

PROJECT WEB SITE: WWW.EMPLOYERCHARTERSCHOOLS.COM

The Web site contains information on how to connect with other people involved in employer-linked charter schools through **on-line interaction** and via a Talent Bank that allows people to request additional information or request direct contact from an expert regarding a particular topic area. The Web site also includes **general and basic information** regarding employer-linked charter schools, **profiles of existing schools**, **links** to other relevant on-line resources, and **downloadable versions of all the project publications**. Listed below are the publications available on the site.

Employer-Linked Charter Schools Project Publications

Redefining Public Education: The Promise of Employer-Linked Charter Schools
Evaluation Basics for Employer-Linked Charter Schools: A Quick Introduction
Employer-Linked Charter Schools: A Guide for Practitioners
An Inventory of Employer-Linked Charter Schools
Employer-Linked Charter Schools: The Framework for Self-Evaluation

Issue Papers

Employer-Linked Charter Schools Plow New Ground in Standards
Employer-Linked Charters and the Disadvantaged
"We Are the Board of Directors!" When Employers Run the School

Case Studies

Academy of Plastics Manufacturing and Technology, Port Huron, MI
Affiliated Alternatives Work & Learn Center, Madison, WI
Charter School of Wilmington, Wilmington, DE
East Bay Conservation Corps Charter School, Oakland, CA
Flagstaff Arts and Leadership Academy, Flagstaff, AZ
Henry Ford Academy, Dearborn, MI
Michigan Health Academy, Detroit, MI
Palisades Charter High School, Pacific Palisades, CA
Skills for Tomorrow High School, Minneapolis, MN

Topic Papers: Employer-Linked Charter Schools Show the Way

Adapt Training and Professional Development
Charter School Development
Create a Performance Measurement System
Get Employers and Community Partners Engaged
Foster Contextual Learning
How to Measure Success and Why Bother
How to Begin Charter School Development
Using Employer/Partner Facilities

TABLE OF CONTENTS

Employer-Linked Charter Schools Project Publications	2
Issue Papers	2
Case Studies	2
Topic Papers: Employer-Linked Charter Schools Show the Way	2
Introduction	1
The Case for Employer-Linked Charter Schools	2
Pressing Workforce Development Needs and the Changing Nature of Business	2
The Educational Response: The Fractured Landscape of Reform	4
The Promise of Employer-Linked Charter Schools	5
What Draws Innovative Educators and Employers to Reinvent Public Education	5
Education Innovators and Employer-Linked Charters	6
Employers and Charters: A Natural Affinity	7
Key Elements of Effective Employer-Linked Charter Schools	8
The Founders' Vision	8
Learning in Context: Learning in the World	10
Meeting Workforce Development Needs	11
Outside the Box: Charters and Traditional School Systems	12
Unique Features of Employer-Linked Charter Schools	14
Curriculum Innovation	14
Raising Standards	15
Assessment of Student Achievement	16
Flexibility in Staffing	17
Role Models and Mentoring	18
Case Studies	19
Academy of Plastics Manufacturing and Technology	19
The Charter School of Wilmington	29
Skills for Tomorrow High School	36

INTRODUCTION

This book compiles key findings from a series of publications and case study reports on employer-linked charter schools developed during a project funded by the U.S. Department of Education. The Employer-Linked Charter School Project is a multi-year collaborative effort among Public Policy Associates, Incorporated, Charter Friends National Network, and the National Alliance of Business. The partnership also previously included Michigan Future, Incorporated.

An employer-linked charter school is a special type of public charter school in which an employer organization or network joins with educational entrepreneurs in a collaborative partnership to develop and operate a workworld-informed educational program. Because charter schools are exempt from many regulations governing traditional public schools, they have more freedom to develop innovative educational programs. In exchange for this flexibility, charter schools are held accountable for student performance.

Currently there are over 100 employer-linked charter schools in operation across the country. The way these schools focus their engagement with employers and other community institutions ranges widely—from very focused career and occupational preparation, to those that incorporate exposure to jobs, careers, and employers into the learning experience. Some schools target industry-specific competencies and careers. Others focus on equally powerful and dynamic uses of employer work sites, providing exposure to life and work roles and tasks to enrich academic learning, and build life skills. These schools provide rich and nurturing environments for mainstream and troubled youth alike.

Schools profiled and documented during the Employer-Linked Charter School Project are led by some of the brightest and most dynamic educators and business leaders in America. Despite the many challenges involved in moving from a vision of schooling to actual operating reality, the leaders of these schools are succeeding in making a new form of education available to a diverse population of students in urban, suburban, and rural communities across the nation.

The schools and practices specifically described in this book illustrate how charter schools have developed their learning programs with a strong and specific use of employer partners. A number of compelling case studies were drawn from the following schools—the three preceded by an asterisk are contained in a later section of this book:

- * Academy of Plastics Manufacturing and Technology, Port Huron, MI
- * Affiliated Alternatives Work & Learn Center, Madison, WI
- * Charter School of Wilmington, Wilmington, DE
- * East Bay Conservation Corps Charter School, Oakland, CA
- * Flagstaff Arts and Leadership Academy, Flagstaff, AZ

Henry Ford Academy, Dearborn, MI
Michigan Health Academy, Detroit, MI
Palisades Charter High School, Pacific Palisades, CA
* Skills for Tomorrow High School, Minneapolis, MN

THE CASE FOR EMPLOYER-LINKED CHARTER SCHOOLS

Pressing Workforce Development Needs and the Changing Nature of Business

The story is, by now, all too familiar. Most regions and industry sectors in the country are facing skilled worker shortages. Employers are finding themselves scrambling to locate workers who can meet the skill demands of the workplace. In 1995, one in three corporate economists surveyed reported that their firms were having problems finding skilled employees. By 1998, that figure had jumped to 58 percent.¹

Why do so many American workers lack the skills necessary to succeed? The answer lies in the staggering changes that have overtaken the workplace in the last 20 years and continue to unfold at a quickening clip. For the past 20 years, global competition, fed by advanced manufacturing techniques, superior quality, and lower costs, has pushed many American businesses into a new workplace paradigm. Entire industries have lost their place on the American business landscape. New information-based industries have emerged. Manufacturing operations, banks, hospitals, and even public agencies have restructured dramatically in response to competitive pressure and new marketplace realities by eliminating bureaucracies, re-engineering, and improving worker skills to provide more efficient and effective services and enhance customer satisfaction.

Today, America is again a world leader in many critical industries, and many companies that had been declared at death's door are revitalized world competitors. One result is that the workplace has undergone dramatic transformations and, with the Internet as the clear example, continues to change rapidly. What is produced, how it is produced, where it is produced, who produces it, and who gives and takes orders as well as job security, competition, and the need for continual learning all take on new forms in today's business climate.

High-paying jobs that required only strong muscles and a good work ethic are vanishing. Workers need to know more and learn throughout their careers in

¹*The Promise of Charter Schools and School-to-Work*, National Alliance of Business, 1998.

order to land and keep a good job today. For new workers, the education system must continually adapt.

Despite current economic success, this is not the time to declare victory. Today, employers realize they must be more proactive than ever before in preparing the highly skilled workforce they need.

Just as businesses manage a manufacturing supply chain (product development, processing, and delivery), so, too, must they help develop and manage a “knowledge” supply chain. Businesses must nurture various sources for their future labor force and experiment with a variety of delivery systems to meet their needs. They must become involved in designing processes that train workers so that they emerge with specified competencies and standards. They must help shape the delivery system through public education, career programs, school-to-work, and other workforce development strategies. As the workplace changes, schools must respond with changes so that students can keep pace and learn to learn. Recent trends in business have ushered in new expectations of employees, and, in turn, new educational needs as highlighted below.

Technology continues its exponential growth. As technology becomes universally available, sustained competitive advantage can no longer be based solely on superior technology. This means that learning-to-learn skills and baseline technological skills are essential to a modern curriculum. To meet the needs of new workers, the education system must adapt.

Companies not only market globally but are motivated to create wealth, infrastructure, and knowledgeable workers on a global basis.

To businesses with a vision of the future and their place in it, these changes are a golden opportunity. A growing number of companies have formed learning partnerships with secondary and post-secondary schools. Many more are wondering how to best encourage and facilitate education and workforce reform.

As Dr. Renee Lerch, Director of Workforce Development for the Ford Motor Company, recently told the U.S. House of Representatives Committee on Education and the Workforce:

With the advent of public school choice in the form of charter schools, vouchers, tuition tax credits—and other less charted changes such as business looking at education as a business—our policies and initiatives must be nimble enough to ensure equity and educational excellence for all students in this country. . . However, after almost twenty years of reform efforts (both national and local) our education system is still not uniformly producing an acceptable outcome in terms of graduates with the knowledge and skills necessary to succeed in the world of work. If we

cannot figure out a way to simultaneously “jump-start” school systems across the country, I am afraid that the slow pace of change will tempt many businesses and other partnering organizations to “opt-out” of the public education reform effort. We need to explore strategies that promote speed, depth, and breadth of reform.

The Educational Response: The Fractured Landscape of Reform

Given the pressures for reform, a growing number of businesses and schools have joined forces over the past decade to find new ways to link traditional academic learning with the acquisition of workplace skills. A variety of names, models, and approaches to implementation of learning programs with business partners have been developed by state and national government policy, as well as by business interests over the last decade. A host of state and national efforts to identify and promote high content standards and, in particular, workworld relevant soft and hard skill standards have been furthered. None of these efforts has been uniform, durable, nor effective across the board. The names and agendas (employability skills, SCANS, tech-prep, school-to-work) have varied and changed.

Despite the lack of a coherent national and state policy architecture, much has been advanced and learned about the effective employer-connected learning programs through these initiatives. Students enrolled in what have been deemed effective school-to-work programs tend to finish high school with both a strong academic background and applied knowledge about the workplace and the skills and abilities needed to pursue a career, a technical education, or a college education.

