graduate college; and 50 percent of HSF parents expect college graduation and only 31 percent of HSF students plan to graduate college. However, when the "attend college" category is combined with the "graduate college" category, the difference is negligible. In the ENV Academy, student and parent expectations for graduating college was equal (49%).

Consistent with student plans for after graduation, academy parents expect their students to attend postgraduate school (30% AAA, 38% HSF, and 33% ENV) more than other parents across the country (29%).

One notable difference between student and parent expectations was in regards to college attendance. Of the 154 respondents, three students do not plan to graduate high school and three plan to graduate high school but not go any further; however, all academy parents expect their student to attend some form of higher education (see Table 20).

TABLE 20
Parents' Expectations for Students after Graduation

	AAA	HSF	ENV	NATIONAL AVERAGE*
Will not finish high school	0%	0%	0%	1% ⁹
Will graduate but won't go any further	0%	0%	0%	5%
Will attend and / or graduate from a 2yr school	0%	4%	3%	7%
Will attend college	4%	8%	6%	7%
Will graduate college	57%	50%	49%	37%
Will do post-graduate work	30%	38%	33%	29%
Don't know	10%	0%	9%	8%
TOTAL	N = 74	N = 48	N = 33	N = 21188

*The national average is based on 12th grade data recalculated (estimated average) to condense father and mother expectations into "parental" expectations.

Attendance

Students were asked how many days of school they had missed over the past four weeks, which would include any absence related to sickness, appointments, work, or skipping class. In general, most academy students missed between zero and two days during the last four weeks of school and few academy students report that they skip class on a regular basis.

The reported attendance rate is slightly higher among ENV and HSF students than students in the arts academy: 81 percent of ENV students, 47 percent of HSF students, and 24 percent of AAA students reported that they had not missed school during the last four weeks (see Table 21).

⁹ May not total 100% due to rounding error and 8.2% of national respondents reported this question does not apply for their fathers or male guardians and 1.9% reported it does not apply for their mothers or female guardians.

Across each academy, few students cut class on a regular basis. In fact, 94 percent of ENV students, 83 percent of HSF students, and 69 percent of AAA students report that they never or almost never skip class.

TABLE 21
School Attendance

Question	None	1-2 days	3-4 days	5-10 days	More than 10
Days missed over past 4 weeks					
AAA	24% (18)	47% (35)	21% (16)	4% (3)	4% (3)
HSF	47% (22)	32% (15)	13% (6)	4% (2)	4% (2)
ENV	81% (25)	7% (2)	7% (2)	7% (2)	0% (0)
How often do you cut class	Never or almost never	Sometimes but less than once per week	Not daily but at least once per week	Daily	
AAA	69% (52)	21% (16)	5% (4)	4% (3)	
HSF	83% (40)	10% (5)	6% (3)	0% (0)	
ENV	94% (31)	6% (2)	0% (0)	0% (0)	

Self-Esteem

In general, academy students have strong self-concepts and see themselves as capable and in control of themselves and their future¹⁰. In fact, across each academy students agree that they feel good about themselves (39% strongly agree and 45% agree) and see themselves as a person of worth, equal to others (40% strongly agree and 49% agree). They also believe that they can do things as well as others (40% strongly agree and 49% agree) and feel that they are satisfied with themselves on the whole (36% strongly agree and 47% agree).

¹⁰ Although there was subtle variation in response patterns across each academy, the results were similar and consistent enough to be reported as a group average.

Likewise, less than one-fourth of all academy students agree that they have little to be proud of. However, 30 percent of all academy students agree that they feel useless at times and 27 percent agree that “at times I think I am no good at all.” But this drop may be more related to the temporary nature of these questions than to negative self-worth. These last two questions focus on how the student feels "at times" rather than how they feel about themselves in general.

TABLE 22
Academy Student Responses to Self-Esteem Items

Question	Strongly Agree	Agree	Disagree	Strongly Disagree
I feel good about myself				
Academy ¹¹	39%	45%	12%	4%
National Average	42%	52%	5%	1%
I am a person of worth, equal to others				
Academy	40%	49%	8%	3%
National Average	41%	52%	5%	2%
I am able to do things as well as others				
Academy	40%	49%	9%	2%
National Average	40%	54%	5%	1%
On the whole, I am satisfied with myself				
Academy	36%	47%	14%	4%
National Average	34%	54%	10%	2%
I certainly feel useless at times				
Academy	10%	30%	39%	20%
National Average	5%	38%	42%	15%
At times I think I am no good at all				
Academy	7%	27%	38%	28%
National Average	4%	27%	43%	25%
I don't have much to be proud of				
Academy	4%	15%	42%	39%
National Average	3%	12%	50%	35%

¹¹ N = 155 for academy and 21188 for the national sample of high school seniors.

Across each academy, students also feel that they have control over their lives and future. In fact, 83 percent agree that when they make plans they are sure that they can make them work. Few academy students agree that they don't have enough control over the direction their life is taking (17%) or that every time they get ahead, something or someone stops them (22%). Likewise, only 17 percent agree that their plans hardly ever work out. Interestingly, only 6 percent of academy students agree that good luck is more important than hard work but 38 percent agree that chance and luck are important for what happens in their life.

Although there was subtle variation across items, these results are fairly consistent with the national average for self-esteem and perceived control. Academy students and high school seniors across the country both have strong self-concepts and feel they have control over their lives and future.

