



Curricular and Instructional Programs Engage Students in Learning — Emotionally, Intellectually, Socially and Behaviorally

Schools are finding effective ways to engage students totally in learning by addressing students' minds, personalities and behaviors. They are designing curricula and instructional strategies to generate interest and challenge students to stay in school and do their best. The goal is to graduate a "complete student" who will be ready for college, a career and productive citizenship.



MARCH
2011

Creating Learning Opportunities to Help Students Discover Their Talents and Interests and Become Independent, Lifelong Learners

Designing Schools for the Future: Eight Ways to Motivate Students and Increase Their Engagement in Learning

Teachers in the middle grades and high schools constantly seek ways to motivate students to dive actively into learning to increase the chances of success now and in the future. **Gene Bottoms**, SREB senior vice president, offers eight strategies for greater student involvement:

1. **Get more from homework.** Teachers should assign homework that promotes mastery by making it challenging, relevant and engaging. They should help students understand the purpose of homework assignments and how they fit into the course goals. Teachers can get more out of homework by designing assignments around certain concepts:

- Effort, redo and mastery — the opportunity to master and complete late work with no penalties; only a student's best work is accepted
- Autonomy and choice — allowing students to take ownership of their work
- Purpose and relevance — helping students link the assignment to a goal and to their interests
- Support and specific help — making sure the assignment is appropriate and understood by the student and then checking for engagement

SREB

592 10th Street, N.W.
Atlanta, GA 30318
(404) 875-9211
www.sreb.org

2. **Have an Internet-driven project and problem day at school.** Allow students to work on a problem of their choice (autonomy and relevance). Help them plan and collect information, supplies and tools. Ask students to connect the project to goals in one or more classes. At the end of the day, ask students to share what they created, what they learned from their work and what they anticipate will come next.
3. **Allow students to experiment with do-it-yourself grades.** At the beginning of the grading period, ask students to list their top learning goals and the grades they expect to earn. At the end of the grading period, ask students to write a review of their progress toward the goal and to explain the grade they think they deserve. From this process, students should be able to answer the following questions: Where did I succeed? Where did I fall short? What more do I need to learn? What else could I have done? What else could the teacher have done? Discuss with students the progress they are making on the path to mastery. Post examples of exemplary work around the school and in the classroom. Provide rubrics to explain how students will be graded.
4. **Use praise to encourage creativity, effort and intrinsic motivation.** Students who understand that effort leads to mastery and higher achievement are more willing to take on new tasks. Be specific about what to praise and what students do well. Post examples of outstanding work in the school and classroom.
5. **Help students see the big reasons for learning.** Students should be able to answer the following questions: What am I learning? How does this relate to my life? How does what I am learning support my goals and aspirations? Take the following actions to help students understand why they must learn: Allow students to apply what they learn in the

classroom to something outside the classroom. Ask students to use what they are learning to complete an adult-level task. Have students link assignments to their interests, talents and goals. Allow each student to present what he or she has learned and to explain the relevance of the new information.

6. **Move beyond test-prep to create a more engaging learning culture.** Give students greater control over the task, time and techniques for demonstrating progress toward mastery of essential information in a course. One example is an individual learning contract or agreement used by some alternative schools and home schooling environments.
7. **Let students explore and learn about things that interest them.** Promote student autonomy by asking each student to choose an area of interest related to the course; encourage students to delve as deeply as they wish. This approach is used in home school environments and alternative schools to involve students in learning.
8. **Allow and encourage students to become “master teachers.”** Promote mastery by allowing and encouraging students to choose part of a topic and teach it to others. Find out about students’ interests, passions and expertise, and draw upon those characteristics throughout the course.

These eight actions will help teachers develop personal relationships with students based on mutual respect and shared responsibility. “For this approach to work effectively, teachers must be aware of the need to respond to students’ needs and to be as resourceful as possible in meeting those needs,” Bottoms said.

Contact:

Gene Bottoms
gene.bottoms@sreb.org

Middle Grades Students Get a Close-Up Look at Future Careers

Students at **Workman Middle School** (WMS) in Pensacola, Florida, participate in a health academy that allows them to explore a variety of careers that might interest them. WMS received help from the Escambia County School District’s Workforce Education Office in implementing the health academy.

By participating in the academy, middle grades students gain a better understanding of career academies at the high school level. They will be able to choose a high school academy based on first-hand information from professionals in careers that interest them.

The WMS health academy includes a sequence of courses — career discovery for sixth-graders, personal development for seventh-graders, and health occupations and culinary arts for eighth-graders. Some 630 students are participating in the program, including almost all (300) of the sixth-graders and all (300) of the seventh-graders. Only those eighth-graders seriously interested in either health occupations (15) or culinary arts (15) apply to enter those courses.

All academy students hear guest presentations from representatives of the business community, while students in personal development, health occupations and culinary arts participate in field experiences at least once a quarter or semester. During guest presentations, students interact with the presenters and participate in various activities. On visits to business and industry, students interact with employers and staff members

“Our students have won several HOSA state competitions. This has given them something to be proud of and to continue when they enter high school.”

Lisa Bloodworth
Workman Middle School

Contacts:

Lisa Bloodworth
lbloodworth@escambia.k12.fl.us

Denise Jamison
djamison@escambia.k12.fl.us

and participate in learning activities designed by the employer. Students are required to write reflective reports on their visits as well as thank-you notes to show their appreciation to employers and employees.

Students in the career discovery course write business letters to the colleges of their choice and to professional organizations related to their career choices. They prepare research reports and posters containing information and graphics about their career fields to present to the class. They also complete career education plans to simulate completing the state's electronic personalized education plans. This activity makes students aware of the courses needed for middle grades and high school graduation and a career major area of interest.