These students also demonstrate better long-term, labor-market outcomes and higher rates of post-secondary education and overall educational achievement than their counterparts in traditional public school programs. Race and class differences in education and labor-market outcomes have been demonstrably ameliorated in quality school-to-work programs. As Tom Bailey notes in *School to Work for the College Bound*, students are more excited about school, and attendance and retention levels improve in quality school-to-work programs.²

Workplace experience and exposure also provide an effective venue for applying academic skills mastered in the schools, for learning job-readiness skills, and for gaining meaningful access to employers. Work experience as part of education is viewed as a vital good. In his study *Implications for Youth Policy and Practice: Why Some Programs Shine*, Manpower Demonstration Research Corporation’s Rob Ivry identifies as critical “the centrality of paid work and internships as a

²Thomas Bailey, *School-to-Work for College Bound*, 1997.

motivator and venue for learning job readiness skills and gaining access to employers.”³

Taken together, all these reform initiatives—career education, “tech-prep,” career academies, apprenticeships, school-to-career, SCANS, the standards movement, and the movement to reform vocational education by adding greater academic rigor—have provided a strong, though fractured, base upon which to build. Effective programs have demonstrated that focusing on core academic as well as job-readiness skills, integrating structured work experience and connections to mentoring adults, learning through applied contexts, and connecting to post-secondary education and work opportunities together combine to improve educational outcomes for youth.

Historically, some local business/education partnerships in this landscape have enjoyed great success. However, many businesses have had to struggle more than they wanted or expected with an educational system that is highly bureaucratized, resistant to change, and skeptical about using work-based learning techniques in a traditional high school curriculum. Many stakeholders viewed school-to-work and related initiatives as a tracking program for lesser-achieving vocational students. School-to-work partnerships have too often been sluggish and bureaucratic.

These factors collectively have driven many innovators towards starting employer-linked charter schools. The prospect afforded by a charter school of implementing core success principles unconstrained and unencumbered by bureaucratic demands, group decision making, regulatory constraints, and other real and perceived obstacles provides an excellent and irresistible opportunity to implement effective educational principles.

THE PROMISE OF EMPLOYER-LINKED CHARTER SCHOOLS

What Draws Innovative Educators and Employers to Reinvent Public Education

Charter schools are a rapidly growing school reform innovation. They are based on the premise that meaningful school reform can best be achieved in an environment free of bureaucratic constraints. There has been a growing realization that charter schools can create a unique opportunity to implement effective learning practices coming out of education partnerships with employers, provide new choices for students, and be vehicles for “out-of-the-box” practices.

³*Implications for Youth Policy and Practice: Why Some Programs Shine*, American Youth Policy Forum, 1997.

Educators are excited by the idea of working in a school that allows them greater freedom to design and use innovative teaching strategies. Through involvement in design and management of a charter school, employers are given the chance to do more than simply complain about the quality of the entry-level workforce and the slow pace of education reform. Parents can find exciting alternatives to the public school located in their attendance zone. And students no longer need to feel that the traditional public school environment or curriculum does not fit their educational needs or career goals.

Across the country, education entrepreneurs and innovative employers are joining forces. They are taking the time to listen and learn from each other and are working together to develop educational programs that will help ensure the future success of our most precious resource: our children.

Education Innovators and Employer-Linked Charters

By designing a new charter school with employer partners, educators get the opportunity to put in place practices and principles that are driving much of today's education improvement efforts. Educators can:

- # *teach and learn in context.* The distinction between theory and practice as separate and distinct learning modes is blurring. Combining contextual learning and project-based learning—often drawing upon workplace and “real-world” contexts—with theoretical learning is a major part of reforming educational practices and can be developed in an employer-linked school.
- # *elevate workplace culture skills.* Educators are coming to realize that not only has the bar on the three Rs been raised, but also that they need to be supplemented with "soft skills," or "new basic skills," demanded in today's workplace. Problem-solving, teamwork, and analytic ability, as well as familiarity with the processes and culture of work environments, are increasingly recognized as essential to the new learning package that must be delivered in order for young people to succeed in life and work.
- # *put a purpose to education.* There is a growing body of research demonstrating that career-oriented learning environments—that teach content in the context of a career area and make work experience a cornerstone of the learning program—do improve students' academic achievement, interest, and retention in school. A growing number of these so called "school-to-work" initiatives are rigorous education programs that engage high school students for at least two years in concentrated learning and work that is organized around a particular occupation or industry.

- # *provide new options.* Increasingly, educators are realizing that one size does not fit all and are developing options for students, which are paths of education they can take and customize to their own needs, interests, and abilities. One such model is the charter school.
- # *work with other innovators.* Charter school teachers get to “self-select” and work with other self-selectors who want to innovate, want to change, and will welcome the opportunity to try new things.

Employers and Charters: A Natural Affinity

A number of pioneering firms, including large firms like Ford Motor Company and DuPont and smaller employers in communities around the country, began the employer-linked charter school movement, joining with innovative educators to apply the principles of school-to-work to the charter school concept.

There are a number of reasons why charter schools fit employer goals, mind set, and practice. Charter schools emphasize results over processes, which resonates with business.

Charter schools are also attractive because they have the flexibility that most public schools do not. Whether the issue is schedule, location, or learning approaches, charter schools can accommodate program design issues that emanate from special business requirements associated with demanding workplaces and a dynamic economy.

Charter schools typically have the entrepreneurial, customer-focused outlook that is normally associated with the most progressive businesses. Businesses that have not yet forged linkages with charter schools are missing this natural affinity.

For employers and business organizations committed to workforce development, charter schools represent an alternative for advancing that commitment. The independence, flexibility, and choice inherent in a charter school can provide the means to overcome many of the implementation challenges faced by school-to-work programs.

When a school-to-work program is melded with a charter school model, the result is the best chance businesses may ever have to gain from the educational system students with the desired academic and workplace skills. The businesses can see their investment in education reform pay off in terms of new, effective learning regimes for young people.

These schools face many challenges, and major “bumps in the road” continue to confront them. However, there is much here to inspire and inform other pathfinders in this largely uncharted territory.

KEY ELEMENTS OF EFFECTIVE EMPLOYER-LINKED CHARTER SCHOOLS

Creating an effective employer-linked charter school is an ambitious undertaking. Moving from concept to reality requires both dedication and skill. This section describes the major features several path-breaking charter schools profiled for the project held in common. It also discusses the key elements of the genesis, mission, curriculum, structure, and operations of the nine charter schools included in the case studies for the project.

The Founders' Vision

It takes special people to start an employer-linked charter school: people who are motivated by a vision of what “being educated” can mean to a young person’s life. These people realize how education unlocks the door to a broader understanding of the community in general and enhances the likelihood that students will find meaningful work in the future. It takes insight and an entrepreneurial spirit to act on the opportunity of the charter school as a blank slate from which a new learning institution can emerge. A charter school can serve as a vehicle for channeling passion, creativity, and innovation into effective learning.

A powerful, shared vision—developed by the initial partners in the school’s conception and orientation—defined many schools and drove the charter development process forward as illustrated below.

P Tess Tiernan was a teacher in the Minneapolis public schools and was dedicated to helping at-risk youth “find their passion” in terms of a career interest. Unable to find acceptance for her approach within the school district, she searched for support from the community at large, finding willing partners in the Minnesota Teamsters Service Bureau, the Minnesota Business Partnership, and the University of Minnesota College of Education. These partners shared her commitment to an outcome-based, experiential, school-to-work learning model. This shared vision led to the creation of the *Skills for Tomorrow High School*, a charter high school in downtown Minneapolis that provides a racially and culturally diverse population of students with the opportunity to explore a variety of career directions while learning about the needs and expectations of employers.

P A talented, charismatic, and popular assistant principal in the D.C. public school system, Iracema Salcido gave up the prospect of advancing to principal in the sluggish, bureaucratic D.C. system in order to craft and implement her own vision for learning. In 1996 and 1997, Washington, D.C. was experiencing a civic governance crisis. Ms. Salcido, active in the Latino community and mother of five children herself, had been

intrigued and then challenged by other individuals who were starting charter schools to provide a better, more exciting path for learning for the Hispanic and African-American students languishing in the D.C. system. Most fundamentally, she wanted to help the kids from her community grow up to play leadership roles in the community as a whole. Since the primary business of Washington is public policy making, she envisioned a program that would prepare her young people for this “industry,” one that would take advantage of the resources of Washington’s government, non-profit, and educational communities to create a leadership high school focused on grooming leaders for tomorrow. The *Cesar Chavez Charter High School for Public Policy* was born.

P Cal Stone, an administrator of a drop-out retrieval program, had made a life-long commitment to providing these at-risk young people with the opportunity to not only earn a high school diploma but to regain a sense of self-worth and career direction that had faded without the social and emotional bonds of a supportive family. Members of the small business community responded to Stone’s plea for support. Their shared commitment to doing “good work” in the community led to the development of the *Affiliated Alternatives Work & Learn Center* in Madison, Wisconsin, a charter high school that offers young men and women a second chance to build a productive future.

P Karen Butterfield, the 1992 Arizona Teacher of the Year, saw the potential for a school that would actively engage students in the learning process by combining visual and performing arts with an academically rigorous, college-preparatory curriculum. After approaching and being rebuffed by the local school district in her hopes to start a charter school, she found the ideal partner in Michael Fox. Fox, the Executive Director of the Museum of Northern Arizona, had his own vision of a museum with a broad community mission. Together, their imagination led to the creation of the *Flagstaff Arts and Leadership Academy*, a charter high school located on the grounds of the museum.

These innovators, as well as other educators and business leaders, are working together in the belief that public schools can and, indeed, must play a pivotal role in preparing students to be successful as adults. For them, charter schools are a means towards that end. The schools they have created are a reflection of their belief that, in education, “one size does not fit all.”⁴

⁴ Tess Tiernan, Director, Skills for Tomorrow High School, Minneapolis, MN.

Learning in Context: Learning in the World

One of the most dramatic and compelling lessons from employer-linked charters is the way in which the schools use the relationship with their partners as a window into the world and the workplace, creating a richly layered context for learning. Schools set in workplaces, museums, or where learning happens largely through community-based projects create powerful interactions with both the content and the people in the community. The constant interaction with adult role models and mentors in various capacities create new and powerful relationships for students. The students are directly exposed to today's workworld skill requirements (like problem solving and teamwork), as well as the demands of diversity. At employer-linked charter schools, classroom lessons take on new meaning. Students are more engaged in their studies, and expectations for appropriate behavior make more sense because they are viewed in the context of the workplace and society at large.

