



*Student Achievement Leadership Team*

## **Resource Kit #8**

**Innovative career/technical programs  
that increase student achievement**

*September 2004*

Ohio School Boards Association  
8050 North High Street, Suite 100  
Columbus, Ohio 43235-6482  
(614) 540-4000 • fax (614) 540-4100

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### **The OSBA Student Achievement Leadership Team consists of the following school board members:**

Dr. Michael G. Grote, OSBA president and chair, Delaware City & Delaware Area Career Center,  
(740) 363-4789  
Walter Armes, Whitehall City, (614) 231-0349  
Cheryl M. Clark, Elida Local (Allen), (419) 339-2624  
Donna H. Cunningham, Wheelersburg Local (Scioto), (740) 574-6218  
Cathye J. Flory, Logan-Hocking Local (Hocking) & Tri-County Career Center, (740) 385-6365  
Larry E. Holdren, Washington County ESC & Washington County JVSD, (740) 989-2447  
Catherine D. Ingram, Cincinnati City, (513) 621-3693  
Sharon E. Manson, Waverly City & Pike County Area JVSD, (740) 947-2973  
Dr. Florence M. Newell, Cincinnati City, (513) 731-8683  
Brenda A. Pryor, South Euclid-Lyndhurst City, (216) 691-9130  
Gail Requardt, East Muskingum Local (Muskingum) & Mid-East Career and Technology Center,  
(740) 826-4953  
Marty Rothey, Findlay City, (419) 424-8900  
William Spahr, Xenia Community City & Greene County JVSD, (937) 376-1614

For more information on the OSBA Student Achievement Initiative, contact one of the SALT members or

Ohio School Boards Association  
8050 North High Street, Suite 100  
Columbus, Ohio 43235-6482  
(614) 540-4000 • fax (614) 540-4100  
Web site at [www.osba-ohio.org](http://www.osba-ohio.org)



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8050 North High Street, Suite 100, Columbus, Ohio 43235-6482

(614) 540-4000 • (800) 589-OSBA • fax: (614) 540-4100

[www.osba-ohio.org](http://www.osba-ohio.org)

Dear School Board Members, Superintendents and Treasurers:

It is an exciting time to be involved in public education. There are so many new and creative programs designed to boost student achievement. This Student Achievement Leadership Team resource kit features 16 innovative programs from public schools throughout Ohio.

This kit recognizes the successes of career/technical education. You will find summaries of programs teaching highly technical, cutting-edge, post-secondary subjects. Many of these programs have been recognized by national organizations and corporations for their effectiveness.

These are not your fathers' vocational schools. Today's career/technical educational system offers state-of-the-art instruction and training for the professions of the 21st century — and beyond.

In addition, Ohio's joint vocational school districts work closely with local, regional and even national firms to gear their programs toward the needs of modern business and commerce. This partnership successfully serves the needs students, companies and communities.

We hope you will find ideas you can apply in your own district to raise student achievement.

Dr. Michael G. Grote

OSBA president

member of the Delaware City

and Delaware Area Career Center boards

serving the public school leadership team

# Biotechnology

District: Bedford City  
Contact: John DiSabato, director of career and technical education  
Phone: (440) 786-3300

The Bedford City Schools, the North Coast Tech Prep Consortium and Cuyahoga Community College (CCC) have collaborated to plan and deliver a biotechnology program to eight northeast Ohio high schools. Throughout this process, business and biotech industry representatives, college professors and the high school faculty from each of the schools worked together to lay out a program of study to prepare students for a career in the expanding field of biotechnology. **Nate Marron**, a science department faculty member at Bedford High School, prepared the biotechnology curriculum, mapping the new program together with the existing classes to provide a seamless biotechnology pathway that starts in the ninth grade.

## **What is biotechnology?**

This course emphasizes the topics and techniques that lay the groundwork for the burgeoning field of biotechnology. The program recognizes advanced students with the aptitude and propensity to pursue a career in the quickly advancing field of biotechnology. Students will use laboratory materials, as well as traditional instructional methods, to learn at an accelerated rate. This course will prepare students for more advanced courses and applications in the field of biotechnology, as well as introduce them to the numerous types of career areas in biotechnology.

