

Best Practices Newsletter

Project- and Work-Based Learning: The Path to Careers

Schools that prepare students for the 21st-century economy offer rigorous and relevant career and technical education (CTE) courses combined with challenging academics. Such schools also engage students in challenging project- and work-based learning opportunities that help them to experience deeper learning and to see the connection between school, work and careers.

This newsletter features best practices drawn from the 30th Annual High Schools That Work Staff Development Conference in Louisville, Kentucky. These best practices include how the Southern Regional Education Board's Advanced Career (AC) STEM-based curricula prepare students for jobs in good-paying, high-demand career fields; how project-based learning allows students to explore real-world problems; and how work-based learning gives students the opportunity to test-drive careers.

Using the Technical Design Process in the AC Informatics Curriculum



Kevin Hoover,
AC Informatics Teacher

"Follow the process" is a phrase often used by **Kevin Hoover** in his Advanced Career (AC) Informatics courses at **Carroll County Area Technology Center** in Carrollton, Kentucky. He reminds students often they will succeed and avoid frustration if they complete all the steps in the Technical Design Process.

The process involves seven steps: ask/inquire, imagine, plan, create, experiment, improve and communicate. Not surprisingly, Hoover sometimes sees students jump to the "create step" rather than taking the time to research, envision and plan first.

Keys to successful projects also involve evaluation after experimentation and making changes resulting in project improvements. Students soon learn the value of each step in the design process and gain problem-solving skills that will benefit them in every stage of life.

What is Informatics?

Hoover defines Informatics as "the science of processing data for storage and retrieval." His students begin with basic ideas of what is involved in the Informatics program, but expand their understanding of computers, networks, databases and the cloud.

This newsletter describes best practices presented at the 30th Annual HSTW Staff Development Conference in Louisville, Kentucky, July 2016.

SAVE the DATE. Join us for the 31st Annual HSTW conference July 12-15, 2017 in Nashville, Tennessee.

Come early for the College- and Career-Readiness Standards Conference, July 10-12 in Nashville.

There are four courses in the AC Informatics program of study. Each course requires students to complete six projects that incorporate project-based learning (PBL).

AC Informatics

Course 1: Computers, Networks and Databases

Course 2: Design for the Digital World

Course 3: Databases in the Cloud

Course 4: Developing a Cloud Presence

Teaming Up With the Sharks

At the launch of each project, teams are formed. Hoover purposefully calls them teams and not groups. "I've gotten away from the group vocabulary and use the team vocabulary because everyone has a vital part to do. When you call it a group that doesn't come across," he adds. In devising a plan to select team members, Hoover, influenced by the TV show "Shark Tank," put in place a shark-tank method of teaming.

The class selects sharks to lead teams. The sharks sit on a panel as other students make sales pitches to convince the sharks why they possess the skills necessary to join certain teams. Bargaining takes place. Students learn to plan, present themselves, communicate, think on their feet and use other soft skills during their sales pitches. Hoover gives each shark 10 Reese's Peanut Butter Cups (symbolic money used as signing bonuses for team members), and sharks offer bids to students they want to recruit.

Teamwork Lessons Learned

Sharks are selective in picking team members because they've come to learn students' strengths and weaknesses, notes Hoover.



Students gain insight into who accepts responsibility, who gets along with others and whose proficiencies complement other team members. Sharks have to carefully manage team selection and bids to obtain the best working group.

Some sharks turn down students after they make their sales pitches, and they provide feedback on the reasons why. “It motivates students because now it’s not the teacher telling them their work is sub-par, it’s their peers,” says Hoover. Conversely, students don’t always pick the highest bid when joining a team. Because all students have to be on a team, negotiations take place for all team roles.

Sample Team Project

Once teams are selected, they get to work on projects reflecting authentic workplace scenarios using the technical design process. For example, one project involved medical imaging.

Students were tasked with creating a system to share medical images over various platforms, keeping in mind privacy issues. Students conducted classroom research and took a field trip to a hospital to talk to professionals who handle medical records.

They walked away with numerous ideas that allowed them to move forward and plan, create, experiment and improve their projects. The next step involved communicating back to professionals. Students receive individual and team grades for projects.

Projects Lead to Opportunities and 21st-Century Skills

Teams present their projects to business and industry representatives and class members. Team members are responsible for contacting business representatives and inviting them to the presentations. Some business reps have been so impressed with the projects that they have hired students to do various projects or provided mentoring and internship experiences.