TABLE 23
Perceived Control over Life

Question	Strongly Agree	Agree	Disagree	Strongly Disagree
I don't have enough control over the direction my life is taking				
Academy	4%	13%	49%	34%
National Average	5%	17%	52%	26%
In my life, good luck is more important than hard work				
Academy	0%	6%	62%	32%
National Average	3%	8%	56%	34%
Every time I get ahead, someone or something stops me				
Academy	7%	15%	56%	22%
National Average	4%	19%	61%	16%
My plans hardly ever work out, so planning makes me unhappy				
Academy	6%	12%	62%	21%
National Average	4%	16%	58%	22%
When I make plans I am sure I can make them work				
Academy	23%	60%	15%	2%
National Average	19%	64%	16%	2%
Chance and luck are important for what happens in my life				
Academy	6%	32%	39%	23%
National Average	5%	21%	49%	25%

TEACHER SURVEY RESULTS

In addition to providing students with unique opportunities for academic and personal growth, the academy structure provides teachers with opportunities to interact with students and fellow colleagues in new and unique ways. Integrating curriculum material with hands on learning brings together academy instructors as they plan interdisciplinary projects and lesson plans. Site visits, field trips, and public performances

also allow instructors to work together to connect classroom lectures and discussions with real world experience.

With firsthand knowledge of the design and implementation issues within each program, the academy staff has a unique perspective on the strengths and weaknesses of the academy system. To provide feedback on the efficacy of the academy system, the academy staff completed a questionnaire as part of the evaluation design (N = 14). The survey included questions regarding how the academy has affected their roles, responsibilities, and satisfaction with school. They also answered questions regarding student-teacher relationships, efforts at aligning the curriculum with the academy focus, and the relationship between academy teachers and other district personnel.

Perceptions of Academy Students

The academy staff agrees that academy students have positive attitudes about learning (43% strongly agree and 57% agree) and are capable of learning anything they have to teach them (27% strongly agree and 64% agree). They also feel that academy students get along well with teachers (86% strongly agree and 14% agree) and, like many academy students, they enjoy the specialized nature of each program. In fact, 10 of the 14 respondents listed these characteristics when asked to describe what they like most about the academy system, as illustrated in the following comments:

“It provides the chance to focus in much more depth in our subject areas and to work with a group of students who are in class because they want to be.”

“Students are more motivated as they are doing that which they like most. The students receive more attention and nurturing as they are constantly in a supportive environment.”

“Teachers care about students and their achievements.”

TABLE 24
Teacher Perceptions of Academy Students

Question	Strongly Agree	Agree	Disagree	Strongly Disagree
Academy students are capable of learning anything I have to teach them.	27% (4)	64% (9)	7% (1)	0% (0)
Academy students have positive attitudes about learning.	43% (6)	57% (8)	0% (0)	0% (0)
Students get along well with teachers.	86% (12)	14% (2)	0% (0)	0% (0)

The academy instructors also report that academy students work harder than nonacademy students of similar ability and that they have fewer discipline problems with academy students than their nonacademy counterparts (see Table 25). In fact, when asked to describe the most valuable aspect of the academy, one instructor said that “the students want to learn and achieve at a higher level than regular academic students. They use techniques and methods taught in class in their daily lives.”

TABLE 25
Perceptions of Academy Students versus Nonacademy Students

Question	Academy students work harder	Work somewhat harder	About the Same	Do not work as hard	Nonacademy students work harder
Do academy students work harder than nonacademy students of similar ability?	21% (3)	64% (9)	14% (2)	0% (0)	0% (0)
	More problems with academy students	Somewhat more problems with academy	About the Same	Somewhat more problems with nonacademy	More problems with nonacademy students
Do you have fewer discipline problems with academy students than nonacademy students?	0% (0)	7% (1)	0% (0)	36% (5)	57% (8)

Classroom Disruptions

Academy instructors were asked if students often disrupt class—100 percent of whom said no (43% disagreed with statement and 57% strongly disagreed). This is significantly different than student responses to this item where more than half of all academy students agreed that “other students often disrupt class” (see Student Survey Results).

Teacher Satisfaction

The academy instructors also report that they look forward to and enjoy teaching academy classes (see Table 26). In fact, academy instructors express strong satisfaction with the academy even though 93 percent report that they work longer hours now that they are involved with the academy.

All academy instructors also agree that they enjoy working with other academy teachers (100% strongly agree). In fact, 6 of the 14 respondents listed other academy instructors as the most valuable aspect of the academy for themselves:

“Close knit staff and teachers working together.”

“The support from other academy teachers is wonderful. The program also gives me a focus—a mission—in my career.”

“I enjoy working with other teachers on the team. Within the academy structure, there are supportive teachers who are willing to help when I have a problem with a student (academic or disciplinary).”

They also report that they participate in team meetings at least once a week (71% reported “once a week” with 14% reporting daily, 7% more than once a week, and 7% never) and

that they participate in more decision making now that they are involved with the academy (see Table 26).

TABLE 26
Teacher Satisfaction, Roles, and Workload

Question	Strongly Agree	Agree	Disagree	Strongly Disagree
I enjoy teaching academy classes.	27% (4)	64% (9)	7% (1)	0% (0)
I look forward to teaching academy classes.	93% (13)	7% (1)	0% (0)	0% (0)
I enjoy working with other academy teachers.	100% (14)	0% (0)	0% (0)	0% (0)
I work longer hours now that I am involved with the academy.	43% (6)	43% (6)	7% (1)	0% (0)
I participate in more decision making now that I am involved with the academy.	50% (7)	36% (5)	14% (2)	0% (0)

When academy staff were asked to describe the most valuable aspect of the academy, four described personal goals and preferences that are fulfilled through the academy:

“It directly ties into my own personal feelings about life. It teaches students to be caretakers of the world they live in.”

“Both my students and I enjoy the “hands-on” clinical experiences.”

“It allows me to be more creative and get involved in areas which appeal to me.”

“Working with students in ways other than the classroom.”

Aligning Curriculum with Academy Focus

In line with the mission of each academy, 71 percent report that they often incorporate material related to the academy focus into their lesson plan (71% often, 21% sometimes, 7% never) and that they are able to tailor class projects to fit individual needs

and interests (57% strongly agree and 43% agree). In fact, 93 percent disagreed that “it is difficult to align the curriculum with the academy focus.” These results are particularly high considering that they include instructors in math, science, English, social studies, physical education, and the arts, with each course posing different challenges and requirements for integrating curriculum with the academy focus.