## **What students learn in their senior year**

Instruction will be focused on traditional biology concepts and introductory to advanced biotechnology concepts: molecules, cells, cellular processes, metabolism, DNA, chromosomes, genes, musculoskeletal system, digestive system, internal transport, internal defense, gas exchange, fluid balance, neural control, endocrine regulation, laboratory safety, good laboratory practices, instrumentation, solution/media preparation, microbiology, sterilizations and bioseparations. Proper use of equipment and instruments such as a pH meter, pipettes, centrifugation, filtration, separation and spectrophotometry will be emphasized.

## **What students learn the summer after senior year**

In conjunction with CCC, upon graduation from high school, students will enroll and complete the Summer Bridge Course at CCC that further emphasizes laboratory safety, good laboratory practices, instrumentation, solution/media preparation, microbiology, sterilizations, bioseparations, proper use of equipment and instruments such as a pH meter, pipettes, centrifugation, filtration, separation and spectrophotometry.

**Course completion**

Students will earn 15 college credits at CCC for the successful completion of Honors Biology I, Honors Chemistry I, this biotechnology course and the CCC Summer Bridge Course.

**Prerequisites**

Minimum grade of B in both Honors Biology I and Honors Chemistry I

Minimum grade of B in Algebra I, Algebra II and Geometry

Minimum overall GPA of 3.0

**Career Exploration/Scantek**

District: Columbiana County JVSD

Contact: Marcie Skrinjar, Scantek instructor, and Karen Taylor, adult education secondary curriculum administrative specialist

Phone: (330) 424-9561

The Scantek lab at the Columbiana County Career & Technical Center serves a dual purpose. It acts as a classroom for many students and a resource room for others. Our lab consists of 14 Scantek modules, which include automotive, construction, CNC machining, medical-related fields and the information technology career paths. It also contains AES modules dealing with tourism and recreation, as well as food production and service. The last six modules are hands-on Questech modules in construction, wiring, plumbing, landscaping and welding.

As a classroom, our Scantek lab services a variety of different students. For our Vocational Readiness Program, the lab acts as a nine-week classroom. The students, sophomores trying to make decisions concerning their last two years of high school, begin by taking the Career Tech interest surveys, as well as the academic survey, to match their skills and interests. Once results of these surveys have been compiled, students spend the rest of the nine weeks working through three to five of the modules that represent the career paths we offer at the school. After working through these labs, the students have a better understanding of the field and have had a chance to experience the type of work tasks required by the careers.

Other students, mostly juniors and seniors, use the lab as a resource room for additional work in their chosen fields. For example, the Interactive Media class can work through the Networking and Troubleshooting modules, while the Networking class can gain more experience with Web-Page Design and Internet Exploration.

Teachers also send students who missed concepts for various reasons and use it as a tutoring tool. The Machine Trades seniors begin their study of CNC machines with a few weeks in the Scantek lab to work through the Materials and Processes module, the Industrial Control module and the CNC Milling module. This allows them to begin their class work with an improved understanding of what they are about to study.

Many of the vocational programs use the lab to help train their students before sending them out on job shadowing or job placement.

As a resource room, the Scantek lab has been used to educate over 1,500 students from the nine schools in our participating districts. In October, eighth-graders in the county will come through the Scantek lab to take an interest survey in careers. Using the Careertek program, the students will take an interest survey and then a follow up on careers in their interest areas. After more exploration, each student will choose five careers in those fields that they would like to look at further. Various schools follow-up that interest survey with the academic survey to see how interests and skills match for career choices.

In January, every sophomore from nine districts will be tested on reading skills, as well as their career interests. Students will have a chance to look at jobs available in the career clusters we offer at the Career and Technical Center and decide if that area is where they want to start their training.

By carefully looking at students interests and then matching them to their skills, the Careertek program is a valuable tool in career exploration. Following this up with hands-on learning experiences gives students a “feel” for what they can expect in a job in that field. Even a negative experience helps students narrow down their choices.

## **Teacher Academy**

District: Delaware Area Career Center  
Contact: Mary Lykens, instructor  
Phone: (740) 548-0708

The mission of the Teacher Academy program at the Delaware Area Career Center is to encourage students to enter the teaching profession after high school. It is our goal to provide them with the support and training necessary to be successful as students, as well as teachers.

The Delaware Area Career Center program, in partnership with The Ohio State University-Marion Campus, is coordinating this new program with the possibility of college credit for work completed. Current students receive three high school credits for this course.