The projects also give students valuable 21st-century skills. They learn how to work with teams, deal with deadlines and communicate with others on a professional level — greet individuals, shake hands and look individuals in the eye while talking to them. Hoover boasts, “The presentation skills of my students have improved dramatically.”

Hoover admits turning over so much control of the class to students was difficult for him at first. He was accustomed to answering questions and providing students information. In project-based learning, the teacher plays a different role. PBL has helped his students grow in confidence and competence.

Contact: Kevin Hoover: kevin.hoover@carroll.kyschools.us

Secondary/Postsecondary Collaboration Through Advanced Career Programs

West Virginia has initiated an innovative secondary and postsecondary collaboration around SREB’s Advanced Career (AC) curricula. The pilot program, supported by state grants, provides students the opportunity to attend career and technical education (CTE) classes on a college campus and earn dual credits in high-wage, high-demand career fields.



Many states, including West Virginia, have a dire need for a skilled technical workforce, and good jobs are available for graduates with the right skills. That’s why for over a decade,

West Virginia has been at the forefront of many innovative efforts to combine CTE and academic preparation for a future workforce, according to SREB consultant **Stan Hopkins**.

The state Legislature, department of education and council for community and technical college education worked collaboratively to put in place many opportunities for students to master CTE concepts necessary for high-wage, high-demand careers fields.

High school students have been able to earn tuition-free EDGE (Earn a Degree, Graduate Early) credit for duplicated technical course work at the secondary level. However, only a small percentage of CTE graduates avail themselves of the credit and matriculate to the community and technical college system, says Hopkins.

In 2008, the state created numerous pathways based on EDGE credit aiming to improve the outlook for high school students. “Many students, parents and counselors still did not know what programs were available in our community colleges,” states Hopkins. “How can we make the community college a gateway for postsecondary education and a credential?”

Aligning Career Opportunities With Curricula

In 2012, the West Virginia Legislature created the Community and Technical College/Career and Technical Education Consortium Planning Districts to bring secondary and postsecondary educators together to identify high-demand, high-wage occupations within the district; plan and develop unified efforts to meet workforce needs; increase the number of students attending the career technical centers (CTCs); align secondary programs with associate degrees at the CTCs; and establish career pathway programs of study.

Advanced Career Curricula

Around the same time, SREB was developing the Advanced Career (AC) pathway programs of study to deepen learning in CTE and boost students' success after high school. SREB partnered with eight states, industry and postsecondary institutions to shape the curricula design, technical content and identify authentic learning experiences for students.

Eight STEM-based AC Pathway curricula are ready for school adoption:

1. Aerospace Engineering
2. Clean Energy Technology
3. Energy and Power
4. Global Logistics & Supply Chain Management
5. Health Informatics
6. Informatics
7. Innovations in Science and Technology
8. Integrated Production Technologies

AC pathway programs of study allow students to learn content through authentic, robust project-based instruction that grounds them in the real-world use of academic and technical knowledge. Each AC pathway includes four high-quality CTE courses rigorous enough for students to meet college- and career-readiness standards. The two advanced courses are constructed on a level of rigor that will qualify for dual credit.

West Virginia Governor Earl Ray Tomblin provided a line item in the state CTE budget to support the implementation of AC programs

in all CTCs statewide. This funding provides grants for training and materials to implement at least one AC pathway.

Capitalizing on statewide AC implementation and the district consortia charge, Bridge Valley CTC convened a two-day retreat in 2014, including CTE centers in their service area, to review and evaluate the Integrated Production Technologies, Energy and Power and Informatics AC curricula and their alignment with related college technical offerings. All partners agreed that the AC programs would provide students an excellent preparation and seamless transition to the CTC programs.

Blue Ridge CTC and Berkeley County Schools Pilot Program

West Virginia's first innovative career pathway delivery model using an AC program is at Blue Ridge Community and Technical College and Berkeley County Schools in Martinsburg, West Virginia. The largest community college in West Virginia, Blue Ridge serves students not only in the state, but also reaches students in Maryland and Pennsylvania. Deemed a D.C. "bedroom" community, Martinsburg is in the fastest growing area in West Virginia and has the fastest growing industrial base, including a new Procter & Gamble manufacturing plant.