In health occupations and culinary arts, students learn about various careers and career specialties in those fields. Student members of Health Occupations Students of America (HOSA) learn about various health care occupations and participate in state-level competitions to become acquainted with medical terminology and spelling, career profile information, job seeking skills, public speaking, first aid/rescue breathing and other topics. "Our students have won several HOSA state competitions," said academy teacher **Lisa Bloodworth**. "This has given them something to be proud of and to continue when they enter high school."

In addition to HOSA, middle grades students have the opportunity to join Family, Career and Community Leaders of America (FCCLA).

By including a culinary arts component to the academy, WMS is helping students relate to an actual job need in the state. "Restaurants are happy to assist," said **Denise Jamison** of the academy. "There is a tremendous need for good employees in the hospitality industry in Florida."

As a result of the academy, more students are proactively engaged in class activities and more students have shown improvement in the following areas: presentation and expression skills, learning versus memorization of facts, self-direction, time management, planning and organization, project preparation skills, the quality of work products, personal standards of excellence, personal accountability for learning, and personal realizations of academic and career preparation and educational expectations.

Feedback from students and parents has been favorable in regard to course activities, what students are learning, realistic decisions by students about educational and career possibilities, and awareness of the academic and career realities of high school and college studies and the workplace environment.

Tapping Student Effort to Raise Achievement

The first step in getting students to exert more effort to learn is to ensure they understand what they are supposed to accomplish in a course. "Coaches and band directors know how to make the end result clear," said **Steve Barkley** of Performance Learning Systems Inc. "Athletes and band students know they need to practice to put on a good performance. More teachers need to let their students know what is expected."

Schools and classrooms where students are improving their learning encourage student effort. Students in such schools:

- read or work during lunch.
- ask for help and clarification and let the teacher know when they "don't get it."
- request extra help.
- tell teachers and other students what they have done outside of class that relates to what they are learning in class.

Student behaviors about learning can be placed on a continuum: fear (fight or flight, wanting to leave the room); attention (the point where the best learning occurs);

comfort (students are not interested and very little learning is happening); and boredom (students are unprepared or do not show up).

Barkley offered this equation:

effort x ability focused on a manageable task = success

"Students need to be taught the meaning of effort and must have a picture of success," he said. "A manageable task requires effort and a belief that students will be successful if they work hard."

Teachers must teach students to invest time, practice, patience and repetition of success to learn. "When teachers change their behavior, students will change their attitudes toward learning," Barkley said.

Contact:

Steve Barkley

sbarkley@plsweb.com

Aligning the English/Language Arts Curriculum to College- and Career-Readiness Standards

As more states adopt the college- and career-readiness standards of the Common Core State Standards Initiative (CCSSI), the SREB is helping educators deconstruct the standards and develop activities to support the higher levels of thinking required by the new standards.

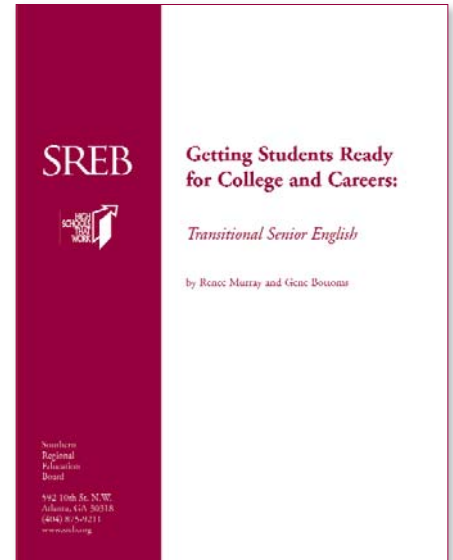
CCSSI is a state-led effort coordinated by the National Governors Association Center for Best Practices (NGA Center) and the Council of Chief State School Officers (CCSSO). The initiative worked with teachers, administrators and other experts to develop a framework of standards that reflect readiness for college and careers. All participating states agree to adopt these standards, so that students will not be held to lower standards based on where they live.

Renee Murray, a former SREB school improvement consultant now serving as the instructional coach for Covington Independent Public Schools in Covington, Kentucky, demonstrates how educators can use the SREB guide *Getting Students Ready for College and Careers: Transitional Senior English* to align the English/language arts curriculum with college- and career-readiness standards. The SREB guide deconstructs 12 English/language arts readiness indicators.

For example, one of the CCSSI standards for 11th- and 12th-graders states, “Analyze a complex set of ideas or sequence of events and explain how specific individuals, ideas or events interact and develop over the course of the text.” In the SREB guide, the description of the comparable SREB indicator — “Analyze the relationship(s) and purpose(s) within a text and across texts” — offers more specific guidance for teachers, including specific skills such as connecting details to make reasonable inferences. The SREB guide suggests five activities or projects to help students develop those skills. One activity has a complete scoring rubric.

“The college- and career-readiness standards are broad statements that often cover multiple skills and sometimes can be difficult to understand. The SREB guide helps teachers define those skills,” Murray said. “Even more importantly, the suggested activities and assessments are designed to guide teachers in translating the standards into classroom practice.

“Our biggest challenge is to understand how to apply the readiness standards in the classroom so that students will be prepared for their next steps beyond high school,” Murray continued. “The transitional senior English guide gives practical suggestions for helping students reach the new, higher standards with activities that apply both to English and other content areas.”



“The transitional senior English guide gives practical suggestions for helping students reach the new, higher standards with activities that apply both to English and other content areas.”

Renee Murray

Covington Independent Public Schools

Contact:

Renee Murray

renee.murray@covington.kyschools.us

Establishing Programs of Study That Join a Ready Academic Core With Quality Career/Technical Studies

New Agriculture Course Makes a ‘CASE’ for Higher-Level Academic, Career/Technical and 21st-Century Skills

There’s a “new kid on the block” in career/technical (CT) education. The newcomer is **Curriculum for Agricultural Science Education (CASE)** — a framework for programs of study in agriculture, food and natural resources.