TABLE 27
Aligning Curriculum with Academy Focus

Question	Strongly Agree	Agree	Disagree	Strongly Disagree
It is difficult to align the curriculum with the academy focus.	0% (0)	7% (1)	36% (5)	57% (8)
I am able to tailor class projects to fit individual needs and interests.	57% (8)	43% (6)	0% (0)	0% (0)

In fact, the academy staff use a wide variety of techniques to align the curriculum with the academy focus. Examples of the types of discussions, lectures, and projects used in each academy include:

Arts Academy

“Multicultural, interdisciplinary projects in history, creative writing, journals.”

“Common language—design, universal themes—the dance, and universal concerns—aesthetics, criticism, history.”

Health, Science, and Fitness Academy

“Discussions are oriented toward the health care fields. Projects on blood pressure, for example, involve collecting data, drawing graphs, doing statistical analysis, and drawing conclusions.”

“Speakers, site visits, interdisciplinary projects, 10th and 11th grade projects.”

Environmental and Allied Health Academy

“I gear all my academy lessons to the environment, nature, and Native American principles.”

“Native American themes and philosophy, historical themes, and science when appropriate.”

Balancing Academy and Nonacademy Courses

In general, the academy instructors do not have difficulty balancing academy and nonacademy courses: seven respondents report that they do not have difficulty teaching both academy and nonacademy courses with two respondents reporting that they sometimes encounter difficulties and two instructors reporting that they encounter difficulties:

“Yes—we try to create clinical experiences for the academy, some requiring a full day out. This makes it difficult when teaching regular courses because of the coverage. If we were a full academy, we could be very flexible and cover within.”

“Yes, class size difference; motivational level.”

“Only in that I take academy students on a field trip and the district has not provided a substitute (paid for by the academy). Other teachers who must cover our classes are resentful.”

“Somewhat—teaching the academy classes is quite demanding—I wish I had more time in order to focus only on those courses.”

Relationship between Academy Teachers and other District Personnel

Although the academy staff is pleased with the relationship between teachers and students within the academy, there are mixed feeling regarding the relationship between academy staff and other district personnel.

An equal number of academy instructors both agreed and disagreed with the statement “there is a supportive relationship between academy instructors and nonacademy instructors” with 36 percent characterizing the relationship between academy teachers and nonacademy teachers as “somewhat supportive,” 36 percent

characterizing it as “somewhat unsupportive,” and 21 percent regarding it as “neutral” (see Table 28).

There were mixed opinions regarding the relationship between academy staff and guidance counselors. The majority of respondents feel that there is a “somewhat supportive” relationship between counselors and academy teachers (57%) with an equal number describing it as “very supportive” (14%) or “neutral” (14%) and 7 percent describing it as “somewhat unsupportive” or “very unsupportive” (7%).

The majority of academy staff characterized the relationship between academy teachers and administrators as “very supportive” (36%) or “somewhat supportive” (43%) with relatively few respondents describing it as “somewhat unsupportive” (7%) or “very unsupportive” (7%).

TABLE 28
Relationship between Academy Teachers and other District Personnel

	Very Supportive	Somewhat Supportive	Neutral	Somewhat Unsupportive	Very Unsupportive
Nonacademy Teachers	7% (1)	36% (5)	21% (3)	36% (5)	0% (0)
Guidance Counselors	14% (2)	57% (8)	14% (2)	7% (1)	7% (1)
Administrators	36% (5)	43% (9)	0% (0)	7% (1)	7% (1)

Three academy instructors listed the relationship between academy staff and other district personnel as one of the least favorable aspects of the academy with several suggestions for change:

“I would like to see more support from the rest of the school. I would like to see more positive publicity for what the academy program is providing for its students. This lack of communication has resulted in some unfortunate misunderstandings about the program—by the other staff and the community.”

“It has growing support among students and parents, but is viewed by administration as recreational (or appears to me in that relationship)...We need stronger PR and more support from teachers and administrators. I feel as though we get less privileges.”

“No common counselor; unsupportive non-academy staff; lack of support through guidance. [Need] more administrative support”

Most Valuable Aspects of the Academy

Academy instructors commonly listed positive student-teacher relationships, working with other academy instructors, and meeting personal goals as the most valuable aspects of the academy. Other valuable structures as characteristics included:

“Small class size has great advantages for all.”

“The students are offered a number of positive experiences through the program....The close relationships developed with teachers and their classmates is also a plus.”

“Allen High School is a large, inner-city high school. It is easy for students to get lost in the shuffle. The academy provides an opportunity for students who might get lost in the shuffle to get involved. We care about our kids. We are very protective of our students. We help students who might have a problem. We offer students a way to be involved in the life of the school. The students might not have the opportunity to be involved in the school otherwise.”

Least Favorable Aspects of the Academy

Academy instructors often listed “insufficient time” as the least favorable aspect of the academy (5 of 14 respondents).

“For myself, it is the lack of time—to plan and to work with colleagues.”

“While there is more work, it does not mean that is bad. It is just the least favorable.”

Other characteristics included:

“Some clinicals interfere with the students’ regular courses. Some students get grief from other teachers who are not supportive when they miss too many classes.”

“No school budget.”

“While the academy students do take some very specialized classes, they don’t have enough room in their schedule for other electives. This is a problem for students who might have some very specific interests.”

“There are times when kids are out of class so much that we have a hard time getting the required work finished.”

“Very early morning start. (7:10 a.m.).”

Two respondents also reported that there is nothing they dislike about the academy.

Recommendations for Change

With these responses in mind, the academy staff were asked if there is anything they would like to see changed in the academy. The responses centered around several themes: student recruitment, increased planning time, and scheduling issues.