Berkeley County Schools is collaborating with Blue Ridge Community and Technical College to offer AC's Integrated Production Technologies (IPT) curriculum on the college campus. The district provides transportation from the four feeder high schools, and because the IPT program is grant-funded, instruction is offered at no cost to students. Each high school committed to enroll six students from the 11th and 12th grades every year. The college provides the instructor and lab space and will grant students up to 15 hours of dual credit in aligned CTC programs.

Staff at the high schools used AC criteria to recruit students and provided opportunities for interested students, college faculty and parents to meet. In the fall of 2016, the first cohort of 24 11th-graders are participating; another 24 will begin in the fall of 2017. Students will complete two courses each year to finish the full four-course sequence.

Contact: Stan Hopkins: hopkins.stanley@yahoo.com

Finding Pathways to Success

Chicago High School for Agricultural Sciences (CHSAS) is the only school of its kind in the Midwest and sits on the last working farm left within Chicago's city limits. Its emphasis on agricultural education and hands-on, project-based learning not only provides unique opportunities for the 720 urban students it serves, but it serves as an innovative model for other schools across the country. "We are a magnet school with about 3,000 applicants for 180 openings," says **James Slee**, a fourth-year agricultural mechanics instructor.



CHSAS offers six pathways from which students may choose: Animal Science, Agricultural Mechanics, Food Science, Horticulture and Landscape Design, Agricultural Finance and Agriculture Education (now called the Biotechnology and Agriculture Today pathway). Pathways are not available to freshmen; instead they have an introduction to Ag class. Sophomores are able to experience each pathway by participating in a 30-day rotation schedule. They then interview with administrators to help faculty determine which pathway is the best fit for each student. Juniors and seniors take courses in their chosen pathway for two years, with classes broken into two periods — theory, then applied learning.

Together, Slee and **Brittney Kee**, a graduate of CHSAS and a first-year horticulture instructor, work to combine hands-on learning with academics as much as possible. “We want to not only give our students work-based experience, but rigorous course work as well,” Slee says. Below are the curricular components of Slee’s and Kee’s agriculture and horticulture classes.

CHSAS is regularly invited to participate in the Chicago Flower and Garden Show in March during the week of St. Patrick’s Day and is the only school to participate among the industry-based conference attendees. The show gives Kee’s and Slee’s students the chance to display their talents, apply lessons learned from the classroom and project-based assignments and network with industry professionals and community members. Each student must maintain at least a “B” average to participate in the garden show.



CHSAS display under construction

As early as September, students choose a theme for their display. The rest of the year Kee and Slee prepare their students for the big event with the fundamentals students will need to complete the design and subsequent construction. The students brainstorm design ideas together, drafting and revising the display design throughout the school year.

About eight weeks before St. Patrick’s Day, students began work on their displays and plan how they will transport materials and build their displays in the days leading up to the event.

Teamwork

To ensure all students are engaged in the process, each student is assigned a “job” within each class that most closely aligns with their strengths and career preferences. For example, students interested in architecture or engineering are heavily involved with the design, material selection and logistics portion of the process.

Slee’s students focus on constructing the display buildings, tables and lighting, as well as determining logistics for transporting everything to the show. Overall, the Ag mechanics students created:

- Five 8’x10’ open-faced sheds (infrastructures) with lighting and gutters
- Seven planting tables, one aquaponics table and one table for the tablescape
- Two signs: a 6’x12’ Ag Ed sign and a large “Welcome to CHSAS” sign
- Ten flower boxes and five window boxes
- A lattice privacy wall
- Retaining walls
- A 10’x12’ hoop house
- 300 seed starting blocks

Ag Mechanics Curriculum	
Ag Mechanics I	Ag Mechanics II
<ul style="list-style-type: none"> • Drafting • Safety (OSHA) • Intro to Tools • Types of Wood • Hardware and Joinery • Paints, Stains and Finishes • Woodworking Projects • Miscellaneous Projects 	<ul style="list-style-type: none"> • Layout • Concrete • Floor Systems • Wall Framing • Roofs and Rafters • Plumbing • Electric • Drywall and Taping • Miscellaneous Projects