- P** Lisa was a pregnant teenager without a supportive family, without a high school diploma, and without any marketable job skills. Out of desperation, she turned to *Affiliated Alternatives Work & Learn Center*. In her first semester work placement at a local day care center, she reflected on her own life experience as she learned how to care for and nurture pre-school children. In her second semester, she helped build a house, learning the value of teamwork and discovering the relevance of mathematics in a real-world application. In Lisa's third semester, she learned how to give of herself, assisting and developing meaningful relationships with adult participants in a day center for the elderly. In her fourth semester, she found fulfillment working as an aide in an Alzheimer's facility. When Lisa entered the program, her future was bleak. Now, she has occupational certifications, a job she enjoys, career-ladder plans, and great pride in her ability to provide a stable life for herself and her infant child. With the support and encouragement of the Work & Learn Center staff, Lisa was transformed from an alienated teenager to a skilled employee and an effective parent prepared to deal successfully with life's challenges.
- P** Students at *Skills for Tomorrow High School* rarely ask why a behavior requirement, dress code, or performance standard is applied at the school since they know that it all derives directly from the workplace. They also know that in the racially and culturally integrated environment of the school, being an effective part of a team means dealing with prejudices and stereotypes. The school takes on such issues explicitly, encouraging students to understand the "isms" of the workplace and develop strategies for success despite them.
- P** Sitting around a table, drinking pop and talking, students at the *Academy of Plastics Manufacturing and Technology* display the normal self-

consciousness of 16- and 17-year-olds. However, the transformation that occurs when students take a visitor into the plastics lab is dramatic. Dan, donning safety glasses, proudly shows the high-tech machine he has learned to operate, the parts he has learned to make, and the histogram record of quality tolerances he keeps and works to improve.

Students at employer-linked charter schools are actively engaged in the learning process and how their classroom extends beyond the traditional confines of the school. The workplace and institutions in society are their laboratory for learning. Employer-linked charter schools provide the freedom to create an academic focus that breaks the traditional boundaries of content disciplines and how they are delivered.

Meeting Workforce Development Needs

In the early 1900s, Henry Ford, an inventor and entrepreneur, envisioned a world in which automobiles would be available to the common person. His view of education was built on a set of assumptions about the role of public schools in supporting the economy of that era: men would be trained to work on assembly lines, and women would be taught how to take care of domestic needs. Times have changed and so have the assumptions that undergird businesses' expectations for the role of public schools in preparing students for the 21st century workforce. There are many different ways in which a charter school may serve our nation's workforce development needs as well as that of particular employers and industries.

- P** The founders of the *Michigan Health Academy* are dedicated to preparing students for careers in the health field, a growing employment area everywhere with high demand for skilled workers. The course of study at the academy prepares students to earn specific certifications so that they may successfully compete for entry-level positions in area health care facilities.
- P** Historically, the East Bay Conservation Corps served out-of-school young adults and many juvenile offenders through summer and year-round programs that educated them about the environment, gave them hands-on learning opportunities, and helped them learn citizenship by taking responsibility for their communities. Realizing that the modern workplace demands a comprehensive education as well as work-based skills, the leaders of the *East Bay Conservation Corps Charter School* are placing emphasis on competency-based instruction in academics, life skills, employability, citizenship, and communication. Students must pass competency tests in these areas to graduate.
- P** When representatives of companies who are partners in the *Academy of Plastics Manufacturing and Technology* visit students in person, they

emphasize the many career paths that the school opens for students. These paths include immediate entry-level jobs, positions requiring additional technical training such as CAD (computer-aided drafting), and careers that could require four or more years of college. As one CEO remarked, “We view this as an investment in the future of our industry. We want young people to be familiar with the industry, and hopefully, many may choose to stay with it. We have a crying need for people in this industry, and we want young people to be positively exposed to the real thing.”

From broad models of systemic reform, to programs offering and/or encouraging choices among career paths, to specific programs designed to meet demands for skilled workers in a specific industry, employer-linked charter schools offer great flexibility in designing programs to address our country’s workforce development needs.

OUTSIDE THE BOX: CHARTERS AND TRADITIONAL SCHOOL SYSTEMS

Charter schools can also offer an opportunity to work outside the traditional school system to leverage change. Many of the educators and business leaders who founded these schools viewed charters as a way to avoid the bureaucratic constraints of the traditional public school. Very simply put, it is a way to get things done!

Charter schools do offer a vehicle for innovators and those interested in making change in education to “unbundle” the public education system—with its history, norms, and inherited patterns—and assemble a program to meet today’s learning needs and goals for students and stakeholders such as employers.

For many employers in particular, the increased feeling of ownership afforded by direct involvement in school governance, curriculum development, and oversight is an attractive alternative to the frustration of working with the bureaucratic structures of traditional public school systems in their communities. As evidenced by the examples outlined below, charter status has opened up new avenues for the development and delivery of innovative educational programs for students.

P Under Delaware’s state school choice plan, many parents in the Wilmington area had opted out of the local schools by enrolling their children in other schools in the county, including non-public schools. Suffering from declining enrollment, the district launched a series of career or thematic academies to lure students back. But most of these academies continued to struggle. The county school superintendent in Wilmington approached DuPont to assist with the financing of the district’s math and science academy, but DuPont wanted business to have

a voice in the management of the school rather than just give money. After supporting passage of Delaware's charter school act, DuPont took the lead in organizing a consortium of community employers who started and helped govern the *Charter School of Wilmington*, previously known as the Science and Math Academy.

P The *Academy of Plastics Manufacturing and Technology* was spearheaded by a nucleus of leaders from area firms who had become disenchanted by the well-intentioned but unstructured school-to-work efforts underway in the community. They were attracted to the idea of being the governing group of a charter school, where they could set the agenda and direction of the school and drive the development of the curriculum. The education leadership at the St. Clair County Intermediate School District in Michigan wanted to embed a charter school within an existing vocational institution. They knew their vocational education advisory boards were not really working and wanted to break out of the mold of traditional vocational education. The charter school gave them the freedom to change. The county school district is counting on the success of the Academy to encourage acceptance of charter schools as a model for innovative educational delivery in other, existing vocational programs.

P The *Palisades Charter High School* Governance Council adopted an ambitious mission to serve the educational needs of a diverse school community by using an interdisciplinary curriculum, opportunities for “real-world” involvement, and the use of advanced technologies. Having previous experience with school district bureaucratic hurdles that prevented change and creativity in the best interest of students, the council's strong resolve to accomplish their mission led them to seek charter school status.

In addition to serving as a vehicle for innovation in education, employer-linked charter schools can be developed to serve a variety of goals in affecting and influencing the existing school system and structure. Among the schools studied, some were constructed explicitly to use a new framework and demonstrate its power to be replicable within existing schools. Some were set up to compete with and push reforms within the current system. Other schools were chartered—with the support of the district—as a way to breathe new life and energy into dying and moribund existing schools. Many were created to serve special or niche roles within the area's existing school system.

The possibilities inherent in thinking and working “outside the box” that are offered by charter schools, as well as the deliberate ways in which these schools were designed to fit as part of change within the public school system, demonstrate both the breadth and power of change that can be afforded through these new learning communities.

UNIQUE FEATURES OF EMPLOYER-LINKED CHARTER SCHOOLS

In addition to the broad themes of change afforded by employer-linked charter schools, there are a number of specific, unique elements of learning creatively redrawn in the schools profiled for the Employer-Linked Charter School Project. These elements involve curriculum innovation, raising standards, assessment of student achievement, flexibility in staffing, and the provision of adult role models and mentoring as further described below.

Curriculum Innovation

As outlined in the following examples, charter schools give teachers and business people license to develop new and innovative approaches to the curriculum, setting new standards for integrating academics with context-based instruction.

- P** At the *Henry Ford Academy*, the instructional day is divided into three two-hour blocks of time. The academic curriculum, which is aligned with state standards, is presented through the lens of manufacturing. In the morning, students study manufacturing arts (social studies and English). Mid-day activities include physical education, German, and lunch. They also receive academic coaching during a 30-minute period in which Ford Motor Company employees visit the school to provide remediation and/or enrichment for individual students. In the afternoon, students focus on manufacturing sciences (math and science). Throughout the instructional day, teachers strive to link artifacts from the Henry Ford Museum (where the school is located) to daily lessons. The academic year is punctuated by several manufacturing units that integrate academics into a project-based learning experience. One such unit has students learning about all the steps in the manufacturing of a decorative mirror, from initial design to planning and mass production.
- P** In addition to integrating resources between the school and external institutions, *Flagstaff Arts and Leadership Academy* is working to integrate arts and academics as well. The academic dean of the school described major focal units that serve to integrate the process of education as well as its products. For example, a unit on the Colorado plateau provides opportunities for integration of archeology, geology, anthropology, and the visual arts. While the process of developing full integration is still underway, some illustrations are instructive. When a Native American potter came to the Museum of Northern Arizona (where the academy is located) as an artist-in-residence, he had an opportunity to utilize artifacts from the museum's collection to illustrate for the students the historical antecedents of his own work. During the potter's instruction on traditional techniques for firing clay pottery, the earth sciences teacher dropped in to discuss the chemical and physical changes

that the heat of the firing process causes in the material. In these instances, museum resources and staff were effectively connected with both the arts and academics of the charter school.

- P** The curriculum at the *Affiliated Alternatives Work & Learn Center* is organized around four themes, one for each semester of the two-year program. Those themes include human interaction (child development, effective parenting, marriage, and family), consumer competence (how to rent an apartment, balance a checkbook, get a job), citizenship and law (individual rights and responsibilities and government), and identity (discussion of difficult world issues, personal decisions, post-high school decisions, and career planning). In addition to the major theme of each semester, each student has an individualized math program and literature that relates to that theme. Throughout each semester, each student learns to trust and bond with a single teacher who coordinates both classroom and related workworld activities.

With the support, encouragement, and active involvement of employers, innovative educators are seizing the opportunity to develop new and exciting approaches to curriculum integration within a charter school context.

Raising Standards

Setting high standards for achievement—and communicating those standards to students, their parents, and the community at large—was at the foundation of the employer-linked charter schools that were studied for the project. That fact is clarified in the following examples.