Students attend their home high schools in the morning and are enrolled in the Teacher Academy in the afternoon. Some of their time is spent in the classroom learning the theory of education through lectures, projects, team activities, presentations and problem-solving experiences. However, we know that the best way to learn how to teach is to observe experienced and enthusiastic teachers and talk to them about what they do.

Each student enrolled in the Teacher Academy will have an opportunity to explore educational careers through three nine-week sessions in early childhood, middle school, high school, and/or special needs classrooms. Students completing the program will have over 550 hours of educational theory and field experiences. The final assessment for the course will be the completion of a portfolio that will highlight student work throughout the year using the Praxis III Domains of Teaching: Organizing Content Knowledge for Student Learning, Creating an Environment for Student Learning, Teaching for Student Learning and Teacher Professionalism. An authentic audience of educators will evaluate this portfolio. Students may ask for help in gaining evidence to support an explanation of each of the 19 criteria in the Praxis III.

## **BUG**

District: EHOVE JVSD  
Contact: Kitty Smith, adult director  
Phone: (419) 499-4663

The BUG (Bringing Up Grades) program is a system that provides students extra help on an as-needed basis. A 30-minute period is set aside each day to provide a structured way for students to receive assistance with homework, project research, study skills, and make-up assignments or tests.

BUG passes are issued by instructors, or students may request a pass. These passes are written for the following day and given to the office staff by 3:30 p.m. for distribution to the student's career tech teacher.

All teachers keep records of BUG/extra help for each student, whether or not they attend. The records are important because each teacher needs to show that remediation has been offered. A student remediation record, listing only students with failing or incomplete grades, is handed in when grades are submitted.

Students not attending an academic extra-help session are assigned to their Career Tech teacher. This is a time to finish assignments, individually discuss their projects, make up tests or have a period of silent substantial reading. Students receiving grades of D, F or I are assigned to extra help sessions at least once a week.

During the 2002–2003 school year:

- 4,983 BUG passes were written,
- each student attended BUG an average of 14 times,
- 266 students (42%) were on the honor roll the fourth quarter.

## **Public Safety Technologies**

District: Four County Career Center

Contacts: Susan Restivo, career technical supervisor, and Bruce Goodwin, director

Phone: (419) 267-3331 ext. 2261

The Public Safety Technologies Program is a two-year program designed for 11th- and 12th-grade students at a career center. Students also have the option of attending for one-half day if their associate school allows for this arrangement. In the past, students enrolled in the Public Safety Technologies Program have taken the Law Enforcement Program their junior year and the Firefighter/Emergency Medical Technician (EMT) Program during their senior year. The program has recently been changed to reflect the changes in the state-approved delivery model and to allow for students to participate in their areas of interest during their senior year.

There are two instructors assigned to teach the program during the junior year. Both instructors teach a morning junior lab section. Currently, all first-year students take a core curriculum, which includes the following topics:

- overview of public safety,
- safety/CPR/first aid,
- ethics,
- communications/computer technology,
- diversity and disabilities,
- physical fitness and training,
- equipment training,
- schematics and maps,
- hazardous materials,
- terrorist assessment training,
- incident command,
- emergency telecommunications.

Junior academic instruction includes a science class, which incorporates both anatomy/physiology and forensic science.



During the senior year, students choose either the criminal justice (law enforcement) track or the firefighter/EMT track. If a student qualifies with a 2.5 GPA, they are strongly encouraged to take an additional math class, Algebra II or higher, along with chemistry for the EMT students. The senior English class emphasizes composition skills. In future years, the school hopes to offer a psychology and sociology courses as electives.

Students in criminal justice will receive college credit for criminal law and justice principles, and upon successful completion of the EMT-B National Registry exam, EMT students will opt out of the initial college course required for this program.

Upon completion of the two-year high school program, students qualify for entry-level positions in radio communications, industrial security, retail security, alarm response units, the United States military, emergency medical service and community fire service agencies.

The public safety curriculum allows for a smooth transition to a two- or four-year college. Advanced careers include social workers, substance-abuse counselors, paralegal, patrol officer, deputy clerks, deputy sheriffs, state law enforcement, correction officers, probation officers, state fire marshals, firefighters and paramedics.