Horticulture Curriculum	
Horticulture I	Horticulture II
<ul style="list-style-type: none"> • Principles of Floral Design • Fresh Cut Flower Identification • Floral Design Pricing • Stem Modifications • Bees: Pollination • Seed Germination • Forcing Bulbs • Vegetable Production • Propagation of Foliage Plants • Greenhouse Production and Management • Horticulture Terminology 	<ul style="list-style-type: none"> • Landscape Plant Identification • Hand Drafting of Landscape Plans in Elevation and Plan View • Soil: Environmental Factors • Rendering of Landscape Plans • Landscape Design and Construction • Lettering • Scale • Dormancy • Aquaponics and Hydroponics • Succulent Propagation • NOCTI Certification

Kee's students monitored and cared for plants and flowers in the school's greenhouse during the winter. They assessed what could be used for the display and gave the rest of the product (lettuce, basil, tomato, cucumber, pepper, etc.) to food science lab students.

As the garden show drew near, the horticulture students focused on landscaping, retaining wall construction, hand-drafted and rendered landscape plans, calculations for soil and mulch, growing product from seed, how and when to force plants to bloom, and ordering plant material and floral design. The 60 students who took part in the show had eight days to set up and build their 40 x 50 square foot displays.



CHSAS hoop house and planting beds

What Students Are Expected to Know and Do

The expectation is for students to work hard, look professional, apply math and science to complete tasks and problem solve, formulate a plan of action, draft designs to scale, and have the flowers bloom at the right time during the show. "It gives kids a chance to understand deadlines and how to get things done," Kee notes. With guidance from their teachers, CHSAS students built, painted, decorated and planted everything themselves.



CHSAS students win first place in the text-to-vote competition for tablescape display.

Involving All Pathways

Each shed featured aspects from each of CHSAS' pathways, and students decorated with flowers grown in the school's greenhouse or purchased. Students from each pathway designed the signs above their display house and were on hand to teach attendees what their pathways are all about.

Students from the Agricultural Education pathway oversaw the ambitious project of creating 300 wooden plant boxes, each stamped with the CHSAS logo on the bottom. "Students from the agricultural education pathway held hands-on workshops twice a day during the course of the garden show, teaching attendees how to plant, nurture and harvest various herbs," says Kee. Food science pathway students created products for the marketplace. Finance students assisted in the office and sold the products in the marketplace. Ag mechanics and horticulture students built the displays and worked the show.

Another part of the Chicago Flower and Garden Show is the text-to-vote competition. CHSAS juniors won first place for their impressive tablescape display

Students Wow Business Execs

Many businesses also competing during show were so impressed they offered internships to several CHSAS students. Kee and Slee say more than anything they strive to give students an experience they will never forget so that they will continue to motivate and innovate through education and hands-on experiences.

Contacts: Brittney Kee: bkee@cps.edu;
James Slee: jaslee@cps.edu

Dining at the White House, Literacy in the CTE Classroom

Dining at the White House — From the President's Table to Yours, a memoir by renowned former White House chef John Moeller “started out as an attempt to get students to read for fun,” says **Linda Moyer**, a retired literacy coach at **Bethlehem Area Vocational-Technical School (BAVTS)** in Pennsylvania. But it grew into an unforgettable project-based learning experience that motivated, inspired and impacted the lives of career and technical education (CTE) students.

Moyer, now an independent consultant working with the Enhanced Project-Based Learning (PBL) initiative at the Southern Regional Education Board, invited culinary students to make a commitment to read the memoir, hopeful that the life of Moeller and his work might enhance their culinary training at BAVTS. Thirty culinary and baking students stepped up to the plate. The goal was not only to get students to read for fun, but to read to learn and to determine if they had the grit and courage to take their culinary passions to the next level.

While students read the book on their own time, Moyer guided discussions and reflections one hour per week for a full semester. At the same time, teachers grouped students intentionally and challenged them to create a variety of menus, a time management plan, ingredient lists and food cost analyses.

They worked outside their comfort zone, collaborating with unfamiliar peers; working in a different kitchen environment; and using seasonal, regional and unique ingredients to prepare meals at a designated time. All provided authentic workplace scenarios.

Not only did students have to tap into their culinary content knowledge, but more importantly teachers required them to use the technology and 21st-century skills in demand today. They had to collaborate, communicate, think critically, problem-solve and reflect at a whole new level.

Using Literacy and 21st-Century Skills

Moyer used instructional strategies such as “Compass Direction” for grouping and “Where I’m From” poems to help students understand who they are so they can make wise and purposeful decisions about where they are going. This experience gave students an expressive voice with heartfelt emotions and built powerful relationships among peers.