- P** In its recruiting materials, the *Academy of Plastics Manufacturing and Technology* makes it clear that students choosing to enroll at the school will be expected to meet high academic standards and expectations. The goal of both the school’s administrator and plastics industry partners is to enrich the curriculum to the fullest extent possible. The school’s administrator is working to see the academic side of the program enriched with enough math and other skills so that academic credit for the Tech Center work can be gained from the home high school. The education committee of the plastics industry is developing national standards and assessments that will ultimately serve as a blueprint for the school’s curriculum. Academy graduates will meet the defined standards for entry-level work in the plastics industry. In addition, the progression of skill standards between the academy and the local community college is becoming more fully developed.
- P** Leaders of the *Affiliated Alternatives Work & Learn Center* are taking issue with the historically low academic standards for at-risk students—a “dumbing down” of the curriculum that makes a boring instructional

approach even worse. In response to recently adopted academic standards in the state of Wisconsin, the school has assumed a leadership role in developing a model curriculum and instruction based on a theoretical foundation provided through the Accelerated Schools model. The Work & Learn Center has accepted the challenge to design a model program for high school students that may ultimately be disseminated across the country.

Employer-linked charter schools are combining innovative approaches to curriculum with high academic standards in order to prepare students for success in the 21st century workforce.

Assessment of Student Achievement

Measuring success is important to the leaders of employer-linked charter schools. From a business perspective, one measure of success is the ability to attract and keep students. But even more important is the desire of founding partners to improve learning outcomes. This increased attention to performance has led to the development of an array of tools to assess student achievement. Often, these assessments provide additional, valuable information on student skills that go beyond the traditional or required state academic tests. Some examples provided below elucidate this trend.

- P** The goal of the *East Bay Conservation Corps Charter School* program is to expose young urban adults and prepare them for successful entry into the workforce. At entry into the program, a large number of corps members test at a second- or third-grade level on the Test of Adult Basic Education. Many corps members have received a high school diploma from a previous school but still are achieving at a third-grade level and are unprepared for the workplace. The school felt that a new curriculum needed to be developed that would define exit criteria for a diploma representing academic and workplace preparation. The charter school's curriculum now includes five competencies—academics, life skills, employability, citizenship, and communication. These levels of competency allow for certificates of mastery at specific points of achievement. In addition to the academic component, corps members can be certified for using heavy machinery and tools such as forklifts, chainsaws, and weed-eaters through work-based experience. They can also earn certification in CPR and first aid.
- P** Despite its career orientation, most, if not all, students at *Skills for Tomorrow High School* plan to go on to college and feel that the school is preparing them to achieve that goal. As a culminating experience, students present their portfolio to a panel of employers and other community members who prepare questions for the graduate. The presentation is typically attended by other students, friends, and family.

For students and faculty alike, the portfolio presentation is a profound experience in which the students tell the world who they are, what they have accomplished, and toward what they aspire. As both a test and a ritual, it serves as an important transitional point for students.

- P** Students at the *Academy of Plastics Manufacturing and Technology* are graded on a combination of their attendance, performance on quizzes and assessments around substantive knowledge, and actual performance in the manufacture of metal and plastic parts. One unified grade point is awarded from this combination of assessments.

The employer-linked charter schools that participated in this study for the project serve a broad range of students. They use an array of different program structures, with different sets of outcome goals and expectations for student growth and development.

Flexibility in Staffing

In addition to having license to develop innovative approaches to curriculum, employer-linked charter schools offer greater flexibility in dealing with staffing issues as highlighted with the examples below.

- P** At the *Affiliated Alternatives' Work & Learn Center*, teacher certification requirements threatened to destroy the carefully crafted relationships between teachers and students that were at the core of the center's educational program. In order to strengthen the bond between students and teachers, the academic schedule was specifically designed so that a student would spend an entire semester with a single teacher who taught across the curriculum. This approach was inconsistent with the local school district mandate that restricted teachers to teaching within their area of certification. It was the school's charter status that allowed it to continue this practice.
- P** The teachers at the *Charter School of Wilmington* are not unionized; they are referred to as partners, not employees. Their base pay is the lowest paid in the state, at 95% of what public school teachers make. However, because they are eligible to receive an annual bonus based on the school's performance, the teachers at the Charter School of Wilmington were the highest paid teachers in the state in its second year. The bonus—which is determined by an advisory board consisting of business people, parents, and representatives of the community—is based on school performance in terms of finances, student performance, and parent satisfaction.

Whether it is the ability to offer creative staffing solutions that enhance instructional practice, create new incentive structures that reward employees for high performance, or involve teachers in the activities and culture of participating

firms, charter schools allow school organizers and operators to make decisions about staffing that break traditional patterns. The starting point for staff decisions can be deciding what is the best skill mix, structure, work routine, and professional development that can meet the goals of the school, its stakeholders, and students.

Role Models and Mentoring

Learning what careers are all about is an important first step in developing a plan for the future. Understanding what people actually do in the workplace, the skills they need to perform their jobs effectively, and how they behave toward others is essential to making an informed career choice. It is also important to appreciate, model, and ultimately master the cultural work norms that afford work and career success. Mentoring (both formal and informal) gives students the opportunity to connect with employees and to learn from them what it takes to be successful in the workplace as discussed in the following examples.

P The *Henry Ford Academy*, which is housed in the Henry Ford Museum, has become a type of laboratory. It facilitates the study of history and historical artifacts and, at the same time, provides for the development of citizenship and personal behavior management. Unlike traditional high schools, students at the academy have to adapt their behavior to the environment and culture of the museum. This means strict expectations for orderly behavior and showing respect for staff and visitors. In return, students enjoy the opportunity to interact and connect on a regular basis with adults representing a variety of occupations in the museum as well as adults at the nearby Ford Motor Company headquarters.

P At the *Academy of Plastics Manufacturing and Technology*, representatives from partnering firms have been very active in visiting interested students and pitching the academy's program. Wearing shirts with the academy logo, board members and representatives visit students and describe the career opportunities available in the plastics arena. Participating firms also provide paid work experience for students over the summer. Getting the employers to commit slots for internships has not been hard, since participating firms recognize the value of getting students to think in terms of a career in their industry. Supervisors work with the young people and suggest that the best benefit of the academy's program is seeing that the kids are comfortable in the workplace, around the machines, and with other people.

One of the hallmarks of employer-linked charter schools is the emphasis placed on real-world experience and personal connections between students and mentors in the workplace. Internships, mentoring, and job-shadowing demonstrate how employers are using their vast resources to help students understand the needs of

employers. These experiences allow the students to relate their academic work to real-world applications.

CASE STUDIES

Nine case studies of employer-linked charter schools were conducted as part of a multi-year collaborative effort among Public Policy Associates, Inc. (PPA), National Alliance of Business (NAB), and Michigan Future, Inc. (MFI).⁵ One intent of the research team throughout the project has been to collect information on the best practices from the school-to-work movement, and these studies aid in accomplishing that goal.

Members of the project team visited each site during the spring of 1998. Each visit lasted approximately two days. While on site, team members learned about the school from a variety of sources. In addition to gathering written documents, the visiting researchers hoped to conduct discussions with the school director and key staff; tour the facility; engage students, parents, and teachers in discussion; and interview key business partners.

The personal accounts of the participants as well as the organizational lessons learned through reflection on the case studies experience as a whole were the subject of the 1999 reports. The reports analyzed key elements of the genesis, mission, curriculum, structure, and operation of the schools. Additionally, unique features of employer-linked charter schools involving curriculum innovation, raising standards, assessment of student achievement, flexibility in staffing, and mentoring were investigated.

Three of the nine case studies are included in the following section. The schools provide one illustration of how charter schools have developed their learning program with a strong and specific use of employer partners. To access all of the case studies, in addition to the other project publications, visit the Web site at www.employercharterschools.com.

Academy of Plastics Manufacturing and Technology Port Huron, Michigan

"They treat you like an adult. They focus on the skills you really need. The group work here is real."

-Academy student

⁵In 1999, the Charter Friends National Network joined the project team and Michigan Future, Inc. ended its involvement.

Overview

The plastics injection and mold-making industry has a large number of firms concentrated in the Port Huron/St. Clair County area of Southeast Michigan. Many small- and medium-size companies here make plastic parts and molds for auto and auto-related industries in Michigan. These firms had a history of abortive and not altogether successful efforts to partner with local schools, the region's vocational center, and the community college to develop a skilled training program for new workers.

Area firms were facing continuing challenges attracting and keeping skilled, entry-level workers. They knew they needed to change the image of their industry and acquaint people with the new, clean, high-technology workplace. By the mid 1990s, the growth among area firms, coupled with their inability to attract and keep new, entry-level workers, brought together the heads of several area firms. This gathering was led by Blue Water Plastics, and the object was to discuss common needs. These industry leaders hoped to find answers to the following kinds of questions: Couldn't we do something more to attract area young people to jobs in our firms? How can we better prepare them for these jobs? Can't we do better than the well-intentioned but unstructured school-to-work efforts underway in the community?

By this time, Michigan's charter school law had taken effect and presented the opportunity for schools, colleges, and Michigan's intermediate school districts (regional school districts providing services to the local districts like special educational and vocational programming) to operate charter schools. The state had sweetened the pot by creating special financial incentives for the development of trade academies (high school-level charter schools) to encourage charter school programs that would meet the job and occupational needs of Michigan's burgeoning economy.

The group of plastics-industry CEOs approached the superintendent of the St. Clair County Intermediate School District (ISD), which operates the county's vocational center. "Can't we create a program that we, in business, design and help deliver, that gets our area's young people into jobs in our industry?" they asked. "How about a charter school?" was the superintendent's response.

Thus, the Academy for Plastics Manufacturing Technology was born. After doing a little homework on charter schools, the nucleus of leaders from the area firms became attracted to the idea of being the governing group of a charter school that would operate as a special program at the regional career center.

"As the governing group, we can set the agenda and the direction for the school," said Carl Hass, a Plastics Academy board member. "We can drive the development of the curriculum. We can provide the internships and exposure to the workplace needed."

Program Philosophy

The energy unleashed by the firms' collective ownership of the program has resulted in real commitments of time, materials, and the precious commodity of workplace learning opportunities for the 127 students that were enrolled in the 1998-99 academic year. Nearly 188 students are slated for enrollment for the fall of 1999. The employers' excitement about their creation is palpable.

