

DOCUMENT RESUME

ED 462 566

CE 082 961

TITLE Case Study: Sussex Technical High School, Georgetown, Delaware.

INSTITUTION Southern Regional Education Board, Atlanta, GA.

PUB DATE 1997-00-00

NOTE 18p.; Part of the High Schools That Work (HSTW) Initiative. For other case studies, see CE 082 956-964 and UD 034 827.

AVAILABLE FROM Southern Regional Education Board, Publication Orders Department, 592 10th St. N.W., Atlanta, GA 30318-5790 (97V07; \$1). Tel: 404-875-9211, ext. 236; Fax: 404-872-1477; Web site: <http://www.sreb.org/>. For full text: [http://www.sreb.org/programs/hstw/publications/case_studies/Susse x.asp](http://www.sreb.org/programs/hstw/publications/case_studies/Susse%20x.asp).

PUB TYPE Reports - Research (143)

EDRS PRICE MF01/PC01 Plus Postage.

DESCRIPTORS *Academic Achievement; Attendance; Block Scheduling; Case Studies; Community Support; Course Selection (Students); *Educational Change; Educational Improvement; Graduation Requirements; High Schools; Instructional Leadership; *Integrated Curriculum; Program Improvement; School Community Relationship; School Guidance; School Holding Power; School Organization; Staff Development; Vocational Education; *Vocational High Schools

IDENTIFIERS High Schools That Work

ABSTRACT

A vocational-technical center in Delaware, launched a massive restructuring effort in 1988. Educators used frameworks provided by the National Center for Research in Vocational Education and Southern Regional Educational Board and visited High Schools That Work sites. In 1991, Sussex Technical High School opened its doors as a newly designed comprehensive facility offering these innovative concepts: block scheduling, common planning time, structured programs of study, career majors, a strong and relevant academic program, and integrated curriculum. Emphasis was on blending the essential content of traditional college preparatory studies with quality vocational-technical studies. The high school adopted an intellectually challenging academic curriculum that included coursework in English, mathematics, science, social studies, foreign language, and computer technology. Students were required to earn at least six credits in a vocational-technical major. Leaders developed strategies effective in raising standards and achievement that involved school organization, curriculum integration, teacher support for high-level content, student-centered learning, extra help for student success, a comprehensive guidance system, and community support. Results indicated substantial student gains in reading, mathematics, and science; that more students were taking more rigorous courses; a 95 percent attendance rate; and a dropout rate of less than 2 percent. (YLB)

Case Study: Sussex Technical High School,
Georgetown, Delaware.

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES
INFORMATION CENTER (ERIC)

- This document has been reproduced as received from the person or organization originating it.
- Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

PERMISSION TO REPRODUCE AND
DISSEMINATE THIS MATERIAL HAS BEEN
GRANTED BY

M. A. Sullivan

TO THE EDUCATIONAL RESOURCES
INFORMATION CENTER (ERIC)

1



Case Study

SUSSEX TECHNICAL HIGH SCHOOL Georgetown, Delaware

Students Thrive at a Comprehensive Technical High School Created from a Problem-Laden Shared-Time Vocational Center

What does it take for a school to recognize that a vocational education concept that was valid 30 years ago is no longer working? What does it take to turn a vocational center serving part-time students into a full-time technical high school offering a rigorous, integrated program of academic and vocational studies to youth who make the choice to go there?

It takes determination, leadership and intensive planning. Most of all, it takes commitment from administrators, teachers, staff, students, parents and the community to initiate drastic changes aimed at preparing students for success in careers and life-long learning.

THE DECISION TO CHANGE

Sussex Technical High School is located in Georgetown in rural southern Delaware. When the school opened as a vocational-technical center in 1961, its mission was to serve part-time students from seven independent "feeder" school districts. By the mid-1980s, the serious flaws in this delivery system had become obvious. For example:

- Enrollment at the school declined 45 percent between 1978 and 1988.
- Teachers were being laid off because they were no longer needed.
- Students from the feeder high schools had low-level academic skills and were unable to relate their academic studies to the workplace.
- Students scored at the "bottom of the heap" on standardized tests.
- The various school calendars and bus schedules of seven feeder districts resulted in scheduling "nightmares" at the center.
- Vocational-technical education at the center had fallen out of step with what business and industry leaders were expecting of their employees.