Class instruction also includes the development of positive citizenship values and attitudes toward school and community. Students are encouraged to participate in school crime and fire prevention activities. The instructors promote volunteer services to support community safety responses and awareness.

## **The Great Oaks Opportunity Center**

District: Great Oaks Institute of Technology and Career Development  
Contact: Maggie Hess, dean  
Phone: (513) 612-5727

Many students drop out of high school each year for a variety of reasons. The Great Oaks Opportunity Center was implemented at the beginning of the 2003–04 school year. It is a school-within-a-school that is designed to serve at-risk students from the 36 Great Oaks-affiliated school districts who:

- are at least 16 years of age,
- have earned four credits or less and/or are deficient in one or more areas of the Ohio Graduation Test,
- want to get back on track for high school graduation and enter a career technical program.

**How it operates**

Students and their parents are interviewed before being accepted into the Opportunity Center. An individual success plan (ISP) is developed with input from the student, parents and affiliated school counselor, and implemented for students who determine that the center is a good educational option for them.

The Opportunity Center is located at Scarlet Oaks, but students are isolated from students in the career technical programs. Three instructors, one certificated in math, one in English and one in social studies/career-based intervention, guide the learning process. Instruction is provided through Aurora online courses, as well as individual and group instruction. They are able to move ahead as rapidly as they are capable of doing.

In addition to the academic emphasis, students work on goal setting, teamwork skills and changing behaviors that create problems for them. They have the opportunity to engage in career exploration activities and some job shadowing in the career technical programs, which helps them determine the career major they want to enter. Students exit the program when they can demonstrate mastery in each subject area and have earned the necessary credits toward graduation.

**Program successes**

Enrollment in the program was limited to 15 for the pilot year.

- One student dropped out after two weeks because the program did not fit his needs.
- 14 ninth- and 10th-graders completed the program.
- Two 12th-graders completed a career technical program and graduated from high school.
- A total of 65 credits were earned: 10 students earned four credits; three earned six credits; one earned seven credits.
- All students who were proficiency deficient required a combined total of 23 proficiency tests: by the end of the year, 65% of the tests were passed with an average rate of 89%.
- Twelve of the 14 students from the affiliated schools are on track for graduation and have been accepted into a Great Oaks career technical program for 2004–05. One of the students will continue in the Opportunity Center in the fall and the remaining student will enter military school.
- The overall attendance rate was 88% for the year, while the attendance rate for the previous year for all participants averaged 50%.
- Parents are engaged in the program. Last year, 100% of the parents attended two parent meetings, and staff contacted all parents on a weekly basis to let them know about their child's progress.

# **Landscape Management and Design**

District: Greene County JVSD  
Contact: Ron Bolender, public information administrator  
Phone: (937) 426-6636

Greene County Career Center's Landscape Management and Design program combines a wide range of technologies, artistic expression and hands-on construction to prepare high school students for exciting careers in the landscape, nursery and facilities management industries.

The program uses the school grounds as a laboratory and features a fully operational greenhouse that allows students to learn more about plant propagation and production.

Each year, the greenhouse is host to a Spring Garden Show highlighted by decks, waterfalls, ponds and bridges accented by a range of flowers, shrubs and trees — all designed and constructed by students. The community response is impressive, and the event also allows the Landscape Management and Design students to partner with the school's Marketing Technology program in developing advertising and promotional strategies.

The program has established partnerships with a number of colleges and universities. Over 70% of graduates the last three years are either in the landscape industry or attending college to further their education in the field. Students can qualify for a college tech prep scholarship through Clark State University. Currently, there are seven graduates enrolled in The Ohio State University's Agriculture Technology Institute.

Certifications are an important addition to a graduate's career passport. Landscape Management and Design students are eligible to earn certification from the Ohio Nursery and Landscape Association. Currently, 11 students are actively involved in testing and qualification for the January 2005 test.

In addition to welcoming the community to the annual garden show, students also participate in significant community service projects. In the last two school years, students have volunteered with Habitat for Humanity. Their designs and installations have added a special touch for the families benefiting from their new homes.

While many assume that the landscaping profession involves little more than dirt and shovels, computer technology has been introduced into the design area. Students are immersed in all three versions of a computer-aided design program called Earthscape. The program not only allows students to design and alter a digital image of their landscaping project with the click of a mouse, but also provides information on pricing and marketing strategies.