“Some 50,000 employees are needed to fill vacancies in the agricultural field,” said CASE Project Director **Dan Jansen** of Forest Grove, Oregon. CASE is designed to address the shortage by increasing the number of quality graduates entering the field.

The CASE program has several key goals:

- Increase the rigor and relevance of agriculture instruction by embedding science, mathematics and English literacy standards.

- Enroll non-traditional students in agricultural education subject matter.
- Increase teacher retention and develop a strong core of highly qualified agriculture teachers.
- Increase the number of well-educated and highly skilled agriculture education graduates.

In developing CASE, the National Council for Agricultural Education (NCAE) formed a partnership with Project Lead The Way Inc., a nationally recognized curriculum development organization that has had success in preparing students for engineering and biomedical careers. The NCAE also followed the Perkins legislation mandates to provide a logical sequence of

courses (program of study), enhanced math and science instruction, and accountability (common assessment of agriculture students).

The four components of CASE are curriculum, professional development, assessment and certification:

Curriculum — The CASE curriculum is aligned to national content standards in agriculture, science, math and English/language arts. It focuses on purposeful instruction of employability skills. Lessons allow students to explore, inquire and engage in student-directed learning. Teachers are the facilitators of the curriculum; they use laboratory work to teach concepts and ask students to reflect on learning. The program of study includes eight courses: Introduction to Agriculture, Food and Natural Resources; Principles of Agricultural Science — Animal; Principles of Agricultural Science — Plant; Agriculture Technology and Systems; Animal and Plant Biotechnology; Food Science and Safety; Natural Resources and Environmental Sciences; and Agricultural Sciences Research and Development (capstone project). One teacher said, “The CASE curriculum has enabled my students to build a better science background that ties into other classes they are taking.” A CASE student said, “We are using technology in small groups to solve problems and find answers.”

Professional Development — CASE features a number of curriculum resources and teacher support services to promote effective teaching practices. These services include a two-week CASE institute during which teachers practice labs and experiments before teaching them in the classroom; affiliate professors who lead state and regional professional development for teachers; and ongoing professional development, including professional learning communities and state and regional CASE teacher groups. One teacher said, “Because of CASE professional development, I’ve changed the way I teach other courses.”

Assessment — Summative and formative assessments were written into the CASE framework. They include student reflections after each activity, project and problem; end-of-lesson quizzes; end-of-course exams; national assessment exams; and exams for program completers.

Certification — CASE includes student certification, which may lead to college credit; teacher certification through professional development; and program certification to provide quality assurance to schools adopting the CASE framework.

CASE is in the early stages of implementation and does not expect to have student performance data until spring 2011.

Contact:

Dan Jansen
dan.jansen@case4learning.org

New Program of Study Involving a High School and a Community College Meets a Need for Skilled Workers in a Rural Community

Lee Smith, career and technical coordinator at the **DeQueen-Mena Education Service Cooperative** (DMESC) in Gillham, Arkansas, saw great potential for students in a program of study combining the resources of a local high school and a community college. Smith had taught agriculture at **Mena High School** (MHS) and is a former adjunct instructor at **Rich Mountain Community College** (RMCC), both in Mena, Arkansas.

Fourteen school districts in five counties receive services from DMESC. Agriculture education is taught at each of the 16 high schools in the cooperative.

“Our area of the state is rural,” Smith said. “Aside from education and health services, the primary employers are in the manufacturing sector. Most of these jobs are related to manufacturing parts for electric motors and custom machining and metals fabrication. A well-trained workforce is essential to keep manufacturing jobs in the area.”

Linking High School to Community College

It made good sense to Smith to connect agricultural mechanics instruction at MHS with the machine tool program at RMCC to provide a program of study bridging high school with postsecondary studies and eventually leading to an Associate of Applied Science diploma from RMCC. “Many of the foundation skills necessary for success in the postsecondary machine tool program at RMCC are taught in the agricultural mechanics classes in high school,” Smith said.

Smith reviewed the Arkansas CT frameworks for agricultural mechanics and the manufacturing career cluster knowledge and skill statements from the States’ Career Clusters Initiative (SCCI) at careerclusters.org. From those two sources, he built a



“Many of the foundation skills necessary for success in the postsecondary machine tool program at RMCC are taught in the agricultural mechanics classes in high school.”

Lee Smith
DeQueen-Mena Education
Service Cooperative

Contact:

Lee Smith
lee.smith@dmesc.org

crosswalk document to demonstrate that much of the essential knowledge and skills needed for success in manufacturing is being taught in agricultural mechanics. “Being able to use a precision measurement tool such as a digital micrometer is transferable from one course to the other,” Smith explained.

After identifying overlapping knowledge and skills, Smith assembled a group of key individuals to provide structure to the proposed program of study. The group included high school CT teachers, counselors and administrators; the community college president, dean of instruction and director of admissions; and an SREB school improvement consultant. The group’s work sessions were designed to establish rapport among the participants, to troubleshoot the process and to compile the work into one document.

The final product provides for free college credit (through articulation) for students in the machine tool program of study, multiple exit-to-employment points in the pathway, and flexibility for students in choosing how and when to earn credit.

“Students are motivated to enroll in and complete the program as early as the ninth grade,” Smith said. “This gives them a focus for the future and an incentive to stay in school and prepare for success beyond high school.”

School-Based Enterprises: Project-Based Learning Involving Real Customers

A school-based enterprise (SBE) provides authentic work experiences for students through a unique approach to project-based learning. SBEs are sponsored or conducted by a school and engage groups of students in producing goods or services that people other than the students involved can buy or use (Stern, Stone, Hopkins, Crain 1994).