Under the leadership of Superintendent George Frunzi and his staff, a massive restructuring effort was launched in 1988. The first step was to organize an advisory committee to seek answers to the center's problems. This "power group" of 30 people included superintendents, key staff members, policy makers and representatives of business, industry and the community.

As Sussex Tech sought to change its way of doing business, it used frameworks provided by the National Center for Research in Vocational Education (NCRVE) and the Southern Regional Education Board-State Vocational Education Consortium. Gene Bottoms of SREB provided technical assistance, and Sussex Tech teachers and administrators attended the Consortium's

1989 Staff Development Conference. The Delaware educators also visited SREB *High Schools That Work* sites to learn how other schools were implementing the *HSTW* key practices. When Delaware joined the SREB-State Vocational Education Consortium in 1990, Sussex Tech gained additional access to data and information.

A NEW TECHNICAL HIGH SCHOOL

In September 1991, Sussex Technical High School opened its doors as a newly designed, comprehensive facility for students in grades 9 through 12. The new school offered innovative concepts such as block scheduling, common planning time, structured programs of study, career majors, a strong and relevant academic program and an integrated curriculum.

Students from eight public schools and five private schools in Sussex County choose to attend Sussex Tech. The school prides itself on having a dedicated faculty, a challenging academic and technical program, strict disciplinary guidelines, school-wide technology, and a clean, well-maintained campus.

Enrollment at Sussex Tech has risen dramatically to a total of 1,091 students in 1996-97. More than 600 youth apply for 300 openings each year. The school maintains balance by selecting certain percentages of students from each feeder school and by making sure the school population reflects the racial and ethnic makeup of the general population. Seventy-seven percent of the students are white, 20 percent are African American, and the remaining three percent are Hispanic, Native American and Asian. Twenty-four percent of students qualify for free or reduced-price lunches.

A ONE-TRACK SCHOOL

With emphasis on blending the essential content of traditional college preparatory studies--mathematics, science and language arts--with quality vocational-technical studies, Sussex Technical High School strives to prepare all students for postsecondary education and careers. There is no "general track." A highly structured and sequential program of study ensures a rigorous academic curriculum linked to industry-based technical studies. Every student selects a technical concentration or "major" and receives instruction throughout the curriculum in the higher order thinking and problem-solving skills leading to effective school-to-work transition.

All Sussex Tech students:

- Achieve high levels of academic and technical skills;
- Prepare for postsecondary education and a career;
- Learn in the context of a career major;
- Learn by doing--in the classroom and the workplace;
- Work with teachers in small clusters or "schools within schools";
- Receive extra help and time;

- Have access to a wide range of information on careers and postsecondary education;
- Use technology to strengthen learning;
- Benefit from strong school ties with postsecondary institutions and employers who provide work-based learning opportunities.

Three major changes enabled Sussex Tech to avoid a "general track." They include:

- Developing a challenging program of study;
- Organizing the school around career clusters;
- Integrating academic and technical content and instruction.

The Academic Core

Sussex Tech adopted an intellectually challenging academic curriculum that includes course work in English, mathematics, science, social studies, foreign language and computer technology. Graduation requirements actually exceed SREB's recommended curriculum for students in grades 9 through 12. Students at Sussex Tech are required to complete a minimum of:

- Four English credits in courses with content equal to that of college preparatory English. These courses emphasize proficiency in reading, writing, literature and higher-order thinking skills. To bolster their language arts skills, students participate in integrated activities throughout the curriculum, including conducting research, writing reports, making oral presentations and completing book reports.
- Three credits in mathematics, including two credits in courses with content equal to college preparatory mathematics. Ninth-graders take Algebra I, geometry or Applied Mathematics. Other courses in the mathematics sequence include Algebra II, pre-calculus, functions/statistics and trigonometry and calculus.
- Three credits in science, including two credits in courses with content equal to college preparatory science. Courses include biology (Applied Biology-Chemistry), chemistry, advanced chemistry, anatomy/physiology, Physics I and II and Principles of Technology I and II. Principles of Technology--an applied physics course--requires higher-order thinking skills and incorporates real-life technical applications. The science sequence is dictated by students' technical programs, but most students take additional science courses as electives. Modern, well-equipped science labs provide opportunities for students to conduct research and solve problems.