The education leadership at the Intermediate School District had their own reasons for wanting to embed a charter school within an existing vocational institution. They wanted to make some much-needed changes in the way they approached vocational education.

“We knew we weren't teaching what kids needed to know in the workplace. We knew our advisory boards weren't really working,” said Joseph Caimi, Superintendent of the Intermediate School District. “We knew we wanted to break out of the mold of traditional vocational education—the way we teach it, staff it, and manage it. The charter school gave us the freedom to change.”

The Academy for Plastics Manufacturing Technology that resulted is a unique institution fashioned to meet the needs of employer, educator, parent, and student partners. The county Intermediate School District's TEC (Technical Education Center) essentially operates the program as a unique offering among its dozen or so occupational offerings. To the parents and students, the fact that it is a charter school is transparent; it is marketed and billed as an attractive, high-end program offered to all area high schoolers during their last two years. The program clearly has a strong and unique identity, with employer representatives active in recruiting students. Its own logo, T-shirts, and pledges of paid internships in area firms underscore the fact that, while it is still a TEC program, it is a special one.

The academy's uniqueness emphasizes the fact that the employers wanted something they could direct more actively. Superintendent Caimi said the district wanted something better than what they were seeing with school-to-work—without the huge headaches of creating a wholly new school, with new buildings, financing, etc.

“We talked with the employers about creating a nonprofit or new entity to run the program. But, ultimately, we decided on a charter school, where the board makes the decisions but contracts with us for administration, business, and data services.” Superintendent Caimi said.

While Michigan law allows charter schools \$5,800 per pupil they enroll, the Plastics Academy chose not to pursue the per-pupil allotment. “I did not want our area's school districts to view the Academy as competition. I wanted it to be

a unique opportunity students could select and the way we change our programming to meet employer needs and better prepare kids,” Caimi said.

Funding for the academy comes from the regular vocational educational millage that assigns partial dollars to pupils who go to the TEC for their half-day programming and extra vocational money for high-demand programs.

The first-enrolled students are now about to graduate. Their experience has been overwhelmingly positive. Twenty-three second year of students have now completed paid summer internships. Growing pains are evident, but many have been surmounted.

The change in personnel rules afforded by the charter school has been the most challenging aspect of change. Staff hired to teach the program are outside the collective bargaining unit of the other TEC staff. They are expected to, and hired to, work all year, participate in more professional development activities, and generally perform under different expectations than members of the IEA (Intermediate Education Association/Michigan Education Association). These expectations are more in line with the pace, decision making, and culture of the firms Academy staff work with. The union sued the school district, charging the charter school was an effort to replace the existing contract and programs, but an administrative law judge has submitted a decision to dismiss all charges against the ISD. Business partners and students are charged up and excited about the program.

Program Description

The Plastics Academy grew directly out of the intense desire of area firms to cultivate their future workforce from the ranks of area young people. The St. Clair ISD and the TEC were eager to use the charter school mechanism as a way to tailor a program to meet employer needs and better serve students.

Unlike most charter schools, the academy is a half-day affair, with paid work extending the day for many participating students. Developing the academy as a program at the Tech Center, where blocks of multi-hour classroom and lab instruction were developed for the students, was a mutually derived decision.

“We did not want to teach everything to the students—their math, English, and social studies. Nor did we want the kids to give up the experience of being part of regular high school,” said Cyndi Eschenburg, Human Resources Assistant Director at Blue Water Plastics. “We wanted to expose (the students) to our industry and teach them skills that would allow them to enter that industry in the future.”

Participating firms worked hard with the TEC staff to develop an industry-driven curriculum and ways students could spend the three hours at the TEC learning

the skills and processes important to the plastics industry. Students spend two and one-half hour blocks at the center. This constitutes a choice of elective coursework from their home high school. They still take their academic topics required for graduation at their home school.

At the TEC academy, students do class work and lab work on plastics injection molding machines and other industry standard equipment. The initial program began with six students focusing exclusively on plastics. In the second year, the metal-machining program at the TEC and its lab were incorporated into the academy. Typically, students spend several weeks at the beginning of the semester in the classroom, learning blueprint reading, measurement, and plastics and metalworking tools and techniques. Later, they spend increasing time in the lab, making test and mock products.

There are currently four broad areas of study that a student can pursue at the academy: Plastics Injection Molding, Metalworking, Welding Technology, and Industrial Maintenance and Repair. Within each discipline, a student can embark on various career tracks, such as: management, process technology, quality assurance. In the upcoming 1999-2000 school year, the injection molding area has enrolled approximately 55 students, the metalworking 44 students (there is a wait list for this program), the welding technology 44 students (there is a wait list for this program), and the maintenance and repair 30 students (this is a new program for the upcoming year).

Academy students are graded on a combination of their attendance, performance on quizzes and assessments around substantive knowledge, and the actual performance in the manufacture of metal and plastic parts. One unified grade-point is awarded from this combination of assessments. Many students have seen their performance improve. One student said that with the hands-on approach she went from a 2.6 grade-point average up to a 3.6. Students appreciate that courses and subsequent grades gained at their home high school (that were often viewed as boring and irrelevant) have been replaced by a challenging, living, learning process.

"I did not like sitting in a boring classroom all day. I do much better here," said one academy participant. Another student reported that three "A"s at the academy raised his GPA from a 1.0 to a 3.2.

Two instructors lead the program, focusing on metalworking and machining respectively. Fred Stanley, Director of Career and Technical Education for the ISD, academic staff, and contracted staff from the TEC work with business and industry representatives to develop the curriculum and provide enhancements. They also arrange work-based learning, job shadowing, and co-op. Stanley's goal is to see the academic side of the program enriched with enough math and other skills so that academic credit for TEC work can be gained from the home

high school. Employer partners want to expand from plastics injection molding and machining to mold making, an area of expertise among local employers.

In addition, a developing dialogue with St. Clair Community College involves articulating the Plastics Academy curriculum with an Associates Degree and other programs available at the community college. Students in the program are able now to meet competency requirements for credit in the college programs. The academy has worked with the community college to identify classes that students can take for articulation. At the end of the academic year is “Articulation Day,” which involves the students meeting with community college representatives with their portfolios and test results to decide what is eligible for articulation. Normally, students articulate around four to nine credits.

As the plastics industry develops national standards and assessments and the progression of skill standards between the academy and the community college is more fully developed, Stanley sees academy graduates meeting the defined standards for entry-level work in the industry.

“We want our graduates to meet the industry's bar for performance and be positioned for continuing education in plastics and manufacturing programs,” Stanley said.

The Academy for Plastics Manufacturing Technology has procured additional resources through the U.S. Department of Education’s charter school program and Goals 2000 to support the professional development of the faculty and a new computer lab.

“The virtues of the charter school and the academy include that we run a year-round schedule like our member firms, and our staff can get professional development and training on an ongoing basis as part of their job,” said Stanley. “For example, we are sending our instructor to Cleveland for state-of-the art training that otherwise would be impossible.”

Business Involvement

The intensity of business involvement in the academy is one of its strongest and most visible attributes. Participating employers are genuinely excited about nurturing a learning program that both meets their needs and responds to their input.

Through a series of committees, the initial partnering companies worked hard and closely to organize a curriculum spelling out the modules of instruction and competencies desired and to develop a marketing and recruitment program. The initial planning process consumed hundreds of hours of both business representative and academy staff time. The industry partners spelled out the

blueprint reading, statistical process control, knowledge of the properties of plastics, and team-building and problem-solving skills desired from students.

Representatives from the member firms have been very active in visiting interested students and pitching the academy's program. Wearing academy logo shirts, board members and representatives visit students in person and describe the career opportunities available in the plastics arena. They emphasize the many career paths it opens up for students, including engineering, machine maintenance, CAD, quality control, and plastics processing. Careers in management and sales are also part of the industry landscape and are pitched to students.

Participating firms provide paid summer work experience for students after their first year and part-time work during the school year for second-year students. Getting the employers to commit the 25-plus job slots for participating students has not been hard. Jim Wirth, the Human Resource Director at a local metalworking firm, has had two to three students as part of the program. He says people don't know what the jobs are that exist and that entry-level employees make \$7 to \$12 an hour.

"We need to get people interested in working in the industry," Wirth said. "Yes, we lose people for a dollar more an hour in Detroit: we've even lost some of our students. But even though not all young people stay with the firm, the investment is as worthwhile."

Students at the academy receive an average of 1,000 paid work hours and two years of training during their tenure. For those students who opt for the metalworking program, its graduates are earning an average of \$10.49 per hour.

Framing a curriculum, building in the competency task list valued by industry, and organizing the work-based learning opportunities has been hard work. But the academy has seen an outpouring of financial and physical support from the industry. Area firms have been eager to ensure that the program and young people have access to state-of-the-art machinery and equipment. Huntsman Corporation and Van Dorn Demag donated several modern injection molding machines for student use—a donation worth more than \$200,000. Other donations of training software, tools, and equipment have made the plastics program and floor area of the machine shop a working replica of modern plastics mold-making.

The benefits seen by the participating companies are long term. As Charles McGundy of partner Huntsman Corporation, put it: "We view this as an investment in the future of our industry. We want young people to be familiar with the industry; and hopefully, many may choose to stay with it." One equipment donor, Sid Rains of Van Dorn Demag, put it even more candidly by saying "Sure, we want kids who one day are going to be making decisions about

what equipment to buy to know the name of our company. But, more than that, we have a crying need for people in this industry, and we want young people to be positively exposed to the real thing.”

In addition, the Rockwell Corporation recently donated equipment for the newly developed Maintenance and Repair program. Likewise, the large area injection molding firm, LDM Technologies has expressed an interest in partnering with the academy; and meetings are currently being held to establish this relationship.

Teachers and students note the tangible outpourings of corporate support, which mark the program as distinctive from other programs at the TEC.

“In most programs, we have to wait and go through lots of bureaucratic processes to get the tools and equipment we need,” said Alan Devitt, the metalworking instructor. “In (the academy), if you need new tools, they appear. If you need new equipment, it's materialized.”

Students in the plastics lab at the TEC learn to make actual types of products produced in industry, and they make them to industry specifications. Partner Huntsman Corporation, a supplier of raw plastic material to area firms, has to routinely make samples of their plastic product to test their conformity to plastic industry specifications. They gave the production of these samples to the academy. Students make sample runs of plastic coat hangers and lawn markers for Huntsman.