“The power of an SBE as an instructional strategy comes from the fact that young learners who engage in solving real problems that have immediate consequences are likely to invest a different kind of energy and gain a different kind of outcome,” said **Sharon Stone**, SREB school improvement consultant, quoting from Stern, Stone, Hopkins and Crain.

SBEs have several educational benefits:

- Students develop or enhance working skills.
- The skills of problem solving, time management and teamwork become real to students.
- Students learn all aspects of a business or industry.
- They learn 21st-century skills and Secretary’s Commission on Achieving Necessary Skills (SCANS) competencies.
- Dissatisfied adolescents often become motivated to learn by participating in an SBE.

“Students, rather than teachers, should be the driving force in an SBE,” Stone said. “The business should produce real products that consumers will buy. One way to fail is to select a weak product or a poor location or try to compete with a local business.”

SBEs are not only educational and beneficial to the community, but they can be a lot of fun for students and teachers. Here are some examples:

- Students at **Corbin High School** in Corbin, Kentucky, have operated the Redhound Theater, Film and Video Foundation Inc. since 2004. They create and promote live music performances, cinema, pageants and other performing arts events for the community and the school district. Visit www.redhoundtheater.org.

- Construction technology students at **Iroquois High School** in Louisville, Kentucky, worked with the city to restore the historic Sunnyhill Pavilion in Iroquois Park. The students were the primary project managers, with support from professionals at Metro Parks and Olmstead Parks Conservancy.
- **Norman Thomas High School** students in New York City operate a VITA (Volunteer Income Tax Assistance) service during federal income tax season (January to April). Students use software such as TaxWise (free from the Internal Revenue Service) and Excel, videos, presentations, activities, books and materials, and the Internet.
- Business and marketing students at **Wando High School** in Mt. Pleasant, South Carolina, operate the Warrior Shop, where they sell school apparel, books required in English/language arts classes, snacks and supplies.
- **Doss High School** in Louisville, Kentucky, opened a credit union sponsored by Class Act Federal Credit Union, which paid to renovate a portion of the school for the enterprise. The school credit union provides services for teachers as well as students and is making plans to serve the general public.
- Students in marketing, graphic imaging, engineering design, manufacturing, horticulture, and collision repair and refinishing at **Lenawee Tech Center** in Adrian, Michigan, collaborated together and with area home builders and real estate agents to conduct a tour of homes.

“School-based enterprises offer viable alternatives to traditional work-based learning experiences,” Stone said. “They also provide a basis for academic and career integration.”

The elements needed to launch an SBE include getting administrative support and approval, deciding what to produce or market, determining appropriate prices, avoiding local competition, making business decisions about hours and location, obtaining start-up funds, building community support, establishing educational policies, and marketing the enterprise to students and parents.

Contact:

Sharon Stone
sharon.stone@sreb.org

New Career/Technical Programs Help Prepare Emotionally or Behaviorally Troubled Students for a Changing World

Students with emotional or behavioral disorders (EBD) traditionally have high dropout rates and are less likely to receive the education required to find and hold good jobs. Their problems range from truancy to suspensions and arrests. Not surprisingly, they have negative perceptions of school.

Gateway School in Orlando, Florida, enrolls 66 EBD students. Seventy percent are male, and 95 percent are from low socioeconomic backgrounds. Fifty-five percent are black, 23 percent are white and 22 percent are Hispanic.



“The dialogue among students has changed from negative to positive and from behavioral to academic. Students are talking about credits, transcripts, graduation and postsecondary plans.”

Elaine Scott
Gateway School

Contact:

Elaine Scott
elaine.scott@ocps.net

Beginning in 2006, Gateway School took decisive action to improve the school for troubled students and to increase their chances of succeeding in the workplace of the future.

Step one involved changing the school climate and culture. The campus underwent a facelift that included new landscaping, paint, furniture, instructional materials and technology. Teachers received professional development to expand their certifications so that they could do a better job in their instruction of hard-to-reach students. A school improvement consultant — a sort of “campus mom” — joined the faculty to provide leadership in changing the school’s environment and effectiveness. The consultant has expertise in the development of relationships, rules, rights, restrictions and roles. Every aspect of the school was restructured using the consultant’s model of “leading your school by design, not by chance.”

“As the campus became aesthetically pleasing and more comfortable for students, the school’s image with students and the community grew tremendously,” said Principal **Elaine Scott**.

A behavior management system giving teachers more control was created in **step two**. The system includes entry-to-exit procedures, parent orientations, a matrix of instructional and behavioral materials, and a portfolio process giving students choices of how to complete their work.

Step three focused on support services. Every faculty member participates on a school team that provides IEP (individualized educational program) reviews, services for family members, services for students provided by outside agencies, and transition services for students as they enter and exit the school.

The instructional model was restructured in **step four** to emphasize academics rather than behavior. Students have access to new and updated CT pathways such as cosmetology, culinary studies, practical arts and patient care in health services. Each pathway will become a small learning community. The school uses the U.S. Department of Labor’s SCANS report to build foundational skills and plan for workplace competencies in each pathway. It also adheres to Florida’s state competencies. Working with youth agencies, local employers and *HSTW*, the school has succeeded in upgrading academic and CT studies. Community partnerships provide opportunities for students to meet with and observe successful working adults.

Efforts to reinvent Gateway School have resulted in improvements in students’ attitudes and achievement. “The dialogue among students has changed from negative to positive and from behavioral to academic,” Scott said. “Students are talking about credits, transcripts, graduation and postsecondary plans.”