- **Student Recruitment**

“I would like all administrators in the district [to] really work to identify and encourage all interested ASD High Schoolers to apply for admissions.”

“Entire schedule should be expanded so more students could participate without academic sacrifices. Our school has an archaic 7 period day!”

- **Planning Period**

“We need a daily period of time when we could discuss plans, students, and detail more interdisciplinary lessons. This has to be a common period of time for all academy teachers. Presently we meet once a week on our nonteaching period.”

“Common planning period everyday.

- Scheduling Issues

“I would like to return to a regular, scheduled time period for combined or integrated academy activities.”

“The academy should be all day with academy students and teachers only. Academy teachers should be pulled from regular courses if numbers permit... This would reduce conflict with regular courses.”

- Other suggestions included:

“I would like to see more funding for our special programs and clinicals.”

“More opportunities to work together as groups to maintain the togetherness of the academy.”

“I think that we need to be more consistent in the way we deal with the issues of attendance, detention, discipline, and the like... Perhaps we should have a set of team classroom rules that have set punishments for certain infractions.”

INTERVIEWS WITH AAA GRADUATES

Short, structured telephone interviews were conducted with 1998 AAA graduates in order to obtain information on their current status and their orientation toward the academy (N = 20). Students were asked to describe the strengths and weaknesses of the academy program and how the academy has benefited them after graduation. Students were also asked if they are currently working or attending college and whether or not they were using what they learned in the academy in their present situation. If the student was unavailable, their parent or guardian was asked to provide this information. In general, the responses for both graduates and students were positive, revealing that academy graduates enjoyed their academy experiences and believe that what they have learned in the academy has been useful to their futures.

Student Responses

In general, AAA graduates were pleased with their experiences in the arts academy. In fact, when asked to describe what they liked most about the academy, most graduates reported that they enjoyed focusing on their interests (N = 5). They also reported that they enjoyed being able to focus on an art discipline (N = 2), receive individual attention (N = 1) and participate in public performances (N = 1). Several students reported that the academy teachers were the most valuable aspect of the academy (N = 1) and that they enjoyed working with other students from diverse backgrounds (N = 2). They also enjoyed doing things that other schools don't offer (N = 1) and engaging in activities other than normal academics (N = 3).

The academy graduates also felt that the academy was useful (11 of the 12 graduates) and that they were using what they had learned in the academy (N = 6). Three students were using the creativity they learned in the academy and two were taking art classes. Although five students felt that they were not using what they had learned in the academy now, four reported that they plan to use that knowledge in the near future. In fact, four of the graduates who are currently working are planning to go to college in the future and three plan to major in the arts.

Most academy graduates reported that there was nothing they disliked about the academy (N = 6). The only other response given to this item was that they disliked getting up early (N = 5). Only one student reported that they did not enjoy the academy or feel that the academy was useful. He recalled that "the whole thing was what my parents wanted."

Parent Responses

The academy parents (N = 8) also reported that their child enjoyed the academy. Similar to the student responses, most parents reported that their child enjoyed focusing on their interests (N = 5). They also reported that their child enjoyed receiving personal attention (N = 1) and participating in public performances (N = 1). One parent reported that they liked everything about the academy and another said that they enjoyed the diverse student backgrounds and that they were pleased that the academy “crossed social barriers and that the kids were able to come together in their love of the arts.”

The academy parents reported that there was nothing their child disliked about the academy. All academy parents also felt that the arts academy was a useful experience and five parents reported that their child was currently using what they had learned in the academy.

Future Plans

According to academy graduates and their parents (N = 20), 55 percent of the respondents are enrolled in college, 30 percent are working but plan to attend college in the near future, and 15 percent currently working full-time jobs.

Four of the eleven college students are majoring in the arts, five are undecided, and three are majoring in other areas. Of the six students who are working but plan to attend college, three are interested in majoring in the arts.

CHAPTER FIVE CONCLUSIONS

OVERVIEW

The results indicate that the academies meet the goals and objectives set forth by their funding agencies and that students, teachers, and graduates are pleased with their academy experiences. This chapter briefly describes these points and outlines several recommendations for improving the academy system. The implications of the present evaluation are also discussed in relation to the overall goals of alternative education.

CONCLUSIONS

Grant Requirements

In line with the requirements of the Educate America Act Grant, each academy program has increased enrollment and attendance patterns and decreased dropout rates. They have also established business partnerships, both formal and informal, to act as resources to the academy and have used thematic units to integrate the curriculum.

The partnerships are particularly important to the focus and mission of each academy. They help connect classroom material and experiential learning activities with real-world experience. They also allow the academies to use career-related examples in the classroom to help to increase the relevance of the curriculum, which has been recommended by Stern, Raby, and Dayton (1992).

Group Comparisons

Although academy students have higher attendance rates and lower dropout patterns than the district average, there were few significant differences between the

academy and a matched group sample. Within the arts academy, however, students had significantly fewer unexcused absences and were tardy less than the matched group sample. This is particularly impressive given that the arts academy begins an hour earlier than regular district courses.

Student Perceptions

Across each academy, students express positive attitudes about school and themselves. Academy students are pleased with the specialized nature of the academy and enjoy the close-knit environment that distinguishes the academy from regular district courses. In fact, students across each academy report that they feel more challenged, work harder, and enjoy academy classes more than regular district courses. They also feel that the specialized nature of the academy system allows them to tailor their high school experiences to fit their interests and future goals.

The most concerning finding was that academy students feel that other students often disrupt class and that disruptions by other students get in the way of their learning. However, 100 percent of all academy instructors disagreed that “students often disrupt class.” This result has already been presented to district officials and academy staff, who are eager to learn why students feel disrupted and how it can be corrected. Focus groups will be conducted with academy students next month to answer these questions.

Both academy students and teachers feel that student-teacher relationships are an important component of the academy experience and help establish a close-knit environment where students feel supported and ready to learn.