Greene County Career Center's Landscape Management and Design program is the perfect example of providing students with opportunities to excel in business and in college. It is a high-profile program that earns respect and recognition from the community and students are highly sought by area contractors and industry employers.

## **Early Intervention Helps Students “PASS”**

District: Miami Valley Career Technology Center

Contacts: Alan Beach, guidance counselor and Steve North, attendance intervention coordinator

Phones: (937) 854-6270 or (937) 854-6855

Every student wants to pass. And, “PASS” at the Miami Valley Career Technology Center (MVCTC) means involving parents before the year even starts. “We strongly encourage parents’ involvement in their child’s success, and we have created a program, Project PASS, that engages them in the summer before the school year starts,” says Dr. **John Boggess**, MVCTC superintendent.

Project PASS (Parents Assisting Student Success) is an initiative that provides early intervention for students who have academic or attendance concerns. Students in the program are identified as having 19 or more absences the year prior to coming to MVCTC or more than one academic credit deficiency. They are at-risk of not graduating from high school.

“Coming to MVCTC offers students a fresh start on high school, and we design Project PASS as an opportunity for the project,” said **Steve North**. “Our team of counselors reviews the records of over 1,000 incoming students to identify the project participants. We invited these students, along with their parents, to a special meeting in August to discuss their attendance and credit issues. We didn’t dwell on past failures or make them feel uncomfortable about their previous school record. The focus of the whole meeting was an optimistic view of the future. We wanted everyone to feel upbeat about how the fresh start at MVCTC gives them a chance to be a success.”

One part of the summer meeting was a pledge that both the student and parent signed. The pledge was like a promise to themselves. Parents were asked to stay involved with their child and work with the school.

“We wanted to develop the team concept, said **Alan Beach**. “Early involvement with parents before problems arise enables us to establish a rapport with the families, freely discuss strategies and present our expectations for success. We are very clear about the high standards we have for attendance and improving academic performance.” Student performance was monitored during the initial school year by the MVCTC counselor team. Individual and group meetings were held throughout the school year.

Preliminary results after the first year of Project PASS have shown significant overall improvement and in some cases, drastic turn-arounds. Some students have found themselves on the honor roll for the first time and some, who previously had 20 or more absences, had perfect attendance. Retention rates for this at-risk group were the same as the whole school population. Over half the group made significant improvement in their grades and made up a deficient credit during the school year through extra coursework. Attendance improvement also was significant. The attendance rate for these students was 93.82% as compared to 86.3% the prior year. The second year of the program will focus on maintaining this progress toward graduation.

## **Career Technology Centers**

District: Northwest Local (Hamilton)  
Contact: Acacia Allen, communications specialist  
Phone: (513) 923-1000

The Career Technology Centers in the Northwest Local School District are crucial to the development and learning of students in our system. Our district is one of the few to have Career Technology Centers at both of our high schools.

With 15 programs at two centers, there are many outstanding courses and advisory committees doing a wonderful job educating our students. However, most impressive are the changes being done internally, motivated by the effort and vision of one Career Technology Center teacher, **Ken Broxterman**.

Broxterman has been working in the district for 16 years, teaching construction technology at the Northwest Career Technology Center. He spends a considerable amount of time perfecting his classroom curriculum with an advisory committee, other teachers and students.

Broxterman has a vision of what a career center should be and works daily with the faculty to make his vision a reality. In the past, career center alternatives were used as an educational option for students who were not college bound. In recent years, efforts have been made to incorporate more academic material into career center classes. He understood the importance of this collaboration, but wanted to take it a step further.

He wanted the high school teachers to know what was going on in his classes and wanted to know what was going on in theirs. What began as coffee refills in his office is now lunch BBQs for interested staff members. This social setting not only establishes friendships and alliances, but also is an opportunity for teachers to realize that they are sharing the same victories and challenges in their classrooms. These gatherings have worked to change the image of the Career Technology Center both outside and within the district. Now high school teachers have a better understanding of the career center curriculum and the benefits of alternative educational environments.