The Adequate Yearly Progress (AYP) rate at Gateway School rose from 47 percent in 2004 to 62 percent in 2006 and to 77 percent in 2009. Suspensions were reduced by 51 percent between 2006 and 2009. Dual credit and certificate options have increased.

Designing Learning Experiences That Enable Each Student to Choose an Area of In-Depth Study

Senior Projects: Creating Authentic Products to Benefit Students and the Community

Students at all four high schools in **Randolph County**, West Virginia, are required to complete a senior project for graduation. Although the schools are small — ranging from 14 to 880 students — they are dedicated to ensuring that all students receive a quality education.

The senior project began after **Randolph Technical Center** in Elkins, West Virginia, joined the *HSTW* school improvement initiative. “The success of the project at the center prompted the school board to make it a graduation requirement for all high school students in 2002,” said **Deborah Super**, senior project coordinator for the district. “Senior projects also fit with the state’s expectation for districts to emphasize project-based learning.”

The senior project is a stand-alone learning experience in Randolph County. It counts as one-half credit that students may use as an elective toward graduation. It also fulfills the work-based learning requirement that is board policy in the county. In addition, the work that students do on the project may count toward the state’s graduation requirement for students to complete 10 hours of work experience in a career area of their choice. If students complete 60 hours of work experience, they receive an additional one-half credit to apply toward graduation.

Authentic Experiences

“Randolph County made the commitment to support senior projects because district leaders felt the need to incorporate more authentic experiences and project-based instruction into the curriculum,” Super said. “We believe a capstone project can help drive this change.”

The district distinguishes between activity-based instruction and project-based instruction. It regards an activity as a “one-time thing” and a project, particularly a senior project, as longer lasting with a student working over a period of time on a series of related activities.

“We encourage students to find areas that truly interest them and to focus their projects on those areas,” Super said. “Students are expected to use their talents to explore, learn and produce a product that will be sustainable and will exemplify work at the highest level of effort.”

In-Depth Research

The senior project in Randolph County has four components — a research paper, a product, a presentation and a portfolio. The **research paper** is based on a topic that introduces and provides background information on the student’s project and product. Students are encouraged to focus their papers on a career concentration. The research paper must follow the MLA (Modern Language Association) format and be between six and 10 pages in length.

Mentors from the community agree to help the seniors work through their projects. Students are encouraged to select mentors with expertise and experience in the student’s career field. “The district has developed a database of names of community members and their areas of expertise,” Super said. Mentors must be at least 21 years old, knowledgeable about the topic and willing to verify the work of the senior.

Students write their senior project research papers as part of their junior English course. The paper accounts for one-third of the senior project grade. The grades on all senior project components are averaged to determine the pass/fail final grade that goes on a student’s transcript. Special education students can write an I-Search paper in lieu of a traditional research paper.



“Those who work with students on their senior projects find that when the expectations are clearly defined, students rise to the challenge of completing rigorous projects.”

Deborah Super
Randolph County School District

Contact:

Deborah Super
dsuper@access.k12.wv.us

Lasting Usefulness

The senior project leads to the production of a tangible **product** that will be useful after the project is completed. One example is a senior project that resulted in a stage production of *Cinderella*. Told through Irish step dance, the story was written, produced, directed and performed the first year senior projects were required in Randolph County. It has been performed every March since then.

Each **portfolio** includes a research paper, mentor consultation forms, time and work logs, and other forms required by the district. The five- to 10-minute **presentation** includes a PowerPoint or video component or a display to explain the project. Presentations are given before a panel of three judges who award scores to the students.

“Those who work with students on their senior projects find that when the expectations are clearly defined, students rise to the challenge of completing rigorous projects,” Super said. “Having to focus on authentic products ensures that students achieve at a higher level, while involving experts from the real world as mentors and judges adds quality assurance to the process.”

Nearly two-thirds of seniors include service learning as part of a senior project. “Participating in a community project or providing other types of services gives them satisfaction and fulfillment that they don’t find in many other high school experiences,” Super said. “Community members have come to expect seniors to be actively involved in providing a range of services and regularly call the district office asking for students’ help.”

After years of experience with senior projects, Randolph County has identified many benefits for students:

- They achieve a sense of accomplishment by completing a rigorous yet meaningful task.
- They improve their research, writing and communication skills.
- By providing a service to others, they learn the importance of giving back to the community.
- Because the products are sustainable, they leave a legacy for others.

A recent graduate of **Tygart's High School**, one of the four Randolph County High Schools, summed up the senior project this way: “I’ve never used my brain so much or solved so many problems in my life!”

Senior Exhibition Is a Personalized Learning Experience

Over the past 10 years, a senior exhibition of mastery — or senior project — at **Greenville Technical Charter High School** (Greenville Tech) in Greenville, South Carolina, has developed into a method of instruction focusing on 21st-century skills. “In completing the projects, students become self-directed, lifelong learners who develop and maintain a sense of commitment to learning,” said **Bob Ground**, chairman of the senior project advisory committee at the school.

Students acquire the following skills as they remain on track for graduation:

- Taking responsibility for and pride in their performance
- Working effectively with peers and adults
- Demonstrating skills in decision-making, leadership and teamwork
- Analyzing situations from multiple perspectives
- Identifying and solving complex problems using mathematics, science, humanities and the arts
- Communicating effectively by expressing knowledge, ideas and feelings through written and oral language

The graduation rate at Greenville Tech is 100 percent. The school, which is open to any student eligible to attend public schools, enrolls approximately 410 students. Thirty percent are minority students. Because of its size, the school selects students in a lottery.