Teacher Perceptions

Academy teachers are report that they look forward to and enjoy teaching academy classes. They also feel that the academy helps them meet personal goals and that they enjoy the specialized nature of the academy. However, there were mixed feelings regarding the relationship between academy staff and district personnel.

Academy Graduates

The AAA graduates were pleased with their academy experiences and feel that the arts academy has been useful. Many of these students are enrolled in courses related to the arts, both in college and as a personal hobby.

RECOMMENDATIONS

In addition to providing academy funders with information regarding the growth and integrity of each academy, the evaluation was designed to provide district officials and academy staff with information regarding the relative strengths and weaknesses of each program to help improve the academy system. Several recommendations were set forth by academy students and instructors that reflect the results of the evaluation:

- To increase the knowledge and understanding of the academy programs and requirements among district instructors and guidance counselors.
- To identify and recruit students from a wider variety of academic levels and personal backgrounds.
- To incorporate a regular planning period for academy teachers to meet and discuss the curriculum and students.
- To increase academy funding.

IMPLICATIONS FOR ALTERNATIVE EDUCATION

By providing alternatives to traditional education that are free and available to all students in the community, the academy system is a form of alternative education. As with other alternative programs, it has been shaped by the needs and demands of society. Since the 1960s, alternative education has worked to correct the perceived deficiencies in public education by using alternative forms of organization and pedagogy. Some programs have worked to desegregate schools while simultaneously improving the quality of education for all students. Other programs have used specialized curriculum themes to attract diverse students with similar interests to better engage them in the learning process.

Despite the different techniques used within alternative education, the overall goal has been to better meet the needs of a diverse student body. This includes ensuring that poor and minority children have an equal opportunity to participate and succeed in these programs. In doing so, alternative programs are designed to help reduce the structural inequalities that are characteristics of traditional education. By increasing the knowledge and skills of poor and minority students, who are disproportionately placed in low academic tracks, alternative programs help reduce the reproduction of current class structures.

Although the present evaluation was undertaken to provide academy funders and district officials with information on the efficacy of the academy system, the evaluation results also provide information on the general effects of alternative education.

Comparisons with district data reveal that, in general, the academies serves a large

number of high-track students and relatively few poor and minority students. This demonstrates that simple modifications in organization, without fundamental changes in student recruitment, does not necessarily ensure that students of all levels and abilities will be served. For alternative programs to truly meet the needs of a diverse student body and fight the structural inequalities of traditional education, teachers and administrators must consciously and purposely recruit students of all academic level.

Some alternative programs have attempted to include these students by altering their admissions requirements and recruitment procedures. Some programs do not use past academic performance or behavior as a basis for admissions while other programs have admitted students by lottery (Colvin, 1997).

Although the Allentown School District Academies use past academic performance and behavior as an admissions requirement, each academy will admit at-risk and low track students if they have strong interest and commitment to the academy theme. In fact, each academy expresses interest in serving these students. Therefore, it seems more likely that the academies have fewer disadvantaged students—including poor, minority, and at-risk students—because these students are not applying to the program.

In order to provide these students with the opportunity to enjoy the benefits of the academy system, including the specialized curriculum, positive student-teacher relationships, and experiential learning, each academy must change their recruitment procedures to identify and encourage disadvantaged students to apply to the academy. Within the academy, these students can feel supported, guided, and ready to learn, and by

providing increased opportunities in school, the academies can provide them with increased opportunities in life.

LIMITATIONS

The major limitation in the present evaluation was in regards to the evaluation design. All three academy programs were evaluated using the same procedures, including survey items. However, there are several structural differences between the academies that require individual attention. Unfortunately, the evaluation design was determined before these individual structures were carefully analyzed. To help correct this problem, these limitations were discussed in the Results section to help the reader interpret them in their appropriate context.

The evaluation design would have been stronger if additional comparison information had been collected on student and teacher perceptions. Although the academy student survey results were compared with the national norm, as measured by NELS:88, there was no information to compare academy student perceptions with other district students, whose responses may be different than the national average. There was also no information on how Allentown's district teachers feel about school, their students, or their colleagues, making it impossible to determine how academy teachers differ from district instructors.

RECOMMENDATIONS FOR FURTHER RESEARCH

These limitations lead to several recommendations for further research:

- Compare the student survey results with a matched sample.
- Compare the teacher survey results with responses from district instructors.

- Conduct focus groups to determine why academy students feel that “other students often disrupt class” and why AAA students feel that they are “often put down by their teachers.”

ISSUES RELATED TO EVALUATION RESEARCH

During the course of the evaluation, several issues related to evaluation research arose that shed light on the nature of program evaluation research. First, like many applied research projects, the evaluation was undertaken to provide specific information to specific audiences. Under this condition, the information to be collected is prioritized by the client and the deadlines for evaluation information are set by external sources. These features ultimately affect the evaluation design. This was certainly true in the present evaluation—the evaluation design and student survey were put together under extreme time constraints. Second, the way in which the evaluation results are presented to the client and evaluation stakeholders, including the funding agency, academy staff, the school board, and community, are tied to political concerns. The key findings must be carefully presented to ensure that negative results are not taken out of context by the school board or the media.