The Revised Vocational Curriculum

Sussex Tech students must earn at least six credits in a vocational-technical major. Four demanding career clusters--automotive/diesel technologies, business technologies, health and human services technologies and industrial/engineering technologies--offer 15 career majors.

The clusters and majors include:

Automotive/Diesel Technologies

Auto Body
Auto/Diesel

Business Technologies

Business/Computer
Graphic Arts
Marketing

Health/Human Services Technologies

Children's Education and Services
Cosmetology
Criminal Justice
Health Professions (Allied Health and Athletic Training)

Industrial/Engineering Technologies

Carpentry/Mill and Cabinet
Drafting
Electrical
Electronics
Environmental Technology
Welding/Building Maintenance

Criminal Justice and Environmental Technology were added to the curriculum and all vocational-technical courses were revised to reflect Sussex Tech's new approach to vocational-technical education. For example, printing is now included in the far more comprehensive graphic arts major; plumbing, masonry and machine shop are offered as related courses.

Industry standards have become the basis for the technical curriculum. For example, Associated General Contractors certifies the carpentry program, Automotive Service Excellence certifies the automotive/diesel program, and the Printing Industry of America certifies the graphic arts program. Cosmetology and health professions students are also expected to meet industry standards.

The Sussex Tech graduation requirements also include:

- Two credits in related vocational or technical fields, including one credit in a computer course. Semester-length specialty or related technical courses provide students with diverse skills. These courses include:

Blueprint Reading/Sketching
Computer Applications I and II
Computer Maintenance/Repair
Computerized Accounting
Construction Fundamentals
Cost Estimation/Work Measurement
Document Formatting
Electrical Fundamentals
Electronics Fundamentals
Emergency Medical Care
Graphic Production I and II
Human/Customer Relations
HVAC/Plumbing: Basic Mechanical Systems
Marketing/Sales
Masonry: Site Preparation/Building Layout
Organizational Leadership
Programming
Quality Management
Small Business Management
Sociology
Visual Communications I and II

Technical teachers and counselors help students select related courses that correlate with and strengthen their technical program and skills. For example, carpentry students take courses in Cost Estimation/Work Management, Blueprint Reading/Sketching, Applied Technology, Site Preparation and Small Business Management. Students completing the three-year program in Criminal Justice enroll in such courses as Electronics Fundamentals, Sociology and Computer Applications.

An SREB technical assistance team commended the school for its lineup of related courses. These courses provide a broad base of technical knowledge and skills that students will need in adapting to a workplace characterized by an increasingly broad range of tasks.

STRATEGIES FOR ACHIEVING THE VISION

In converting to a full-time technical high school, Sussex Tech leaders developed a number of strategies that are proving effective in raising standards and achievement.

School Organization

Sussex Tech is organized to promote communication and coordination among teachers and students. Block scheduling allows 30 minutes of common planning time for teachers each day. Academic and vocational teachers meet from 8:15 a.m. to 8:45 a.m. daily in the school's four

academy-type clusters. This planning time is available in addition to individual preparation time from 7:30 a.m. to 8:15 a.m. Monday through Friday. Common planning time enables academic and vocational teachers to share curricula and plan integrated projects. It also enables them to visit disciplines within the cluster to learn what is being taught and where the disciplines connect. In addition to technical instructors, each cluster includes English, mathematics, science and social studies teachers, a counselor, an assistant principal and other staff members such as the school psychologist. The fact that teachers work as a team, rather than as individuals, has positively impacted the performance of students and the entire school. "If I could keep only one element of our school restructuring effort, it would be the planning time for teachers," said Carol Schreffler, Sussex County's Director of Instruction.

Small academy-type classes of 18 to 20 students in academic courses and 14 to 15 students in technical courses build rapport between students and teachers and allow closer monitoring of student progress. Most students attend classes with their "cluster mates."

Curriculum Integration

In teaching all students a college preparatory academic core, Sussex Tech has made curriculum integration a priority at all grade levels and across all academic and technical programs. Methods such as scientific inquiry and reading and writing for learning connect coursework to problems, issues and projects that exist beyond the classroom. Integration projects have been identified for each grade level, including career exploration in grade 9 and comprehensive individual projects in grade 11. For example, students in the Industrial/Engineering Technologies cluster studying the American Revolution in 11th-grade history classes may apply this knowledge as well as mathematics skills to create 18th century furniture, tools, guns and knives.