Moyer also used vocabulary-building password games, true and false response cards, carousel brainstorming, reciprocal teaching, and blogging to not only integrate history, literacy, math, and science but for check points and feedback through formative assessments during the entire project.

Augmented reality, a technology tool integrated into the project to enhance and build upon literacy skills, was also used. It required students to videotape their cooking and baking processes.

Once the videos were edited, students created a script and designed a poster to represent their videos. The videos were posted in the culinary classrooms where new students can access them. They are also used as a recruiting tool.

Using the software Aurasma, **Connie Muschko**, BAVTS school-to-work coordinator, guided students to blend the three components together to provide an augmented reality experience which brings the poster to life via software application <http://www.force4health.org/>. After downloading the application, students can hold their cell phones over the poster; the software recognizes the image on the poster and begins to play the video the students created.

Augmented reality brought their work to life. Muschko recalls, “This software application allows students to learn content, teach it and share it anywhere, any time and with anyone. Students created a living word wall where their baking and cooking process came alive.”



Former White House Chef Jon Moeller poses with culinary student.

Chef Makes a Personal Connection

Knowing that John Moeller’s culinary passion and career started at a vocational school and journeyed to such a high level of culinary excellence was an awe-inspiring story in itself. He made a personal connection with the students. Moeller visited the school, partnered with students and provided mentoring opportunities where he cooked alongside them to prepare an authentic state-like dinner event at BAVTS titled, “An Evening of Elegance.”

The 30 students who volunteered for the project did not receive a project grade; however, when the project was completed, teachers gave all participating students a “knowledge grade” under “literacy in CTE” and some teachers also gave “skill” grades for culinary depending on what the students were preparing in the kitchen.

This experience propelled students to the next level of culinary *très soigné* (very elegant) and enhanced their life experiences. “It’s one they will treasure for the rest of their lives,” says Moyer.

Contacts: Linda Moyer: literacy.lmoyer@gmail.com;
Connie Muschko: muschkoc@bavts.org

Kentucky Gets on TRACK With Youth Apprenticeship

Kentucky is taking innovative, proactive steps to bridge the skilled-workers gap in the state. The state’s department of education office of career and technical education (CTE) and the Kentucky Labor Cabinet developed a work-based program to provide secondary students with career pathway apprenticeship opportunities.

The Tech Ready Apprentices for Careers in Kentucky (TRACK) program is business and industry driven and in essence promotes a grow-your-own approach to grooming local talent to meet workforce demands. TRACK combines on-the-job learning with related technical instruction.

Dr. Schneider Automotive Systems, Russell County High School and the **Lake Cumberland Area Technology Center** formed an exemplary TRACK partnership that’s recognized by the U.S. Department of Education and the U.S. Department of Labor. The goal of is to provide a career pathway to a registered apprenticeship for CTE students who are beginning their junior year of high school.

Producing Highly Skilled Workers

“Our apprentices bring tremendous value to our company because they are our future skilled employees,” says plant manager

Torsten Langguth. “Before the apprentices, we were forced to bring in people from far away for jobs because the skill levels were not found in or around the area we live. Our youth apprenticeship program is, in our opinion, a new career path for young talented students who seek opportunities other than college. These students learn very specific skilled jobs at a young age and continue to be trained throughout their apprenticeship. By the end of their instruction, they are trained and molded into the professionals needed in our company.”

Now in its third year, Dr. Schneider’s apprenticeship program employs four students whose jobs include injection molding, mechatronics, industrial maintenance and tool-making. The youth apprenticeship process begins in the students’ sophomore year when the **Lake Cumberland Area Technology Center** recruits them; students apply to the program, and enter an interview process.

A Winning Trifecta

Employer Benefits	Student Benefits	District Benefits
Employer tailors training.	Students are paid for on-the-job training.	The district prepares students for the workforce.
Employer selects students.	Students receive industry certification.	The district promotes positive partnerships with local community and business leaders.
Employer selects courses.	Students, upon completion, receive a nationally recognized portable credential.	The district helps create and retain local jobs for students.
Employer cultivates loyal employees.	Student benefits from hands-on learning.	Industry certification counts toward college and career ready accountability.