Tom Acton, CEO of Pine River Plastics and an academy board vice-president, said the partnerships that have been developed between the board and their suppliers are a unique aspect of the program.

“Our board members are the plastics industry,” Acton said. “Some of our suppliers are actually having the academy students produce components that have commercial value.”

Student Life

Students in the academy move around, laugh and joke in the hallways, and travel to and from their home schools with students in the other 14 TEC vocational programs. Academy students are just like other students at the center, only, perhaps, showing a little more pride of place. Their program has a bit more visibility, with a nice logo and sign hanging at the front of the center. And word of mouth has it that they are getting jobs with area employers and have access to neat equipment and tools.

Like many students who chose a vocational education path and attend the TEC, academy students were looking for an alternative to the traditional high school

pattern. Many would say they take the vocational route because they can't see themselves taking six pointless classes a day.

The academy students that were interviewed were split between those who have family and relatives in the industry (and, therefore, know about the opportunities) and those whose parents were skeptical of their children choosing a career path in plastics.

“My parents want me to go to college and were skeptical about getting into the plastics program,” said one student. “But now they see what I'm learning and that I'm doing well, and they're happy.”

Meeting their own and parental expectations relative to college and future success is an important factor for all the students. Students generally do see college opportunities as part of the program. They are clear that there is a relationship with the community college for continuing education in the industry and opportunities for many career paths opening up. As one student put it, “I see myself becoming an engineer, and this is a good way to do it.”

Sitting around a table, drinking pop, and talking, students display the normal self-consciousness of 16- and 17-year-old kids. But the transformation when students take a visitor into the plastics lab is dramatic. Student Dan Preston donned a pair of safety glasses, showed the interviewers the high-tech machine he operates, the parts he makes, and talked comfortably and knowledgeably about the set-up and maintenance processes. He proudly showed the plastic coat hangers produced and the histogram record of quality tolerances he keeps and works to improve. While observing Dan later in the day at his job site after seeing him work with similar machines in the tech lab, the comfort and confidence he has with working the equipment was clear.

“Students who go through this program aren't afraid of the machines and are comfortable in the workplace,” said Jim Wirth, of Vogel Industries, who employs Dan. “Our supervisors spend time with the young people and help them work through the jobs that we need doing.”

Participating students at firms like Wirth's make a training agreement with their employer and are graded by the employer on a set of personal and job-task performance traits.

Students value the attention they receive, the responsibility they are given in the program, and the emphasis on attendance and professionalism. With the focus on making a product that is tangible, the students respond and work together.

“We are treated like adults and expected to behave like we would in the workplace,” said one student. “The group work here is real, we actually have to get something done.”

At the end-of-year awards ceremony for the TEC, Dan and some of his classmates received honors for perfect attendance, best performer, most improved, and similar accomplishments. When their names were called, “Plastics Academy” was included, just as other students were identified in the hospitality or electronics program. They fit right in.

Looking Ahead

The Academy for Plastics Manufacturing Technology has launched itself and successfully worked through initial growing pains. From a beginning of six students in the fall of 1996, the academy has a current enrollment of 127 juniors and seniors. Students now see more organization and order. They also see the delivery of the promised “goodies” that, in part, encouraged their enrollments—paid work in the industry and the opportunity for future growth.

Participating employers are excited and continue to contribute time, equipment, and worksite learning opportunities. They are eager to see how initial graduates, now emerging, will fare in the workplace and where they will end up. The ultimate test of the academy's success lies ahead.

“My test is several fold. Will we keep these young people in the industry past the initial 60 to 90 days? Will they continue on an upward career path with the company and be the kind of promote-able workers we think they will be? That's the test for us,” said one employer.

The academy faces other challenges in the near future. Hiring and keeping staff is a major concern of the board and the administrator of the academy. The current instructors may or may not continue with the program. Academic instructors are still adjusting to the year-round, business-style schedule and work rules. The academy is looking for the right mix of an entrepreneurial educator with real industrial experience to help lead the program.

Fully integrating the machining and plastics program into a coherent whole, while, perhaps, incorporating mold making and new occupational standards and assessments is a continuing challenge. The employers picture an integrated plastics program that incorporates machining, injection molding, maintenance, and mold making. The program is not nearly so neatly put together yet. The two major strands, plastics and machining, are running in parallel fashion.

Major political and developmental challenges lie ahead. The county school district is counting on the academy's success to encourage acceptance of charter schools as a model for innovative educational delivery in other, existing, vocational programs. The ability to press further and the pace of change that the current TEC staff and structure can absorb are open questions.

If the test for success is the satisfaction and excitement of students and employers, than the academy is performing very well. Continuing to keep this intense relationship going—and delivering a quality, relevant, education to young people that helps them find their way to area employers—is the continuing challenge of the Academy for Plastics Manufacturing Technology.

The Charter School of Wilmington Wilmington, Delaware

"I believe the biggest obstacle to educational improvement is trust. When you increase the level of trust between all parties, the conversation between business and education becomes more profitable. Trust allows us to work together on a matter that is in all of our best interests—a good educational system."

-Ronald R. Russo, President, Charter School of
Wilmington

Overview

An effective education system can only be built on a foundation of trust. Unfortunately, many parents have become skeptical of the public education system. In Delaware, approximately 20% of students attend non-public schools—the highest in the nation. Even the business community is losing faith, having supported a stream of reform efforts with little or no real impact. However, the situation may be changing as a result of an innovative effort called The Charter School of Wilmington, which is redefining the delivery of education services in Delaware.

The district school superintendent approached the DuPont Company in 1995, one of the largest employers in the state, to help support and assist with the financing of the math and science academy. DuPont felt that helping develop schools that allowed business to have a voice in the management of the school was a better solution than providing unrestricted funds.

In the interest of better public education, DuPont preceded to help Delaware's General Assembly pass the "Charter School Act of 1995." This legislation opened the door for the creation of independently operated public schools—schools that could specialize in different models of public education and allow for innovative ways to manage schools.

The Charter School of Wilmington was born out of this innovative license. DuPont took the lead in creating the school, which is located only a short distance from DuPont's facilities in Wilmington. A consortium of six local companies—DuPont, Bell Atlantic, Delmarva Power, Hercules Incorporated, Medical Center of Delaware, and Zeneca, Inc.—together with parents, teachers, and community leaders organized the independently operated public school from

the remains of the Science and Math Academy. The Charter School of Wilmington, known locally as “Charter,” was born.

Program Philosophy

The goals of the school are best summed up in the school motto “Expect the Best.” Much sooner than predicted, this ambitious declaration has become a reality. The progress made since the school’s inception is a success story that has exceeded nearly all expectations.

“Customer” interest may be the most significant indicator of success. In its third year of operation, enrollment for 1998-99 had grown to 552 students, and expected enrollment for next year is 680 students.

According to the California Achievement Test administered at the beginning and end of the school year, Charter students scored significantly higher than other students across the nation, and there was improvement in almost all areas during the course of the school year.

The Charter School of Wilmington's mission is to prepare students for a changing and highly competitive world with a rigorous curriculum emphasizing the study of mathematics and science. The founders of the school believe that one of the most important gifts they can give their children is an education that prepares them for today's world as well as tomorrow's. They feel the world needs people to be technologically adept and capable of making well-reasoned decisions. Businesses depend on these highly skilled yet flexible employees to help ensure success in an increasingly competitive market. Many jobs that once required basic skills may now require analytical and quantitative skills and the ability to reason and solve problems. Jobs that once required a high school education now require at least two years of higher education or technical training.

As major community employers, the consortium of businesses who started and help govern the Charter School of Wilmington sees a rapidly increasing need for men and women who are well grounded in mathematics, science, and technology and who have a well-developed, lifelong interest in the humanities.

Program Description

Charter combines an integrated, innovative, and rigorous math/science curriculum with a solid grounding in traditional subjects such as English and social studies. Charter offers a college-preparatory academic program that requires a minimum of 24 credits for graduation. Eight of those credits must come from required math and science courses, while two or more must come from math/science electives and computer science—for a total of at least ten courses. Charter's goal is to have 100% of its students attend college.

Students are not intentionally screened out of Charter based on their performance at previous schools. However, the high academic standards create a natural selection process. Placement tests are given to all students before they are accepted to Charter in order to place them in the appropriate phase. Each academic class has three phases that determine the pace and level at which the students are taught. These phases, or “groupings,” allow students to be placed in classes that will stimulate and challenge without overwhelming. The flexibility of the phasing system allows students to be placed in different phases for different subjects and to move up or down as needed.

Charter offers one of the state's broadest selections of Advanced Placement (AP) courses. Through the AP program, many top student achievers are able to earn college credits while in high school. In addition to the traditional math and science courses, the school offers an extensive array of elective courses such as Astronomy, Microbiology, Geology & Geophysics, Probability & Statistics, Discrete Math, Computer Programming in Pascal, Computer Programming in C++, Computer-Aided Design/Robotics, and more. Charter students may also choose elective courses in music, drama, and art.

Computer instruction is an integral part of the curriculum. The school has fully equipped computer labs, as well as computers with Internet access in every classroom. Thanks to a federal grant funded through Goals 2000, applied technology is used to improve students' understanding of basic and complex concepts.

Charles Biehl's Integrated Math Class uses the technology to “bring abstract mathematical concepts to life through visual, interactive, fully animated software.” Because of this new technology, concepts that could previously be explained only by using chalkboards and textbooks now can be depicted and manipulated in three dimensions.

Charter has successfully kept its math/science focus and is in the process of revamping its freshman science courses to provide a firmer foundation for the rigorous math and science expectations in later years.

Student Life

One of the most defining differences between Charter and the traditional public school system is attitude and expectations. “Attitude is everything, I want people to think they are a part of a winning team,” Charter President Russo tells all stakeholders. In order to create that winning team, Russo maintains an environment that emphasizes high standards and excellence. The traditional public school system, in the view of many, strives for the lowest common denominator. Mr. Russo and the school's board of directors are more worried about those left behind rather than the majority of students. At Charter, every

student is expected to do their personal best and achieve and learn as much as they are capable of learning.