The mandatory Senior Exhibition of Mastery involves 12th-graders in the development and presentation of an integrated project representing advanced academic and technical skills. Working individually or in teams, students develop a product related to their technical major, write a related research paper and make an oral presentation. The oral report is evaluated by a committee of administrators, teachers and advisory council members. If students work together, each team member must focus on a different aspect of the project in the written and oral reports. Typical topics include:

- Fiber Optics in Communication
- Photographic Light and Its Effect on Objects
- Animal Rights
- Lasers: The Technological Amazement
- The Entrepreneurship Exhibition
- Ergonomics and Its Effect on the Business Office
- Expansion of an Early Childhood Day Care Playground
- Producing a Successful and Profitable Fashion Show

Wellness Centers: The Key to Healthier Students Dealing with Immobility in the Elderly

Although students may be apprehensive at first, they find great satisfaction in completing the Senior Exhibition of Mastery. "The project gave me a chance to showcase many of the skills I have learned in my career major," one student said. "Getting organized and meeting deadlines are things I will be expected to do in the workplace," another student noted.

In addition to planning annual integration projects, teachers constantly work to integrate the day-to-day curriculum. Examples of recent projects include:

- Students in the Business Technology cluster who were reading the book *Lord of the Flies* in their English classes discussed leadership and management issues. They also solved word problems developed by a mathematics teacher.
- In the Industrial/Engineering cluster, students participated in a brainstorming session based on an English assignment about a Native American boy seeking his vocation. Students wrote essays on their reasons for choosing a particular career field.
- One group of Applied Mathematics students designed and calculated the cost of building a golf course. Students majoring in carpentry designed a clubhouse, while students majoring in automotive technology figured the cost of maintaining a fleet of golf carts.
- Students in the Industrial/Engineering cluster spent an entire year constructing a house. Carpentry students built the frame and other wood parts, electrical students added the wiring, and other students installed the plumbing. All students used mathematics to figure amounts of materials and their cost. A local family purchased the materials and is now living in the house.

Teachers are dedicated to creating integration projects that provide practical, meaningful experiences that focus on the need for challenging and relevant academic and technical coursework. *High Schools That Work* continuously reinforces the importance of integrated learning to help career-bound students learn abstract concepts by solving real-world problems.

Teacher Support for High-Level Content

Many students require motivation from teachers in undertaking the hard work necessary to learn challenging academic and technical content. "A major hurdle is to get all teachers to recognize that students are capable of mastering higher level content," Director Schreffler said.

Because Sussex Tech did not offer academic studies until the school was re-designed, administrators were able to recruit academic teachers who believe in and are dedicated to a curriculum of high standards and integrated learning. Vocational teachers adopted a "Let's go for

it" attitude when they realized that the school could not continue down the same old path. By embracing industry certification standards, they reinforced the value of a Sussex Tech diploma.

Principal Patrick Savini lists three major reasons for teachers' strong support of improvement efforts: "We adopted block scheduling, gave teachers opportunities to plan integrated activities, and made it possible for the faculty to participate in meaningful staff development activities, including the annual *High Schools That Work* staff development conference," he said.

Student-Centered Learning

Sussex Tech students are benefitting from classroom practices that engage students actively in learning academic and technical content. The 1996 *HSTW* student survey showed increases in the percentage of Sussex Tech students who said their vocational teachers who stressed reading, writing and mathematics in vocational labs.

The percentage of students who said they completed a workplace-related mathematics project at least twice a year jumped dramatically from only 10 percent in 1993 to 76 percent in 1996. More students said they made in-class presentations of special mathematics projects and used a computer to complete mathematics assignments. More of them also said their mathematics teachers were making an effort to relate mathematics content to real life. In 1993, only 6 percent of Sussex Tech students said they were required to complete joint mathematics and vocational assignments more than twice a year; in 1996 the percentage had leaped to 83 percent.

In science, almost twice as many students in 1996 as in 1993 said they had to read more than two books or articles on science each year.

Extra Help for Student Success

When Sussex Tech converted to a full-time high school with high standards for academic and technical studies, it was obvious that many students would need a support system. Two programs--Techademic Coaching and Techademic Skills--were created to respond to this need.