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**APPENDIX A
MATCHED GROUP SAMPLE PARAMETERS**

HEALTH, SCIENCE, AND FITNESS ACADEMY

10th Grade Math

- 10th grade males in Algebra 1B 3012
- 10th grade females in Algebra 1B 3012
- 10th grade males in Geom 321
- 10th grade females in Geom 321
- 10th grade females in Honors Geom 320H

10th Grade Science

- 10th grade males in Chemistry I 411
- 10th grade females in Chemistry I 411
- 10th grade males in Honors Chem I 410H
- 10th grade females in Honors Chem I 410H

11th Grade Math

- 11th grade females in Business Math 382
- 11th grade males in Geom 321
- 11th grade females in Geom 321
- 11th grade males in Algebra I 301
- 11th grade males in Algebra II 311
- 11th grade females in Algebra II 311
- 11th grade males in Honors Ana Geom 350H
- 11th grade females in Honors Ana Geom 350H

11th Grade Science

- 11th grade males in Physics 421
- 11th grade females in Physics 421
- 11th grade males in Honors Physics I 420H
- 11th grade females in Honors Physics I 420H
- 11th grade males in Chemistry I 411

ALLENTOWN ACADEMY OF THE ARTS

11th Grade English

- 11th grade males in English III 121
- 11th grade females in English III 121
- 11th grade males in Honors English III 120H
- 11th grade females in Honors English III 120H

- 11th grade males in Gifted English III 120G
- 11th grade females in Gifted English III 120G

11th Grade Math

- 11th grade males in Business Math 382
- 11th grade females in Business Math 382
- 11th grade males in Geom 321
- 11th grade females in Geom 321
- 11th grade males in Honors Analytical Geom 350H
- 11th grade females in Honors Analytical Geom 350H
- 11th grade males in Gifted Analytical Geom 350G
- 11th grade males in Gifted Analytical Geom 350G
- 11th grade males in College Algebra 331
- 11th grade females in College Algebra 331
- 11th grade males in Algebra II 311
- 11th grade females in Algebra II 311

11th Grade Science

- 11th grade males in Physical Science 464
- 11th grade females in Physical Science 464
- 11th grade males in Chemistry I 411
- 11th grade females in Chemistry I 411
- 11th grade males in Physics I 421
- 11th grade females in Physics I 421
- 11th grade males in Honors Physics I 420H
- 11th grade females in Honors Physics I 420H
- 11th grade males in Gifted Physics I 420G
- 11th grade females in Gifted Physics I 420G

12th Grade English

- 12th grade males in English IV B 132
- 12th grade females in English IV B 132
- 12th grade males in AP English IV 130A
- 12th grade females in AP English IV 130A
- 12th grade males in Gifted English IV 130G
- 12th grade females in Gifted English IV 130G

12th Grade Math

- 12th grade males in Business Math 382
- 12th grade females in Business Math 382
- 12th grade males in Consumer Math II 387
- 12th grade females in Consumer Math II 387
- 12th grade males in Geometry 321
- 12th grade females in Geometry 321

12th grade males in College Algebra 331
12th grade females in College Algebra 331
12th grade males in Algebra II 311
12th grade females in Algebra II 311
12th grade males in AP Calculus AB 361A
12th grade females in AP Calculus AB 361A
12th grade males in Gifted Calculus AB 360G
12th grade females in Gifted Calculus AB 360G
12th grade males in Gifted Analytical Geom 350G
12th grade females in Gifted Analytical Geom 350G

12th Grade Science

12th grade males in Anatomy and Physiology 473H
12th grade females in Anatomy and Physiology 473H
12th grade males in Chemistry I 411
12th grade females in Chemistry I 411
12th grade males in Honors Physics I 420H
12th grade females in Honors Physics I 420H
12th grade males in AP Chemistry II 440A
12th grade females in AP Chemistry II 440A

ENVIRONMENTAL AND ALLIED HEALTH ACADEMY

9th Grade Science

9th grade males in Biology 401
9th grade females in Biology 401

9th Grade Math

9th grade females in Principals of Alg/Geom 385
9th grade males in Algebra I 301
9th grade females in Algebra I 301
9th grade males in Algebra II 311
9th grade males in Honors Algebra II 310H
9th grade females in Honors Algebra II 310H

10th Grade Science

10th grade males in Chemistry I 411
10th grade females in Chemistry I 411
10th grade males in Lab Survey of Science 461
10th grade females in Lab Survey of Science 461

10th Grade Math

10th grade females in Principals of Alg/Geom 385
10th grade males in Geometry 321

10th grade females in Geometry 321
10th grade males in Gifted Geometry 320G
10th grade females in Gifted Geometry 320G

11th Grade Science

11th grade males in Physics I 421
11th grade females in Physics I 421
11th grade males in Gifted Physics I 420G
11th grade females in Gifted Physics I 420G
11th grade males in Certified Nurses Aide 482C
11th grade females in Certified Nurses Aide 482C
11th grade males in Human Anatomy and Physiology 473
11th grade females in Human Anatomy and Physiology 473
11th grade males in Physical Science 464
11th grade females in Physical Science 464

11th Grade Math

11th grade males in Algebra II 311
11th grade females in Algebra II 311
11th grade males in College Algebra 331
11th grade males in Geometry 321
11th grade females in Geometry 321
11th grade males in Trigonometry 341
11th grade males in Honors Analytical Geom 350H
11th grade males in Gifted Analytical Geom 350G
11th grade females in Gifted Analytical Geom 350G

**APPENDIX B
PARENTAL CONSENT FORM FOR STUDENT SURVEY**

Allentown School District Academies are currently conducting an evaluation to assess the growth and integrity of each academy. As part of the evaluation, academy students will be given a short written survey to complete during school hours. The key topics covered by the survey include attitudes toward school, self-perceptions, future goals, and perceptions of the academy.

Participation is voluntary and all students will be informed that they can skip any questions they do not want to answer. Students are asked not to put their name on the survey to ensure complete confidentiality. If you do not want your child to complete the survey, please sign and return this form as soon as possible. If you would like your child to participate, you do not need to return the form, consent will be inferred. If you have any questions, please call (820-XXXX) at Allen High School or (820-XXXX) at Dieruff High School. A copy of the survey is available for your review at Allen High School.

Remember, return this form ONLY if you do not want your child to participate in the academy evaluation.

No, I do not want my child to complete the Academy Student Survey.