Charter not only strives for academic excellence but also high behavioral standards. There is a values component to education at Charter. A dress code requires collars on all shirts and no blue jeans. The current, single biggest discipline problem is untucked shirts.

As a reporter from the Philadelphia Weekly wrote in February of 1997, “If you climb to the third floor (of the building) where the Charter School of Wilmington's students have been housed since September, and walk the halls, nothing seems typical. There are no Metallica T-shirts, no scruffy wool caps pulled down over eyes, no black lipstick, no jeans with frayed hems dragging on the floor, and no beepers. In the classrooms, there are no sleepy heads on desks and no sullen faces; there's no aura of violence wafting through the hallways. The boys wear shirts with collars, the girls are well-groomed. In one classroom, quiet prevails as rows of students plumb the mysteries of statistics with the help of programmable calculators.”

Almost 40% of the student body are members of minority groups.

“Our goal has always been to have a school population that reflects the community we serve,” Russo said. “It is increasingly apparent that the community we're in reflects the diversity found in the our global community.”

Charter assists those students who could be identified as being academically/behaviorally “at risk” by providing tutoring, home visits, before-and after-school assistance, conflict management guidance, and additional resources. Many students who had experienced behavioral problems in the beginning of the year had almost no behavioral problems by the final marking period. The Charter absentee rate was about half that in New Castle County public high schools, and the suspension rate was a small fraction of the state average.

Charter has created over 18 clubs and extra-curricular activities including band, a newspaper, and a student council. There are ten sports teams at the school, including football. Approximately half the student population participates in athletics. The school colors are blue and white, and several students were wearing shirts with the Charter logo on the day the case study was conducted. The 1998 senior class designed rings and attended prom at the DuPont Country Club. The idea is to tie in academics, athletics, and extra-curricular activities while putting primary emphasis on academics.

Leadership

Ronald R. Russo was handpicked for the position of President at the Charter School of Wilmington. Before he came to Charter, he ran the largest parochial school in Delaware for 18 years. Russo is a dynamic leader who emphasizes trust and empowerment. He feels part of his school's success is related to his ability to distance himself from the public school system and the politics behind education reform. The business consortium trusts his judgement and allows Russo autonomy in running the school. He trusts and empowers his staff to create a unique atmosphere of learning. He does not just listen to recommendations, he acts on them. Russo wants everyone to feel vested in the school, and that means empowering all stakeholders.

The school feels its most valuable resource is its faculty. The teachers that are chosen reflect the school's philosophy and “enthusiastically embrace” the challenge of teaching. The outstanding staff includes several college-level instructors, a winner of the Presidential Award for the Teaching of Science and Mathematics, and Delaware's English Teacher of the Year. A parent survey indicated that the faculty and staff were “the best thing about the school.” “The biggest surprise to me was that the teachers and students can be as close as they are here; it's really like a family,” said Charter student Kelly Kershaw. “I never experienced that closeness in school before.”

The teachers at Charter are not unionized; they are partners, not employees. Russo involves them in running the school and in interviewing potential colleagues. Teachers also fill a variety of roles including sports coaches and club leaders. The first year the school was in place, teachers were required to take student lunch, hall duties, and study hall. The second year, Russo hired three para-professionals to take care of those duties, and teachers taught an additional class.

Interestingly, the teachers at Charter are the lowest paid in the state of Delaware—receiving 95% of what public school teachers make. However, Charter teachers receive an annual bonus of between 0 and 15% of their salary based on the school's performance. The bonus is determined by an advisory board and is measured by performance in four categories: economic (“did we meet budgetary goals?”), student performance (using standardized tests), parent satisfaction surveys, and sponsor company evaluations. Everyone receives the same percentage to encourage unity and broader interest in all areas of the school. Last year, the teachers received a 10% bonus. This made them the *highest paid* teachers in the state of Delaware.

Mr. L. Charles Biehl is the Dean of Math, Science, and Technology and has spent a year creating an integrated math curriculum. He has been with the school from the beginning. When asked about his experiences at Charter, Biehl said, “I've died and gone to teacher heaven.” He feels he is able to implement progressive

teaching styles without adhering to standard political mandates that other schools are forced to meet. The curriculum he put in place is based on New York State's math and science standards. In Biehl's classroom, students are seated in groups of three to four. The students are challenged to see how the different branches of mathematics are interconnected, to be actively involved in learning, to use manipulatives and projects to visualize mathematical concepts, and to see the relevance of higher-thinking mathematical principles in everyday environments.

Business Involvement

There is a strong emphasis on workplace exposure at Charter. Corporate representatives, including each company's CEO, visit the school regularly to help students understand businesses' expectations and to help students focus on college and career goals.

R. Keith Elliott, CEO and President of Hercules Incorporated (one of the six sponsoring companies of the school), toured Charter as part of the school's Sponsor of the Month Program. The purpose of the program is not only to familiarize the corporate leader with the school but also to give the students a glimpse inside corporate America.

Upperclassmen participate in a "shadowing program" during the school year. As part of this experience, students visit corporate sponsors and are matched with a mentor (a business professional or scientist, for example) who helps them see first-hand what their career field is really like. Visits to the facilities and laboratories of consortium members help students to understand the needs of employers and to relate their academic work to real-world applications.

Students also participate in internships during the summer, where they receive on-the-job experience. These experiences are not identified as school-to-work because President Russo believes that the school-to-work terminology is counterproductive to the goal of work-based and contextualized learning.

An advisory board is composed of seven business representatives, one elected parent, one elected teacher, and four community representatives. Of the four community representatives, two are at large positions, one has an education background, and one is from the City of Wilmington.

Looking Ahead

The consortium of area firms was instrumental in beginning and shaping the school. However, the consortia is not involved in daily administration or the creation of curriculum. Although DuPont has supported the school since its creation, it also feels obligated to maintain distance. It does not want to be seen as favoring one school over another. The consortia provided seed money to begin the school and viewed the school as a start-up business.

Russo said he knew he would lose money for at least two years. The charter has reached and will soon exceed its “break-even” point of 570 students, with growth to a self-sustaining organization in future years.

Summary

The businesses involved in creating Charter gave it instant credibility; and Russo used that credibility, and a successful marketing strategy, to attract students and donors along with a lot of publicity. He feels the business consortium sees Charter as a long-term investment in their future labor market.

Russo emphasizes the importance of marketing in creating a successful school. His newsletters are in color. Signs hanging through out the school are professionally done. New computers adorn the classroom, and new books adorn lockers. Russo has created an image of success, and now that image has carried over into academic success.

In order to measure student ability, standardized tests are administered to all entering students. In the first year, the median student score was in the 65th percentile. In the second year, the median score is in the 75th percentile. There are three 9th-grade Math League teams representing Charter. They are ranked 1,2, and 3 in the region, and the upperclass team is ranked first. One student was a semi-finalist for the Westinghouse Science Talent Search. Charter won 74 medals at the Delaware Senior High Science Olympiad.

“The success of Charter has very little to do with what we are doing—same text, same programs,” Russo said. “What is different is how it operates. We can do more and better things.”

Russo feels education is a multi-billion dollar business. There is a special relationship between a teacher and a student, just as there is between a doctor and a patient. Russo believes it is possible to apply business practices to education and not compromise the integrity of that relationship. Charter school legislation will not permit mediocrity. The legislation creates a system that allows successful schools to flourish and unsuccessful schools to close. Systemic change is necessary. Charters are a catalyst but not the only piece of the formula.

Russo sees the true value of the charter school movement as the elimination of rules, regulations, and power structures. In the case of the Charter School of Wilmington, the school board, which was traditionally concerned with all details of a school, was replaced with a business board that is concerned with the bottom line. The success of Charter lies in managing nuts and bolts of business without worrying about the politics and regulations.

Skills for Tomorrow High School Minneapolis, Minnesota

One size does not fit all.

-Tess Tiernan, Executive Director

Overview

The Skills for Tomorrow High School (SFTHS) characterizes itself as a community of students, parents, and staff. On the continuum of business linkages developed as part of the national Inventory of Business-Linked Charter Schools that was developed for this project, it takes a “career-focus” approach to its courses of study and linkages with employers.

SFTHS was founded by the Minnesota Teamsters Service Bureau, the Minnesota Business Partnership, and the University of Minnesota College of Education. It was chartered by the Rockford School District, a rural district outside Minneapolis, and enrolled its first students in 1994. The enrollment for the 1998-99 school year was approximately 90, up from 75 students the previous school year. The small size of the school is considered to be an important asset by the school’s director, Tess Tiernan, who says that enrollment will never grow larger than 95. The school is located in an urban setting in Minneapolis, Minnesota. This physical setting reflects the commitment of the school to serve a racially and culturally diverse population.

Program Philosophy

The school is designed to meet the expectations of employers for work-ready graduates by focusing on SCANS competencies and meeting the Minnesota Graduation Rule Standards in a school-to-work context. The impetus for the school came from a representative of the Teamsters who had been actively involved in worker retraining and the requirements of the “new workplace.” He worked with a professor at the University of Minnesota, who was also a member of the Rockford School Board, to develop the school.

SFTHS has a vision for itself as “a culturally respectful, outcome-based, experiential, school-to-work program for high school students through joint ventures and mutual understandings with families, the community, business, and For students in Phase III, work-site internships are a central part of their educational experience, typically structured with two days per week at school and three days in structured, field-based work settings. Placements have included an architectural firm, a hotel, a well-known software company, and a housing rehabilitation organization. Employers are encouraged to give students a broad exposure to the workplace so that they can gain a comprehensive understanding of the demands of the workplace. Part of the goal of the work-based learning is

to instill in the students an understanding of leadership. This is defined as understanding how to be both a good leader and a good follower and how to articulate these roles.

The on-the-job learning experiences reinforce the lessons that are instilled in the classroom. Students learn that it is important to understand and meet an employer's expectations, that a positive attitude and commitment are critical skills, that relationships on the job are important and require ongoing attention, and that specific skills and competencies allow for workplace success. Teachers and students report that these lessons begin to make more sense to students once they venture out into the world of work. The interns meet weekly as a group and discuss their experiences and insights. This provides an additional opportunity for the faculty to highlight the connections between the classroom and the workplace.