Techademic Coaching provides individual help to students four days a week after school (from 3 p.m. to 6 p.m). The school district provides buses for students who need rides home following the afternoon sessions. Students attend voluntarily and may do the following in the coaching sessions:

- ▶ Receive individual tutoring;
- ▶ Make up tests missed due to absence;
- ▶ Retake tests to improve their grades;
- ▶ Make up labs missed in science;

- ▶ Complete science experiments;
- ▶ Complete homework assignments;
- ▶ Work on research papers and other long-range projects;
- ▶ Use computerized integrated learning systems to improve reading and writing skills;
- ▶ Get ready for SAT and PSAT exams.

Techademic Coaching has been a big success. During 1995-96, the program logged more than 3,000 student visits, including 1,325 requests for assistance in mathematics, 680 in business/computer technology, 466 in science, 215 in English and 164 in social studies.

The Techademic Skills program helps ninth-graders address language arts deficiencies. Because Sussex Tech students come from a number of public and private schools, their reading and writing skills vary tremendously. This program is aimed at helping all students achieve a high level of competency with the written word.

All ninth-graders are assigned to a Techademic Skills class in addition to an English class. The Techademic Skills class uses Learning 100 On-Line--an integrated computer software network--to address weaknesses and build on strengths. Students take pre- and post-tests and participate in individualized lessons.

In a second component of Techademic Skills, students focus on whole language activities that integrate specific reading and writing techniques with content from academic and technical areas. In the third aspect of the course, students complete inventories and take tests that give them vital information about career interests and aptitudes.

A team of two teachers is assigned to work closely with all staff in improving students' reading and writing skills. The team uses frequent letters and phone calls to inform parents of their children's progress.

A Comprehensive Guidance System

A comprehensive guidance and advisement system is a critical element in successfully implementing a structured program of study. Sussex Tech's guidance staff has developed a system that includes:

- ▶ Orienting middle school students to the Sussex Tech program of study;
- ▶ Hosting school tours for eighth-graders;
- ▶ Conducting an open house event for parents of students who are considering applying to Sussex Tech;
- ▶ Using interest and aptitude tests in conjunction with technology exploration courses to help ninth-graders choose a technical major;
- ▶ Helping all students plan and annually review a coherent program of study;
- ▶ Monitoring student progress to determine if additional help is needed.

Because of the school's philosophy that students achieve by effort rather than ability, testing plays little or no role in placement practices. Counselors assign ninth-graders to mathematics courses based on performance in grade 8. Academic courses are linked to the students' technical interests and set the pace for a four-year program of study.

All ninth-graders participate in a comprehensive career exploratory program during which they investigate six technical majors. For four and a half weeks, ninth-graders:

- ▶ Learn about career opportunities related to career majors;
- ▶ Become familiar with specific equipment and technologies;
- ▶ Complete integrated hands-on tasks related to a career pathway;
- ▶ Take notes and complete a career research paper;
- ▶ Work on a career portfolio.

While exploring technical majors, students complete a series of interest inventories and aptitude tests. The results of these assessments are placed in the students' portfolios, along with teacher evaluations based on students' rotations through the technical majors. All of these items are used by students, parents and counselors in selecting a career major for a student to pursue in high school.

Community Support

Sussex Tech is fortunate to have strong support from local business and industry leaders. As the school raised standards and expectations, these employers proved to be a valuable resource in identifying curriculum areas that coincide with the knowledge and skills needed in the workplace. Business leaders served on the original advisory committee and continue to show their support in many ways, including participation in advisory councils that review and evaluate senior projects and other integrated learning activities.

Many employers work closely with the school to provide work-based learning opportunities. Students have access to two-year apprenticeships in electrical trades and automotive services, a cooperative education/internship program that is moving toward becoming a more structured internship experience, a for-credit cooperative education program in the summer months, and a job shadowing program for qualified students in grades 10, 11 and 12.

Employers also provide opportunities for Sussex Tech teachers to participate in summer internships that reinforce the applied curriculum and result in new integrated lesson plans. The school hopes to expand the program to include all staff. In an internship in the drafting field, a mathematics teacher drew a complete set of house plans. "This real-world experience correlated nicely with an Applied Mathematics unit on drawing to scale," the teacher said. An English teacher who spent time in a number of departments at the company where she interned can now help students acquire the language arts skills needed for a variety of jobs.

CHALLENGES IN CONVERTING TO A FULL-TIME TECHNICAL HIGH SCHOOL

Sussex Tech faced two major challenges in converting from a part-time vocational center to a full-time comprehensive high school: getting approval from the state board of education and winning the support of the state legislature for a tax increase to support the new endeavor.