Parent Signature

Date

Child's Name

**APPENDIX C
ACADEMY STUDENT SURVEY**

ALLENTOWN SCHOOL DISTRICT ACADEMIES

STUDENT QUESTIONNAIRE

INSTRUCTIONS

The following questionnaire asks you about your opinions toward school. Please answer all the questions as completely as possible. Your answers will remain confidential and no one who sees your answers will ever know your name.

1. For each question, circle the one answer that best fits your opinion.
2. Please answer the questions in the order they appear.
3. You can skip any questions that you do not want to answer.

If you have any problems with a question, please raise your hand and ask your teacher for help.

PART I: This first group of questions asks you about school and your feelings toward school.

How much do you agree with each of the following statements about your school and teachers?

	Strongly Agree	Agree	Disagree	Strongly Disagree
1. Students get along well with teachers	1	2	3	4
2. There is real school spirit	1	2	3	4
3. Rules for behavior are strict	1	2	3	4
4. Discipline is fair	1	2	3	4
5. Other students often disrupt class	1	2	3	4
6. The teaching is good	1	2	3	4
7. Teachers are interested in students	1	2	3	4
8. When I work hard on schoolwork my teachers praise my efforts	1	2	3	4
9. In class I often feel "put down" by my teachers	1	2	3	4
10. Most of my teachers really listen to what I have to say	1	2	3	4
11. Disruptions by other students get in the way of my learning	1	2	3	4
12. Misbehaving students often get away with it	1	2	3	4

13. How many days of school did you miss over the past four weeks?

- | | |
|---|---|
| <input type="checkbox"/> 1. None | <input type="checkbox"/> 4. 5 to 10 days |
| <input type="checkbox"/> 2. 1 or 2 days | <input type="checkbox"/> 5. More than 10 days |
| <input type="checkbox"/> 3. 3 or 4 days | |

14. How often do you cut or skip class?

- 1. Never or almost never
- 2. Sometimes, but less than once a week
- 3. Not every day but at least once a week
- 4. Daily

15. Have you ever been held back a grade?

- 1. Yes
- 2. No

How much do you agree or disagree with each of the following statements about your academy?

	Strongly Agree	Agree	Disagree	Strongly Disagree
16. I like the academy better than regular public school classes	1	2	3	4
17. The academy is more challenging than public school classes	1	2	3	4
18. I often get bored in academy classes	1	2	3	4
19. The academy curriculum allows me to concentrate on my interests	1	2	3	4
20. What I have learned in the academy will be useful in my future	1	2	3	4
21. My academy classes and projects are individualized to fit my needs	1	2	3	4
22. I often think about transferring out of the academy	1	2	3	4
23. I work harder in the academy than I did in my regular public school classes	1	2	3	4

24. What do you like **most** about the academy?

25. What do you like **least** about the academy?

How often have you talked to the following people about planning your high school program?

	Not at all	Once or twice	Three or more times
26. A guidance counselor	1	2	3
27. Teachers	1	2	3

Since the beginning of the school year, how often have you discussed the following with either or both of your parents or guardians?

	Not at all	Once or twice	Three or more times
28. Selecting courses or programs at school	1	2	3
29. School activities or events of particular interest to you	1	2	3
30. Things you've studied in class	1	2	3

Since the beginning of the school year, has either of your parents or guardians done any of the following?

	Yes	No	Don't Know
31. Attend a school meeting	1	2	3
32. Phoned or spoken to your teacher or counselor	1	2	3
33. Visited your class	1	2	3
34. Attended a school event, such as a play, sports competition, honor ceremony, or science fair where YOU participated	1	2	3

How often do your parents or guardians do the following?

	Often	Sometimes	Rarely	Never
35. Check on whether you have done your homework	1	2	3	4
36. Require you to do work or chores around the house	1	2	3	4
37. Limit the amount of time you can spend watching TV	1	2	3	4
38. Limit the amount of time for going out with friends on school nights	1	2	3	4

How much do you agree with each of the following statements about your classes?

	Strongly Agree	Agree	Disagree	Strongly Disagree
39. I usually look forward to math class	1	2	3	4
40. I am often afraid to ask questions in math class	1	2	3	4
41. Math will be useful in my future	1	2	3	4
42. I usually look forward to English class	1	2	3	4
43. I am often afraid to ask questions in English class	1	2	3	4
44. English will be useful in my future	1	2	3	4
45. I usually look forward to social studies class	1	2	3	4
46. I am often afraid to ask questions in social studies class	1	2	3	4
47. Social studies will be useful in my future	1	2	3	4
48. I usually look forward to science class	1	2	3	4
49. I am often afraid to ask questions in science class	1	2	3	4
50. Science will be useful in my future	1	2	3	4

In the following subjects, about how much time do you spend on homework EACH WEEK?
(Circle the number that matches the time you spend on homework in that subject.)

	None	Less than one hour	1 hour	2 hours	3 hours	4-6 hours	7-9 hours	10 or more hrs
51. Math Homework	0	1	2	3	4	5	6	7
52. Science Homework	0	1	2	3	4	5	6	7
53. English Homework	0	1	2	3	4	5	6	7
54. Social Studies Homework	0	1	2	3	4	5	6	7
55. Homework for all other subjects	0	1	2	3	4	5	6	7

Part II: The next group of questions asks you about you, how you feel about things, and your plans for the future.

How do you feel about each of the following statements?