## Visual Communications

District: Oregon City  
Contact: Nathan Quigg, visual communication instructor  
Phone: (419) 693-0668 ext. 2309

The visual communications (VCOM) program at Clay High School is a two-year college tech prep program designed for 11th- and 12th-grade students. Since its inception in 2000, student enrollment has grown steadily, from 16 to 38 students. High demand for the course now requires us to use a selection process to rank and admit students. The program curriculum is the result of a comprehensive review and refinement of Ohio's ITWorks ([www.itworks-ohio.org](http://www.itworks-ohio.org)) technical competency profile for interactive media. Students learn how to design, create and produce multimedia products for print, Web and video. The focus is on using multimedia technology and art/design concepts to develop products for business, training, entertainment, communications and marketing.

As part of the program, students join Business Professionals of America (BPA). To date, 30 VCOM students have qualified for BPA State Competitive Events, with 26 placing in the Top 10. Seven of those students earned their way to compete at the BPA National Leadership Conferences in Chicago (2001), Dallas (2002) and Cincinnati (2003) by placing first, second or third at the state level. The 2003 Global Marketing Team of **Tiffany Lange, Jacob Nissen** and **Brad Schmitz** placed sixth in the nation. In 2003, the VCOM students also led a successful campaign to get their classmate, **Sara Dunsmore**, elected as historian on the Ohio state officer team. **Ryan O'Shea** also submitted the winning design for the Ohio BPA pin design contest, which was produced and sold at the state and national conferences. Additionally, they organized and participated in "Make the Point," a charity fund-raiser for the Special Olympics, which raised over \$2,900, the ninth-highest amount raised in the nation.

The program has been developed and taught by **Nathan Quigg**, the 2003 Ohio ACTE New Career and Technical Education Teacher of the Year. He uses contextual, problem-solving and project-based approaches to engage students. In addition to their BPA awards, students have produced two award-winning commercials, which were aired on Buckeye Cable. They also have developed numerous Web sites, including [www.kiwanis1n.org](http://www.kiwanis1n.org), [www.ocft.com](http://www.ocft.com), [www.gofish.ws](http://www.gofish.ws), [www.twp.jerusalem.oh.us](http://www.twp.jerusalem.oh.us) and [www.hiphopcode.com](http://www.hiphopcode.com). Each year, students produce *Horizons*, Clay High School's yearbook, on CD, as well as highlight videos of weddings and sporting events. Many students have taken advantage of articulation agreements, enabling them to obtain up to 23 college credits from Owens Community College or Terra Community College. To learn more about the program, visit the VCOM Web site at [www.oregon.k12.oh.us/pages/vc\\_main.html](http://www.oregon.k12.oh.us/pages/vc_main.html).

## **Manufacturing & Transportation Common Planning Team**

District: Penta Career Center  
Contact: Jane Music, curriculum coordinator  
Phone (419) 661-6496

With the advent of standards-based education and high-stakes testing, Penta Career Center, like many other career-technical schools, is searching for ways to provide rigorous academics in combination with challenging career-technical programs. After adopting the High Schools That Work (HSTW) model of school reform two years ago, the high school staff, composed of academic and career-technical teachers organized by Ohio's career clusters, agreed to pilot common planning time as a part of its HSTW site plan. The 2003–04 master schedule was designed so that academic teachers from each career cluster area would have a daily 25-minute common planning period during one of four lunch periods.

A focus group provided these teams with some ground rules, training and organizational tools at the beginning of the year, and each team was allowed to develop its own approach to common planning. The goal of common planning was to improve student performance through professional dialogue and more effective teaching and learning strategies.

Penta's Manufacturing & Transportation cluster team, supervised by **Cheryl Volkmer**, used its common planning time to develop an intervention process that identified at-risk students within the cluster, and designed appropriate and timely strategies to improve each student's performance. The team, composed of math, science, social studies and English staff members, often invited a career-technical teacher, guidance counselor, VOSE parent(s) or individual students to assist them in designing and implementing these intervention plans. Full participation was expected from all members of the team. Minutes were taken at each session and stored in a team notebook. Two sessions were set aside to evaluate team performance, one at mid-year and one at the end of the year.

Team data documents the following outcomes, after three quarters of implementation:

- higher grades;
- fewer students failing;
- better communication among teachers;
- increased communication with parents;
- improved communication with cluster supervisors;
- increased collaboration with VOSE coordinators;
- improved continuity of interventions throughout a student's day;
- specialized strategies extended to the regular education population;
- increased documentation on each student discussed by the team, including suggestions and person responsible for follow through;
- increased accountability due to the need for teachers to report back to the team.