The approval process took two years and involved numerous presentations of why the change was needed, what it would entail, and how it would be accomplished. "We wanted Sussex Tech to become a school that would demonstrate for the state and the nation that career-bound students can excel in an environment of rigorous academic and technical studies," Superintendent Frunzi said.

Construction and Resources

While the superintendent and the school board were seeking approval and funding for the new school, district leaders were making plans to meet other challenges. Clearly, the school building was too small to handle projected increases in enrollment: The 1960s classrooms seated only 15 or 16 students, the cafeteria was too small, and there were no science labs or library. The original school lacked athletic facilities such as a gym or a football field that would encourage youth to choose Sussex Tech for their high school education. Even with the many changes that have taken place at the school, space is still a problem. Recently, the state appropriated funds for 20 additional classrooms and a new library.

Maintaining High Standards

School leaders underestimated the resistance of students who were accustomed to low expectations and a smorgasbord of "dumbed-down" courses. By January 1992, the failure rate of students in Applied Mathematics courses reached an alarming 60 percent. During the spring and summer of 1993, many 12th-graders decided to return to their former high schools rather than complete Sussex Tech's tough curriculum. It took about two years of "drawing the line in the sand" to get students to recognize that they were going to have to work hard to meet higher standards. Now, most students see the importance of completing a challenging program of study and decide to remain at the school. The staff continues to raise expectations, improve curriculum and instruction, and strengthen connections with business and industry.

Another obstacle in the beginning was the school's reputation as a place to send special education and low-achieving students. Sussex Tech addressed this problem by "mainstreaming" these students and providing them with extra help in coursework and special projects.

RESULTS OF HIGHER EXPECTATIONS AND STANDARDS

The *High Schools That Work* Assessment has been an important barometer for gauging progress toward greater educational attainment. When Sussex Tech students took the *HSTW* Assessment tests in reading, mathematics and science for the first time in 1990, these part-time students were still studying academic subjects at their home high schools. The scores were depressing: Sussex Tech career-bound 12th-graders had lower reading, mathematics and science scores than students at any of the 37 other high schools participating in the pilot phase of the *HSTW* initiative. In the 1993 assessment, the school tested 11th-graders as well as 12th-graders to compare the effects of full-time versus shared-time instruction. The 11th-graders scored well in comparison to 12th-graders who took the tests at other *HSTW* sites.

A total of 163 12th-graders completing vocational majors at Sussex Tech participated in the *HSTW* Assessment of reading, mathematics and science competencies in the spring of 1996. These students recorded substantial gains in all three areas over the average scores of the school's 12th-graders in 1993.

Comparison of *HSTW* Assessment Scores at Sussex Tech in 1993 and 1996

	Career-Bound 12th-Graders in 1993	Career-Bound 12th-Graders in 1996	<i>HSTW</i> Goal
Reading	262	274	279
Mathematics	276	289	295
Science	275	281	292

Note: All scores are rounded to the nearest whole number.

All Delaware 10th-graders participate in a writing assessment. In 1996, 65.4 percent of Sussex Tech students approached, met or exceeded the state writing standards. (The state average is 73.6 percent.) The Sussex Tech scores have improved each year, and school leaders predict that the school's 10th-graders will come close to reaching the state average in the next testing cycle.

SAT scores are another indicator of improved academic achievement. Between 1994 and 1996, the percentage of Sussex Tech students taking the SAT climbed 73 percent. Median scores also increased.

**SAT Scores
at Sussex Technical High School**

	Verbal	Mathematics	Combined	Percentage of Seniors Taking the SAT
1996	447	429	876	28%
1995	359	363	722	29%
1994	380	410	790	8%
1993	378	411	789	Not Available

During 1995, Gary Hoachlander of MPR Associates worked with Sussex Tech staff to develop a comprehensive performance report that displays data from the *HSTW* Assessment as well as state tests used in measuring student achievement. The report contains space for multi-year entries in categories such as student attendance, grade point averages in academic and technical courses, SAT and other test scores, percentages of students demonstrating competency in technical fields, percentages of students earning industry certification and apprenticeship credit, and level of participation by graduates in postsecondary education and the job market.