Once Dr. Schneider accepts them into the apprenticeship program, students begin a co-op program in their junior year — taking courses pre-selected by the company while getting on-the-job training. The combination of classwork and real work experience not only satisfies high school course requirements, but it also gives the apprentices a pathway toward two important credentials: a nationally-accepted journeyman certificate and an associate degree.

Garrett Foley, an apprentice in the program, graduated from Russell County High School with more than 1,700 hours completed toward the journeyman component of the apprenticeship. “Through the guidance of a few teachers at school, I was encouraged to apply for this apprenticeship, and two years later, I’m so thankful I took that first step. The process has proven to be a lot of hard work, but when I complete my apprenticeship, I will officially be a certified industrial maintenance specialist and will know that it has been worth every ounce of sweat.”

TRACK began as a pilot program in 2013 with Kentucky high schools offering more personalized approaches to job training for advanced manufacturing skills. Today, it has expanded to every county across the state and includes the carpentry, electrical technology and welding fields.

“Our apprenticeship program is a crucial part of our ability to attract and develop the kind of future leadership needed for Dr. Schneider to keep pace with market demands,” Langguth maintains. “Though an apprentice like Garrett has just recently graduated from high school, he has already received the kind of in-house instruction needed to be a key component of our industrial maintenance shop. As our business continues to expand, youth apprentices will play a huge role in the future direction of our company.” The program is not only benefiting employers and students, but the district as well.

The Kentucky Labor Cabinet works with the U.S. Department of Labor’s Office of Apprenticeship to administer all registered apprenticeship programs in the Commonwealth. In addition to ensuring that all federal and state standards are met, the Cabinet helps to recruit businesses – or “sponsors” – that are looking to partner with local high schools and area technology centers.

Contact(s): [Mary Taylor: mary.taylor@education.ky.gov](mailto:mary.taylor@education.ky.gov)

All Hands on Deck: A Collective Readiness Effort for Camdenton, Missouri Schools



Schools in Camdenton, Missouri, are working diligently to collectively prepare students for college and careers, and it begins by exposing them to a multitude of opportunities and careers as early as the primary grades and continuing through the middle grades, high school, alternative school and the career and technical education (CTE) center. **Camdenton Schools** is a rural district in one of Missouri's top tourist regions — the Lake of the Ozarks. The district serves over 4,300 students on three campuses.

"It feels like in rural settings, kids either want to be what their parents are or they want to be a teacher, because those are their experiences," says **Ryan Neal**, the district's assistant superintendent. While he readily admits there's nothing more noble, "we have to broaden their experiences" he says.

Elementary Career Exploration

Fifth grade is the official launch of students' career exploration. Students at **Oak Ridge Intermediate School**, which serves fifth- and sixth-graders, take an interest inventory through the Missouri Connections Program for Career Exploration. This is a comprehensive, online, career development and planning program funded by the Missouri Department of Elementary and Secondary Education and the Missouri Division of Workforce Development. It helps students learn about their talents, skills, and interests and make the connection between planning for continued education and the workforce.

Guidance counselors introduce fifth-graders to career pathways and explain how interests can lead to career choice. In sixth grade, students review the career paths and research careers in which they have an interest. Students conclude with an online interest survey that helps them identify a career path to follow.

Middle Grades School Career Pathways

With interests inventoried and identified, students select an Area of Career Interest (ACI) when they transition to the middle grades, and get a chance to actually experience real careers. **Camdenton Middle School** students may choose from 27 different ACIs ranging from journalism to a building trade or architecture. Classes are designed around project-based learning and aligned to the Missouri Learning Standards.

Community and business partners collaborate with the school in designing ACIs to mirror authentic work experiences. The partnership begins with an outreach from the school. Businesses come to the school, listen to student presentations and take part in multiple meetings each year on how to improve the ACI program. "They want to partner with us and would love it if we are growing their next set of employees," Neal maintains.

High School Academies

Camdenton High School (CHS) is designed around three academies: STEM (science, technology, engineering and math) Health and Human Services, and Communications Arts and Business. The academy structure, which creates a smaller learning environment for students, has been in development for two years at CHS, with the 2016-17 school year being the first year of full wall-to-wall implementation. Students, armed with the knowledge provided through career exploration and ACI, enter CHS equipped to choose an academy for their high school studies. The academies provide students with more targeted career-focused course work in addition to challenging core academics.