The senior project at Greenville Tech includes a product that results from researching an “essential question” — a broad-based, open-ended question that guides the student’s research and development of a product. The questions can address a variety of career or educational interests. Here are some examples of essential questions and products produced by students:

- How do you design a functional and fashionable tote bag? *Product: Produce a line of totes made from original patterns.*
- How do you restore an antique tractor? *Product: Make an old tractor fully functional.*
- How do you learn to play the mandolin? *Product: Learn to play the instrument, develop an instructional package and teach the skill to others.*
- How do you cater an Italian meal for a large group of people? *Product: Produce an end-of-the-season meal for the school soccer team and coaches.*
- What equipment and expertise are involved in developing a curriculum to teach basic meteorology in high school? *Product: Develop a meteorology curriculum.*

Each senior chooses a topic and conducts an independent study. Topics may be based on passions, careers, hobbies or social concerns. Students decide if they have made a good choice by answering questions such as: Can I research this topic? Are local experts and mentors available to help me?

Will the product illustrate my learning? Do I like the subject enough to spend an entire year working on it? Can I acquire tools, equipment and materials needed to complete the project? Can I afford this topic — will I be able to get donations and other support as needed? Is the project safe and legal? Will parents and teachers approve it?

Students begin the process in August of the senior year. After the staff meets with students and parents, students sign a contract to fulfill the assignment, pledging to complete the following four components:

- **Class** — a regularly scheduled class period in every senior's schedule. During this time, students do research, complete their journals and address any problems or issues that may develop. The class also gives the teacher time to maintain individual contact with the student to ensure he or she is staying focused.
- **Portfolio** — a record of what a student does on the project for a year. Students must have at least 10 research sources, notes taken from the sources and an annotated bibliography. In addition, the portfolio contains 28 weekly journal entries, summaries of mentor meetings and evidence that progress is being made on the project. The portfolio may be kept in a four-inch three-ring binder or as a Web page.
- **Product** — a tangible answer to the essential question. The product not only must represent an answer to the essential question but also must stand alone as the explanation of the project.

- **Presentation** — in front of judges from the community. The presentation consists of a 15-minute speech and a five-minute question-and-answer session.

After the presentation, students complete a personal reflection on the year's work. "Most students indicate that they have learned as much about themselves and their work habits as they have learned about the subject of the project," said **Mary Brantley**, senior project coordinator.

In the fall after graduation, many students write to their senior project coach about how the whole senior project experience has helped with college work and their ability to organize, plan and complete college assignments independently.

During the first three years at Greenville Tech, students should learn the skills they will need for the senior project. Many class assignments are project-oriented to give students experience with the project format. English/language arts teachers teach research techniques, and all teachers teach students to manage time, pay attention to details and develop organizational skills. Students improve their communication skills, since many of the mentors are from the professional community and have high standards for working relationships.

Contacts:

Bob Ground
bground@gtchs.org

Mary Brantley
mbrantley@gtchs.org

Professional Portfolios Demonstrate Students' Growth in Academic and Career Studies

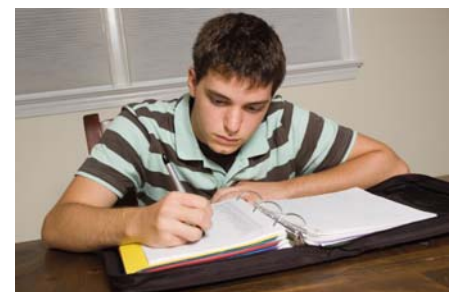
The mission of CV-TEC in Plattsburgh, New York, is to prepare students for success in careers and lifelong learning, including postsecondary education. CV-TEC is a technical education center in Champlain Valley Educational Services (CVES), one of 37 BOCES (Boards of Cooperative Educational Services) in the state of New York.

In addition to core academic classes offered online and on the Plattsburgh campus, CV-TEC provides opportunities for students to earn employment certificates in 11 career clusters such as agriculture, food and natural resources, business management and administration, and STEM (science, technology, engineering and mathematics). An aviation tech program is offered to all CVES juniors at CV-TEC.

To improve students' chances of succeeding in further education and the workplace, CV-TEC developed a technical reading and writing (TRW) curriculum for all students. The centerpiece of the curriculum is a professional portfolio that displays each student's literacy proficiency and technical skill attainment. The portfolio, which includes employability information and examples of technical and communication skills gained over two years, is required for graduation.

Portfolio Components

Colleen Lafountain, CV-TEC academic services coordinator, and **Melissa Barcomb**, TRW instructor, listed the components of a successful portfolio: a sample job application letter, an autobiography, a career goals statement, self-reflection and



"The portfolio has become a compilation of students' accomplishments. It has increased the awareness of students' abilities, potential and future possibilities."

Colleen Lafountain
CV-TEC

Contacts:

Colleen Lafountain
clafountain@cves.org

Melissa Barcomb
mbarcomb@cves.org

samples of written work. These samples must include a safety report, a procedure report, ethical attitudes, an analysis of professional journals, a four-topic report, an interview with a guest speaker, a business plan and a college essay.

Each portfolio also contains reports cards; an internship or work journal; photos with captions from completed jobs (such as a start-to-finish auto repair job); awards, certificates and other evidence of achievement; and letters of recommendation.

All CV-TEC students are tested on the TRW curriculum at the 20-, 40-, 60- and 80-week intervals of their two-year career/technical programs. Grades are reported on CV-TEC report cards.

What Students Learn

Completing required assignments during two years at CV-TEC helps students develop a range of skills:

- Identify short- and long-term goals.
- Seek and apply for jobs by completing a résumé, writing an application letter, showing a portfolio and participating in a mock interview.
- Follow oral and written directions accurately.
- Identify the purpose of written and oral communication.
- Choose the most effective strategy for listening, reading, speaking and writing to facilitate the communication process.
- Prepare written communications using clear, concise, complete, grammatically correct sentences and paragraphs.
- Identify the role of business in the economic system.
- Describe the responsibilities of an employer, a manager and an employee.
- Manage time effectively.
- Identify a problem and a solution and define the impact.
- Maintain a safe work environment.
- Identify hazardous substances in the workplace.
- Recognize individual diversity.
- Work with team members.
- Demonstrate strong work ethics and behavior.
- Recognize the impact of technological changes on tasks, systems and people.
- Recognize change and learn how to deal with it.
- Interpret charts, tables and/or graphs to determine specifications for a task.
- Effectively search the Internet for needed information.