## **Precision Machine Technology**

District: Polaris JVSD  
Contact: Robert Timmons, principal  
Phone: (440) 891-7643

Polaris JVSD is using laptop computers to increase student achievement with Web-based machining and mathematics software. It has formed a partnership with ToolingU to deliver highly authentic virtual courses and curriculum materials to students considering careers in engineering, manufacturing and machining.

Students in this program have attained substantially higher levels of achievement as measured against industry and educational standards and proficiencies. Each student is issued a laptop computer in the fall of his or her junior year to be used for two years to connect with coursework at ToolingU. This coursework is blended with face-to-face instruction in both theory and laboratory settings. Students are assessed continually against a continuum of scaffolded state and industry standards, yielding remarkable results, in comparison to students who have not participated in the virtual curricula and one-to-one computing.

Some of the content students encounter at ToolingU is not yet available in textbooks, yet the students learn the very latest in machining operations such as EDM (Electric Discharge Machining). The students' levels of engagement and achievement have improved significantly, as have secondary measures, such as time on task, discipline referrals, career awareness and attendance.



Students also have applied mathematics skills and techniques as they work with MasterCam software, solving authentic problems with authentic tools — the same software tools in use at NASA, Boeing, General Dynamics and General Motors. Students completing their coursework in this educational partnership truly are ready to compete in a global economy.

Each student in this program attempts to master several hundred competencies over the course of two years. The junior students in the program this fall semester mastered from a low of 94 to a high of 134 competencies. Students not participating in the laptop and virtual components of this program achieved between 54 and 112 competencies. The technology-engaged group achieved 1,774 competencies; the other group achieved 1,285 (a 38% gain for the technology-engaged students). Similar, and even greater, improvements are noted in letter grades (45% more As and Bs), discipline (100% drop in discipline referrals) and attendance (20% drop in truancy).

## **Accounting and Finance**

District: South-Western City  
Contact: Sherry P. Minton, career-technical coordinator  
Phone: (614) 801-3005

The South-Western City Schools' (SWCS) Accounting and Finance tech prep program connects work-based learning experiences, seamless articulation to post-secondary education and intensive accounting and finance curriculum. These connections prepare students for future success in the financial services field of a global economy.

The two-year program is offered at each of the four SWCS high schools: Central Crossing, Franklin Heights, Grove City and Westland.

The accounting and finance program connects the work-based learning experiences through mentorships that require components of the 11th-grade tech prep curriculum. The students mentor at a related site for at least 12 hours, journalizing their experience. Upon completing the experience, students prepare written reports to be shared with mentors and prepare and deliver oral/digital presentations to their classes. The junior mentoring experience provides an excellent foundation for the required senior capstone project, which gives students the opportunity to reconnect with their mentors during senior year.

The accounting and finance program connects as a seamless articulation to post-secondary education through a partnership with Columbus State Community College (CSCC). The CSCC accounting program is one of a very few programs at two-year institutions in the United States that, upon receiving the associate degree, graduates may sit for the Certified Public Accountant (CPA) exam. Thus, CSCC could not lower their standards. SWCS wanted

to rise to the challenge of preparing the students to directly enter the CSCC accounting program upon successful completion of the SWCS accounting and finance program. The SWCS program needed to connect by providing an intensive curriculum.

CSCC offered the eight South-Western accounting and finance instructors the opportunity to take Accounting 106 (entry-level accounting) at the college at no cost. Following the instructors' successful completion of Accounting 106, that curriculum could be delivered to the accounting and finance students in the four district high schools.

The five exams administered in Accounting 106 at CSCC must be passed by the high school students in order for them to articulate directly into Accounting 107. The SWCS instructors and CSCC staff meet periodically to benchmark their progress and to determine how to better serve students.

The SWCS/CSCC partnership and the business community's mentors continue to strengthen the accounting and finance program in innovative ways to improve student achievement for many South-Western students.

## **Exploring Careers in Education**

District: Sylvania City  
Contact: James Jennings, administrator, Career Technical Education  
Phone: (419) 824-8578

This program is for seniors who want to pursue a teaching degree in college. Students observe and assist a classroom teacher four days per week. Students choose from the seven elementary and three junior high building within the district. Placement changes each quarter, allowing the student four opportunities to work with various age levels and subjects. By having had these experiences, students will be better prepared to choose a major field of study in college, saving them both time and money.