	Strongly Agree	Agree	Disagree	Strongly Disagree
56. I feel good about myself	1	2	3	4
57. I don't have enough control over the direction my life is taking	1	2	3	4
58. In my life, good luck is more important than hard work for success	1	2	3	4
59. I feel I am a person of worth, the equal of other people	1	2	3	4
60. I am able to do things as well as most other people	1	2	3	4
61. Every time I get ahead, something or somebody stops me	1	2	3	4
62. My plans hardly ever work out, so planning only makes me unhappy	1	2	3	4
63. On the whole, I am satisfied with myself	1	2	3	4
64. I certainly feel useless at times	1	2	3	4
65. At times I think I am no good at all	1	2	3	4
66. When I make plans, I am almost certain I can make them work	1	2	3	4
67. I feel I do not have much to be proud of	1	2	3	4
68. Chance and luck are very important for what happens in my life	1	2	3	4

69. As things stand now, how far in school do you think you will get?

1. Won't finish high school
2. Will graduate from high school, but won't go any further in school
3. Will go to a vocational, trade, or business school after high school
4. Will attend college
5. Will graduate from college
6. Will attend a higher level of school after graduating from college

70. How far in school do your parents or guardians want you to get?

1. Less than high school graduation
2. Graduate from high school but not go any further
3. Go to vocational, trade, or business school after high school
4. Attend college
5. Graduate from college
6. Attend a high level of school after graduating college
7. Don't know

Part III: The last section is about you and your family's background. Remember, we will not know your name and all information is completely confidential.

71. Age: _____

72. Gender: ___ Male ___ Female

73. Grade Level:

1. Ninth Grade
2. Tenth Grade
3. Eleventh Grade
4. Twelfth Grade

74. What was the first language you learned to speak when you were a child?

- | | | |
|------------|-------------|-----------------|
| 1. English | 3. Chinese | 5. Arabic |
| 2. Spanish | 4. Japanese | 6. Other: _____ |

75. What language do the people in your home USUALLY speak?

- | | | |
|------------|-------------|-----------------|
| 1. English | 3. Chinese | 5. Arabic |
| 2. Spanish | 4. Japanese | 6. Other: _____ |

76. Which academy are you in? (Circle one)

1. Academy of the Arts
2. Health, Science, and Fitness Academy
3. Environmental and Allied Health
4. I don't know

77. Which best describes you? (Circle all that apply)

1. Asian or Pacific Islander
2. Hispanic, regardless of race
3. Black, not of Hispanic origin
4. White, not of Hispanic origin
5. American Indian or Alaskan Native
6. Arabic
7. Other

78. How far in school did your father or male guardian go?

1. Did not finish high school
2. Graduated from high school or equivalent (GED)
3. After graduating from high school, attended a vocational school, a junior college, a community college, or got another type of two year degree
4. Graduated from college
5. Don't know
6. Not applicable

79. How far in school did you mother or female guardian go?

1. Did not finish high school
2. Graduated from high school or equivalent (GED)
3. After graduating from high school, attended a vocational school, a junior college, a community college, or got another type of two year degree
4. Graduated from college
5. Don't know
6. Not applicable

THANK YOU FOR YOUR HELP

APPENDIX D
TELEPHONE INTERVIEWS WITH AAA GRADUATES

INFORMED CONSENT

Hi, my name is Melinda Chmel and I am a student at Lehigh University. I am doing an evaluation of the Allentown Academy of the Arts and I am talking to all of last year's seniors to find out what you think about the academy. Can I ask you some questions, it will only take about 5 minutes?

Yes No

Date: _____

INTERVIEW QUESTIONS

1. What did you like most about the academy?
2. What didn't you like about it?
3. What are you doing now?
 working
 college
4. Are you using what you learned in the academy in any way? How so?
5. Would you describe your academy experience as useful?

**APPENDIX E
TEACHER SURVEY**

How much do you agree with each of the following statements about the academy?

	Strongly Agree	Agree	Disagree	Strongly Disagree
1. Students get along well with teachers.	1	2	3	4
2. Students often disrupt class.	1	2	3	4
3. There is a supportive relationship between academy teachers and nonacademy teachers at your high school.	1	2	3	4
4. Academy students are capable of learning anything I have to teach them.	1	2	3	4
5. It is difficult to align curriculum with the academy theme.	1	2	3	4
6. I enjoy teaching academy classes.	1	2	3	4
7. Academy students have positive attitudes about learning.	1	2	3	4
8. I participate in more decision making now that I work with the academy.	1	2	3	4
9. I enjoy working with other academy teachers.	1	2	3	4
10. I am able to tailor class projects to fit individual needs and interests.	1	2	3	4
11. I look forward to teaching academy classes.	1	2	3	4
12. I work longer hours now that I am involved with the academy.	1	2	3	4
13. I enjoy teaching academy classes more than regular district courses.	1	2	3	4

20. What types of discussions, lectures, or projects do you use to integrate the academy theme into your lesson plans?

21. What is the most valuable aspect of the academy for yourself? For your students?

22. What is the least favorable aspect of the academy for yourself? For your students?

23. What would you like to see changed in the academy?

BIOGRAPHY

MELINDA ELIZABETH CHMEL

Personal Background

Born: May 1975 in Los Angeles, CA
Parents: John and Carmen Ogden

Education

Aug. 1997 - **Lehigh University**, Bethlehem Pennsylvania
Dec. 1998 Masters of Arts in Social Relations - December 1998
Concentrated in Statistics and Research Methods with special
emphasis on Educational Evaluation
GPA: 3.9

Aug. 1993 - **University of Colorado**, Colorado Springs
May 1997 Bachelors of Arts in Psychology
Awarded the Nichols Scholarship from the Psychology Department
Graduated magnum cum laude
GPA: 3.7

Research Experience

Feb. 1998 - **Research Consultant**, Allentown School District
Present Conducted evaluation of an alternative education program. Collected,
analyzed, and presented evaluation information to funding agencies,
district officials, and teaching staff.

Jan. - Aug.
1998 **Research Assistant**, Lehigh University
Worked with Dr. Spade on a research project on university trustees. Main
responsibility: to collect data and design a database systems.

Feb. 1996 - **Research Assistant**, University of Colorado
May 1997 Conducted program evaluation research for a community organization.
Responsible for data collection and analysis. Prepared periodic and annual
reports for the funding agency, staff, and local community.

**END
OF
TITLE**