“The portfolio has become a compilation of students’ accomplishments,” Lafountain said. “It has increased the awareness of students’ abilities, potential and future possibilities.”

The professional portfolios have had many positive outcomes:

- Students have been able to secure employment based on entries in their portfolios.
- Some employers have created positions in order to hire students after seeing their portfolios.
- Local employers expect students to present their portfolios during job interviews.
- After gaining confidence through the portfolios, some students decide to attend college. Postsecondary enrollment has increased.
- College credit has been awarded based on information in a portfolio.
- Students take pride in their portfolios.
- Job interview skills have increased, thus improving students’ employability.
- Students can receive high school English graduation credit through the TRW curriculum. Credit is awarded based on district policy.

From Architecture to Bull Riding: Senior Projects Engage Students in Learning

When **Corey Murphy** became principal of **Great Falls High School**, a small rural school in Great Falls, South Carolina, in 2007, he noticed that too many seniors were coasting through the last year of high school — taking courses that didn't matter to them and putting minimal effort into their studies.

“My concern was that students needed more meaningful learning opportunities to prepare for the future,” Murphy said. “A senior project seemed like a good way for students to develop their knowledge and skills while benefitting themselves and the community.”

Every senior at Great Falls selects a topic of personal interest for a senior project that is a requirement for English IV and thus for graduation. Students must either pass the senior project with a score of 70 or higher or revise the project until it meets expectations. “The non-negotiable nature of the requirement ensures that students put forth their best effort during the last semester of high school,” Murphy said.

Essential Ingredients

Senior projects at Great Falls High School include a five-page research paper with at least five cited sources of information, including a mandatory interview with a source; guidance from a school-approved mentor from the community; a tangible product created or completed as a result of the student's research (the product must either benefit the community or develop skills that the student can use to help the community in the future); and a formal presentation to a panel of judges from the community.

The school uses the following questions to guide students in choosing a topic for the senior project:

- What are some personal experiences that have helped you become the person you are today?
- Who are some important people in your life who have been positive influences — and how and why is each one important?
- What strengths do you have that will help you make a positive impact on the community?
- What weaknesses will make you hesitate to try something you don't know how to do well?
- What do you see yourself doing for the next 35 years?
- What stories bother you when you read a newspaper or watch the news?
- What problems need to be addressed in the community?
- What would you change about your life — and why?
- What do you hold nearest and dearest to you?

Senior projects span a wide range of student interests, from architecture to bull riding and from tattooing to teen pregnancy. A senior who studied architecture and design built a dollhouse for an elementary school student. Another student produced a



“Senior projects have infused new life into the school and the community. Ninth-graders look forward to completing their own projects when they become seniors, and the community takes pride in having evidence of the accomplishments and capabilities of their high school graduates.”

Corey Murphy
Great Falls High School

Contact:

Corey Murphy
cmurphy@chester.k12.sc.us

video on the proper technique and equipment needed to participate in professional and amateur rodeos. In another example, a student built a tattoo machine and demonstrated the art form on a grapefruit. A campaign for teen abstinence was the subject of one project. Another project exposed evidence of animal cruelty at a local “puppy mill” shut down by law enforcement.

Meeting the Needs of Others

“The requirement that the project must result in a benefit to the community forces our students to look for ways to serve and meet the needs of others,” Murphy said. A student built a deck on his house and expressed interest in volunteering with Habitat for Humanity to build homes for deserving people. Another student installed a stereo system in his car and then did the same for a friend.

Each student involved in a senior project is required to have a mentor — a family member, a community member or a school staff member — to oversee the project and serve as a guide and adviser. Essential to the success of the project, mentoring provides ways for students to reflect on the product and the process, learn from experts, and connect what they are doing in school to the world outside.

The school approves all mentors. “There is an element of character education connected with the mentoring process,” Murphy said. “Mentoring is meant to help students get ready for the next step in life.”

Students spend two days a week for seven weeks in the computer lab working on their senior project papers. Five pages of typed text is the minimum requirement, but many students write papers that are much longer and more detailed than the minimum.

Formal Presentation

Each senior project culminates in a presentation to a panel of judges from the community. Students are expected to practice their presentations, demonstrate poise and “dress for success.” The judges ask questions about the projects and offer their comments about strengths and weaknesses, but the principal and senior project board members approve the projects and presentations prior to that time. The board can ask a student to revise a presentation as needed.

Senior Seminar: Evolution of a Capstone Project in a Rural School

Four years before senior projects became a state requirement, students in the class of 2007 at **Northwestern High School** in West Salem, Ohio, completed a mandatory senior seminar capstone project en route to graduation. Today, students report that their projects are more realistic and more closely aligned with authentic job-related activities.

“The senior seminar has definitely increased the rigor and relevancy of the senior year and has provided exceptional learning opportunities and experiences for our students,” Principal **Mike Burkholder** said. “A survey of recent graduates showed that they recognize the value of the program in setting a direction for the future.”