Based upon their experiences in this program, many students enroll in a two- or four-year college and major in education. Contact hours from this class may count as college credit, depending upon which college or university the students enrolls in.

Also available is a one-period, one-semester class for freshmen and sophomores, Introduction to Education. This class is for students who are considering a career in education. Students learn about early, elementary, special and secondary education. Related fields, such as school counseling and social work, also are introduced. Students completing this course have a greater understanding of opportunities available to them in the education field. Students with a continued interest may explore other education options during their senior year with the Exploring Careers in Education program.

## **Heating, Ventilation, Air Conditioning and Refrigeration**

District: Upper Valley JVSD  
Contact: Terry L. Krogman, supervisor of instruction  
Phone: (937) 778-1980 ext. 267

Before 1995, the heating, ventilation, air conditioning and refrigeration (HVAC/R) program focused on repairing appliances, and enrollment was down. Instructor **Scott Naill** then took over and developed a program that more accurately meets needs in residential, industrial and commercial employment. Naill developed a new advisory committee, which now has over 40 members. Student enrollment was 12, but has since climbed as high as 51. Student attendance has increased from 90% to 97%. Related employment in HVAC/R has risen from a low average to 100%. Recently, the program has achieved a 100% graduation rate. Each week, Naill honors perfect attendance with a drawing. The prizes, which he or his assistant personally pay for, are usually tools.

Because of a grant Naill helped write, \$10,000 was awarded to the program. The program purchased tools and equipment, and a professionally produced recruitment video for use with potential students and their parents.

Students are involved in the community. For example, after a local festival, HVAC/R students participated in cleanup efforts. They also visit nursing homes.

Upper Valley and the HVAC/R program continue to grow. With help from the HVAC/R advisory committee, a levy to build additional classrooms passed. A new HVAC/R lab also will be built. Naill went to the community and received promises for approximately \$25,000 worth of equipment, as well as a cash donation of \$300,000 toward lab construction and equipment purchases.

The program is supported by larger industries, such as Carrier, which provides meals and transportation for Upper Valley students to visit Indianapolis to tour its plant. Copeland/Emerson uses the district's facilities for a nationwide, adult training program, which allows HVAC/R students to interact with technicians from across the country.

In 2001, the HVAC/R program was recognized as being one of the very best programs in the nation. Naill, the advisory committee, our employers and Upper Valley JVSD continue to provide the highest education possible for these students.

## **Hospitality**

District: Plain Local (Stark)  
Contact: Robin Armstrong  
Phone: (330) 492-7768

Plain Local Schools saw a need to raise the bar on the expectations of its special-needs population. One goal was to have the special-needs students gain the skills to become competitively employed upon graduation. In researching current employment trends, it was discovered that the highest demand for employment was in the service industry. This discovery led to a vision to provide a career and technical course to special-needs students to provide them with the skills necessary for competitive employment and independent living. As an added benefit, community awareness was increased.

Hospitality, launched in the 2003–2004 school year, is a two-year career and technical course that partners with Aultman Hospital and Mercy Medical Center. The course consists of on-site training and in-class instruction. At the training site, each student is paired with an employee and a job coach. Students are worked into a nine-week rotation, which allows them to obtain training in at least three departments over the two years. During the last rotation, students are able to return to a previously visited department for some specialization training or obtain training in a new department. Some of the departments are: dietary, plant engineering, print shop, environmental services, purchasing, housekeeping and laundry. The in-class instruction focuses on independent living, job-seeking skills, community participation and marketing foundations.

Students are required to wear uniforms to work, keep records of their volunteer hours, maintain a professional appearance and launder their clothing. All these facets of the hospitality program make up a process that is designed to provide the elements and opportunities for students on an individualized education plan to lead a rewarding and productive life after high school.

The program generated so much interest in its first year that an application and interview process had to be implemented for the 2004–2005 school year. The program has a diverse mix of students from all schools in the Compact Collaborative Agreement from Jackson Local (Stark), North Canton City and Lake Local (Stark) school districts, as well as Plain Local. The students who graduated from the first class of hospitality are all employed or placed at a post-secondary school or community agency.