Throughout the process, students are encouraged to “find their passion.” This entails thinking about areas of occupational interest, identifying areas of high interest, and actively pursuing career goals and interests. The SFTHS strategy has convinced teachers that they can teach life skills, how to deal with other people, and how to problem solve—all of which can enormously contribute to a student's employment and career prospects.

Teachers have said that, over time, they begin to see the workplace experiences reflected in the students' writing, both in terms of content and technique. They also report that the post-intern students have a “different air” about them and function as role models for younger students.

Students and Student Life

Students report that SFTHS differs from their previous schools in several respects. They mention smaller class sizes, teachers who teach more than one subject, more fundraising, and a focus on teamwork. They also see more opportunities for one-on-one work with their teachers, which they value highly.

Overall, students felt that they have to work harder at SFTHS but that they achieve more than at their previous schools. Some characterized their previous schools as having been deceptive about what they promise versus what they deliver. One said, “Every year I found myself promoted, not because of the work I had done but because teachers work in a system that sees bright-eyed children as dollars in the pot.” By contrast, she says that at SFTHS, “I have found that reaching a goal isn't the hard part, working for it is.”

Students said they viewed the school's focus on team-building as a positive element. In the racially and culturally integrated environment of the school, being an effective part of a team means dealing with stereotypes and prejudices. The school takes on such issues explicitly, encouraging students to understand “the

‘isms’ of the workplace” and develop strategies for succeeding despite those realities.

While students reported very high satisfaction with the school for themselves, they were equally clear that the school is not for everyone. They report that many who enroll do not stay, generally because of the rigor of the program and the high expectations regarding student behavior. One student articulated the views of many others by saying, “this is a place for people who are serious about their education.” Despite this caveat, students are unanimous about recommending the school to friends.

Students aim toward the presentation of their portfolio as the major event of their final year. The portfolio is reviewed in advance by a panel of employers and other community members who prepare questions for the graduate. The presentation is typically attended by other students, friends, and family. Following a presentation by the candidate for graduation, the panel quizzes the presenter on the content. For students and faculty alike, the portfolio presentation is a profound experience in which the students tell the world who they are, what they have accomplished, and towards what they aspire. As both a test and a ritual, it serves as an important transitional point for students.

Despite its career orientation, most, if not all, SFTHS students plan to go on to college and feel that SFTHS is preparing them to achieve that goal. Many take classes for college credit while in high school. They feel that the job readiness skills they are developing will help them find jobs that could subsidize the costs of college.

The career aspirations of students vary widely, ranging from architecture to entrepreneurship to psychology. While some expected to pursue careers related to their internships, others had learned from the experiences that they did not wish to pursue a particular path. One student, who had interned at a hotel, decided that he did not want to work in a hotel, but rather wanted to own the hotel. He plans to become a real estate developer.

The ambivalence of some students regarding their employment future is not surprising. In general, some students do not decide on a college major until they have been in college for a year or two, many change majors one or more times while in college. A large number of students at SFTHS speak with clarity and insight about what they have learned about job skills and careers and how these experiences have shaped their plans. Two students have had the opportunity to work at the same job site, a Youth Build housing rehabilitation project, in which they play different roles. One is doing design work, and the other is involved in construction. They both see the connections between their work and understand the tangible value of their contributions.

Relationship to Local Education

The principal difficulty of the school has been forging a working relationship with the Minneapolis School-to-Work Partnership. In the winter 1999, SFTHS received \$8,000 in funding from the School-to-Work Partnership.

The school's director, Ms. Tiernan, worries about the impact of special education rules on the school. While several students at the school had been in special education programs in their previous schools, they are mainstreamed at SFTHS. According to the director, "the problem is not providing a high-quality education to these students, it is the bureaucratic hoops that we have to jump through to satisfy the regulations." The effect of the regulations is essentially a requirement that special education students be labeled as such, a designation that the school leadership sees as destructive to the students.

Business Involvement

The Teamsters Minnesota Service Bureau, which is a 501(c)(3) affiliate of the Teamsters Union, has been a strong partner since the inception of SFTHS. The organization was deeply involved in the development of the school and has continued to provide internships, guidance, and moral support. No other partner has been as strong as the Teamsters, but several others provide internships and serve on portfolio review committees for students. For example, a large local company, Huot Manufacturing, has recently begun to provide manufacturing internships to the school's students.

Internships represent intensive engagements between the school and the employer, as well as between the employer and the student. An internship coordinator meets with supervisors and students every week to monitor progress, identify and address problems, and assure that the experience has value for the student. Employers work with the student on SCANS competencies. At the conclusion of an internship, the employer provides feedback through an exit interview with the coordinator and the student. There is little interaction between the employers and teachers other than the internship coordinator. The internship coordinator also provides guidance to the students and works with the employers to maintain a clear focus for the student's placement.

While business and community partners have been very supportive of the school, they have not been directly involved in curriculum development. The partners feel that, having had extensive participation in shaping the mission and direction of the school, they are comfortable delegating curriculum decisions to the leadership of the school.

In addition to its links with local employers, the school explicitly seeks teachers who have business experience. This attracts teachers who like the idea of a

business-focused school and means that teachers can speak with authority about the requirements of the workplace.

Looking Ahead

Most SFTHS graduates attend the Minneapolis Community and Technical School. Some begin course work there prior to graduation. Other schools attended by graduates include the University of St. Thomas and Metro State. The trajectory toward higher education is valued by the students and provides them with a clear path toward developing marketable skills.

The school loses many students through attrition. Out of the 90 total enrollees in 1997, for both the junior and senior year, 15 students graduated. Thus, about thirty students drop out of the program, on average each year, or 67%. Most such losses are due to the high standards for behavior and performance. While the graduates of the program are doing very well, it is not clear what happens to the others. The leadership is explicit about the fact that no one school is appropriate for all students, but they also understand that knowing the specific reasons for attrition can support an ongoing quality improvement process.

In the fall of 1998, the Skills for Tomorrow High School helped to open a junior high school for about 90 students in grades seven through nine. The Skills for Tomorrow High School partnered with the middle school, sharing their name, vision, and facility with the Skills for Tomorrow Middle School. The school is operated in partnership with Goodwill Easter Seal of Minnesota. The students of the new school have job-shadowing and career-exposure experiences. This provides better preparation for the high school program than most students receive at traditional schools. The linkage with Goodwill Easter Seal may also create new internship and service-learning opportunities for the high school students, but this has yet to crystalize. Another advantage of this development is the ability to share some faculty and staff resources between the two schools. This makes it possible to have a group of teachers and administrative personnel with more diverse experiences and skills.

Over the longer term, plans are under development for a K-6 school. This may open by the year 2000. Ultimately, the K-9 schools are intended to serve as feeders for the high school, which will provide a stable student population for the long-term. This future-looking, business-like strategy is characteristic of the entrepreneurial style that SFTHS has adopted—and is probably necessary for its ongoing survival.

The school continually seeks additional internship opportunities. Currently, the director is looking for a partner in the music industry who could provide work-based learning experiences for students in the arts. Establishing these connections is difficult and time-consuming, and maintaining them is a continual challenge.

Observations

The Skills for Tomorrow High School serves a largely urban population in a manner that exposes and links them to the concepts and realities of employment in an intensive fashion. Students learn about what specific career directions do and do not interest them; allowing them to understand what a career is all about. The high aspirations of the students demonstrate that even those who come from economically disadvantaged backgrounds can be helped to find a path toward academic, economic, and personal success. Several issues emerged from the SFTHS research that are relevant to other efforts to create and maintain employer-linked charter schools.

Career exploration: The career exploration approach taken by SFTHS exposes students to many different industries and occupations. On the other hand, the focus on any one career path is less intense than might be in a more limited setting. Business-linked charter schools must consciously choose which direction is appropriate for them and their targeted students.

Financial support: Financial issues are challenging for the school at its current enrollment level. It appears that the state funding levels are not adequate to support the current program. As a result, the school is pursuing additional funding through grants.

Regulation: Imposition of various reporting and operating requirements on what is essentially a small, one-school district has a very different impact than on the large schools and school districts. This also plays out in terms of the school's ability to participate effectively in funding consortia, such as the local school-to-work partnership. As an illustration, the need to dedicate 0.2 FTE for a funding consortia may represent 1/1000 of the staff capacity of a district with 200 employees. For a school with 20 employees, it consumes 1% of the capacity, a burden effectively ten times greater. The federal government has addressed a parallel issue in the business world with the Regulatory Flexibility Act, which requires agencies to take into account the capacities of small firms in all regulations. Perhaps a similar approach would make sense in the regulatory structure for public education.

Establishing clear expectations: The loss of students raises questions about how a school as different from the norm as SFTHS can accurately communicate its goals with applicants and their parents. It is clear that expectations for some are not aligned with the reality of the school. Business-linked charter schools may need to go beyond traditional marketing practices and try to tell potential customers who should *not* enroll. Clearly, SFTHS and others like it are not for everyone. As the director of the school pointed out, "one size does not fit all."

Setting real standards: Related to the issue of student attrition is the dilemma of how to create high standards without pushing too many students away. A

teacher pointed out that “the hurdles must be real” in order for them to have meaning and that the kids must make the effort to overcome them. By focusing on the real requirements of employers, the standards for behavior, appearance, and performance are connected directly to the situations that students will encounter after high school. The school leaves open the opportunity for a student to improve their performance or complete their course of study indefinitely. Some students have taken a break and then returned. The school’s director feels that it is this percentage of students who do return to the school that demonstrates its success. By avoiding an “all or nothing” policy, the school has tried to keep opportunities alive for even struggling students.

Personal growth: Developing and presenting a graduation portfolio has a profoundly affects the students. It provides a tangible transition from the role as student to that of an adult member of the community. This is accomplished in a way that is more substantive than a traditional graduation ceremony. The focus on personal competence and accomplishment appears to help students place their learning into a meaningful context. Since employer-linked charter schools are breaking new ground, it is important that they provide such a context to those who have succeeded and are about to take the next big steps in their lives. For students who come from difficult backgrounds, the deep level of engagement between them and the teachers provides a dramatically different opportunity to grow. In other schools that target at-risk students, this is an important lesson.

Skills for Tomorrow High School takes pride in doing things differently. By taking a step off the beaten path, it provides an environment and program that works well for particular students. While one size may not fit all, this size clearly fits the many who are benefitting from its approach.