Taking the "Right Stuff"

The focus on rigorous standards begins when a student enrolls at Sussex Tech, and it prevails throughout high school. Strict graduation requirements are aligned with the school's goal of increasing students' higher-order thinking and problem-solving skills by relating academic content to real-life applications.

Results from the 1996 *HSTW* Assessment reflects dramatic changes in English, mathematics and science course-taking patterns at Sussex Tech between 1993 and 1996. In 1996, 98 percent of career-bound students reported taking college preparatory English in the 12th grade, compared to only 20 percent three years earlier.

Thirty-five percent more career-bound students in 1996 took Algebra I, 28 percent more took Algebra II, 51 percent more took geometry, and 11 percent more took pre-calculus or calculus. The 1996 students also took more mathematics classes: Ninety-eight percent took three or more, compared to only 50 percent in 1993.

The course-taking patterns hold true in science as well. Seventy-two percent more students in 1996 than in 1993 took lab chemistry, 18 percent more took physics, and 34 percent more took Principles of Technology (applied physics). Eighty-eight percent of career-bound students in 1996 took three or more science courses, compared to only 21 percent in 1993.

OTHER SUCCESSES

Sussex Tech has made significant progress in a number of areas. For example:

- The attendance rate is 95 percent.
- The drop-out rate is less than 2 percent.
- The school has the lowest rate of serious disciplinary infractions of any high school in Delaware.
- Enrollment in college preparatory-level mathematics courses has soared. Among students in the class of 1996, 65 percent took geometry, 41 percent took Algebra II, 10 percent took pre-calculus and 4 percent took calculus. By comparison, only 2.1 percent of students graduating in 1990 took geometry.
- An increasing number of students are earning double majors.
- Graduates are successfully enrolling in postsecondary education, including the University of Delaware and the U.S. Military Academy (West Point) as well as the Parsons School of Technology, Nashville Auto/Diesel College and numerous apprenticeship programs. The percentage of students enrolling in postsecondary education grew from almost 26 percent in 1989-90 to 64 percent in 1995-96.

In keeping with a pledge to become a state and national model for preparing career-bound students, Sussex Tech has been honored as:

- A U.S. Department of Education Blue Ribbon School of Excellence;
- One of 10 New American High Schools identified by *Business Week* magazine and the McGraw-Hill Educational and Professional Publishing Group in cooperation with the National Center for Research in Vocational Education and the U.S. Department of Education;
- Delaware's Model Instructional Technology School.

PLANS FOR THE FUTURE

Sussex Tech leaders and teachers are committed to the type of integrated, high-quality education that gives youth a competitive advantage at the job site and in postsecondary education. To support this commitment, they are strengthening the school's computer capabilities and adding high-tech equipment. Advisory council members play an active role in helping the school identify equipment needed for state-of-the-art instruction.

Plans are under way to improve the school's technical curriculum. One approach will be to expand opportunities for students to learn the management and marketing skills that are becoming increasingly important in the workplace.

The school also plans to promote more parental involvement in working with teachers and counselors to help students select and complete challenging programs of study. A new staff person has been added to communicate parents when students need help with their studies. In addition, the school is pushing for more parental involvement in the advisory councils for each technical major and in grant-writing to address needs at the school.

The changes that have taken place at Sussex Tech in recent years are far more than "cosmetic." Putting together a true "high school that works" requires a long-term commitment based on a clear vision of what a high school should become for its students and the community. Sussex Tech is living up to that commitment.

Contact: Patrick Savini, Principal
Sussex Technical High School
P.O. Box 351
Georgetown, DE 19947
302/856-0961

Southern Regional Education Board
High Schools That Work
592 Tenth St., NW
Atlanta, GA 30318
404/875-9211

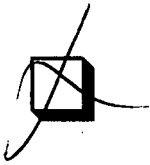


U.S. Department of Education
Office of Educational Research and Improvement (OERI)
National Library of Education (NLE)
Educational Resources Information Center (ERIC)



NOTICE

Reproduction Basis



This document is covered by a signed "Reproduction Release (Blanket)" form (on file within the ERIC system), encompassing all or classes of documents from its source organization and, therefore, does not require a "Specific Document" Release form.



This document is Federally-funded, or carries its own permission to reproduce, or is otherwise in the public domain and, therefore, may be reproduced by ERIC without a signed Reproduction Release form (either "Specific Document" or "Blanket").

EFF-089 (3/2000)