CHS has been a part of the High Schools That Work (HSTW) network of schools since 2014. The academy structure, literacy and math instructional practices, project-based learning and a laser focus on preparing students for both college and careers are all strategies stemming from the HSTW model.

Postsecondary Collaboration

Postsecondary institutions also collaborate with the district in preparing students for college and careers. According to Neal, course offerings at **Lake Career**



Technical Center are intertwined with course work at CHS. High school students also may take several electives at the career center. These provide more rigorous and relevant educational experiences that will prepare students for life after high school.

Neal notes the district collaborates with the community college to accelerate students' learning by allowing them to dual enroll and earn an associate degree. If they don't finish the postsecondary degree requirements before graduation, "we'll just keep them until they do," says Neal, meaning students can stay in high school after receiving their diploma and earn that associate degree.

A Win for Students

Neal sees the academy structure as a big win for students. “Their experiences are so much more rich. They have more focus than traditional high school students, and it leads to improved attendance and higher student engagement.”

In 2016, nearly 32 percent of CHS’ 321 graduates enrolled in four-year colleges and more than 22 percent enrolled in two-year institutions — most are selecting career fields aligned with their academy choice.

Contact: Ryan Neal: rneal@camdentonschools.org

Blurring the Lines With the Business Community

Providing students opportunities to test-drive a career is what work-based learning is all about. It not only gives them relevant, hands-on and real-world experiences, it jumps start their readiness for college and careers.



The Centers for Advanced Professional Studies (CAPS) is a model example of educating students in real-world career environments. In the **Greater Ozark CAPS (GO CAPS)** version, 13 school districts have developed a regional consortium for connecting business with secondary education. GO CAPS is a unique, yearlong learning experience that allows high school juniors and seniors to explore career options, notes **Craig Carson**, the assistant superintendent of Ozark R-VI schools in Ozark, Missouri. Students develop workplace skills, which are embedded in partner businesses.

GO CAPS gives students the opportunity to explore interests in four areas: engineering and manufacturing, entrepreneurship, medicine and health care, and technology solutions. Through the program, students learn inside a business setting; work on real-world projects; learn about industry needs and trends; and identify interests and passions. Students who excel at GO CAPS are those with a strong work ethic, are self-driven, and are passionate about the subject.

“I knew very little, if anything, about what was available in Springfield. Because I know more, I’m very likely to stay in Springfield.”

GO CAPS Student

“I believe the GO CAPS program prepares students for a professional career or as entrepreneurs by having them rub shoulders with real entrepreneurs, while working on projects that those individuals and their employees can relate to,” says a GO CAPS business partner. GO CAPS goes beyond simulation. Students learn in a business setting with mentors to guide them in all aspects of business.

Curriculum Takeaways

The GO CAPS curriculum includes professional skills and projects that allow students to partner with industry to solve problems with real applications. Students can dive more deeply into an area of interest or explore a variety of businesses within a career cluster. Collaboration occurs with business mentors, students from other schools and students from other strands. The internship experience they receive gives them employability skills that far exceed what the average high school student brings to the table.

A GO CAPS student said, “I knew very little, if anything, about what was available in Springfield. Because I know more, I am very likely to stay in Springfield. I am more professional in my everyday interactions with peers and more confident with my conversations with professionals over the phone, email and in person.”

Although participating students are enrolled in a high school, GO CAPS is not a high school, but rather a professional career program. It is a program with an expressed mission of providing authentic profession-based educational opportunities. GO CAPS courses are different from high school courses, and thus impose unique demands on the student. GO CAPS students are integrated into the local (and sometimes global) business and research communities. Students attend either a morning or afternoon session for two and one-half hours every day throughout the school year. The sessions also allow for dual credit opportunities through Missouri State University and Ozarks Technical Community College.

Positive Results

Colleges and universities view a program like this as an asset that sets students apart from more traditional students. Many students entering college have significant academic abilities, but a student with strong academic performance and professional skills and a portfolio of real business experiences will exceed college peers.

Participants agree that GO CAPS improves their ability to organize, take on leadership responsibilities, collaborate with peers and colleagues, and ultimately become better professionals.

Contact: Craig Carson: craigcarson@mail.ozark.k12.mo.us

For more information about the school improvement models offered by SREB, contact: Gene Bottoms, senior vice president, at gene.bottoms@sreb.org or call (404) 875-9211.



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