The three major components of the senior project are a research paper, a product and an oral presentation. The **research paper** takes the place of a senior English research paper. It must total seven to 12 pages in MLA style and must include sources, note cards, an outline, a draft and a final paper. “An important component of the senior research paper is an annotated works-cited page, which defends the sources that the student intends to use,” said English teacher **Maria Hines**. The **product** must be a tangible creation related to the student’s career field of study. A portfolio contains additional information and evidence of the work done in choosing, designing and developing a product. The **oral presentation** is made to a panel of judges (the Senior Project Evaluating Committee). It includes a speech, an explanation of how learning was applied in developing the product and a discussion of lessons learned while completing the project. Presentations include a 10-minute speech and 10 minutes for questions and answers.

Projects in past years have focused on floral design, horse training, horticulture, home building, murals, plays, silent films, entrepreneurship, marketing, radio broadcasting, fashion design, coaching, sports broadcasting and car restoration. One student considering a career in veterinary medicine repaired a torn ligament on a deceased llama.

The senior seminar is scheduled as a two-quarter class with one-half unit for senior seminar and one unit for senior English. Eighty seniors are divided among four English/language arts teachers who work together to maintain common grading expectations. Each group contains students with various levels of grade point averages.

Each student and teacher in the senior seminar process has a certain role to play:

Students confer with advisers and decide on a topic, identify a product or service and arrange for a mentor, get parental approval and write a letter of intent to the senior project committee, develop a time line, conduct research through a variety of media, keep a journal, and assemble a portfolio. Students complete the three major components of the project and write thank-you letters to everyone for their assistance.

Senior seminar advisers approve the topics, guide the students through the process, instruct students in the proper form for writing the research paper, collect and evaluate written documentation, review the final draft and suggest revisions, evaluate the final draft and assign a grade based on form and content, and help students develop their formal presentations.

The school provides structure for the senior project through guidelines; a time line; sample letters; weekly conferences with the English IV instructor; conference and time logs; questions for student reflection; and grading rubrics for the paper, presentation and product.

“Senior projects have infused new life into the school and the community,” Murphy said. “Ninth-graders look forward to completing their own projects when they become seniors, and the community takes pride in having evidence of the accomplishments and capabilities of their high school graduates.”

Great Falls High School is making progress in raising rigor in the classroom and student achievement. Enrollment in Advanced Placement (AP) and International Baccalaureate (IB) courses has tripled, the percentage of students with work-based learning experiences has increased, and the percentage of students completing career/technical studies with a credential has risen from 84 percent to 92 percent.



Contact:

Maria Hines
nrws_hines@tccsa.net

Product mentors discuss the topic selections with the students and help with the essential questions to be answered, review the first drafts and help with revisions, serve as resources, allocate 15 hours to each student as needed, advise students on the oral presentation, and participate as judges for the presentations. A mentor must be at least 25, not related to the student and approved by parents. The mentoring time includes meetings, e-mails and other communication.

Senior project committee members collect and publish a list of students and their topics, arbitrate disputes and appeals, inform the faculty of progress, update and revise project guidelines, and formulate policies. The committee guides the students, establishes guidelines for recognition, establishes and trains evaluation panels, sets a schedule, and determines how final grades are assigned. This committee includes a school administrator, an English teacher and other teachers, as well as community members and experts in students' fields of study.

The **media center specialist** helps students develop research strategies and bibliographies.

The **senior project evaluating committee** reads all research papers before the oral presentations and uses established criteria to evaluate the presentations.

The senior project process begins early. Students learn about research in grades seven through 12. They learn the MLA style and in-text citations in the middle grades. Seniors provide tips for juniors in the spring of the 11th grade. The senior project guide is distributed in the spring of the junior year so that students can identify a topic for research and enlist a mentor by the beginning of the senior year.

"Students and staff at Northwestern High School continue to refine and improve the senior project process, but we all agree that this graduation requirement does a good job of helping prepare students for postsecondary studies and careers," said **Hines**.

Creating a Business From the Ground Up Helps Academy Students Keep Their Eyes on Graduation

The FUSION Academy gives special education, nontraditional and other students at **Blackman High School** (BHS) in Murfreesboro, Tennessee, an opportunity to design a business from the ground up — complete with a marketing plan and materials. More than 130 of the school's 2,200 students participated in the academy in its third year in 2009-2010.



"Every school has difficulty reaching all of its students. The academy gives students a long-term project to focus on as they keep moving toward graduation."

Gail Vick
Blackman High School

Contacts:

Gail Vick
vickg@rcschools.net

Ann Stewart
stewart@rcschools.net

BHS is an award-winning school. The student population is 79 percent white, 12 percent black, 5 percent Hispanic and 4 percent Asian/Pacific Islander. Nearly 20 percent of students are economically disadvantaged. Programs such as the FUSION Academy help the school keep its graduation rate at more than 91 percent.

"Every school has difficulty reaching all of its students," Principal **Gail Vick** said. "The academy gives students a long-term project to focus on as they keep moving toward graduation."

Students in the academy take courses in culinary arts, graphic design, marketing, theatre arts, radio and TV, information technology, and journalism.

Students work in teams to conceptualize their "businesses." One example is a restaurant. After creating a menu in the culinary arts course, students develop a marketing plan in marketing and graphic design that includes creating a website and designing menus and promotional materials. In the theatre arts and radio and TV courses, they write, perform and produce radio and TV ads for the restaurant. The information technology course and a work-based learning arrangement with retailer Best Buy provide the knowledge and skills to manage the information technology needs of a small business such as a restaurant.

The FUSION Academy includes extensive work-based learning in the form of job shadowing and internships with community partners in Marketing II/Entrepreneurship, taken in grade 11 or 12. Academy students also take a special senior English class that includes a business profile capstone project in which students write business letters, interview business owners, visit companies, and prepare research papers and PowerPoint presentations on what they learn during these experiences.

BHS got the idea for the academy from an *HSTW* Technical Assistance Visit report that mentioned the importance of cross-disciplinary curriculum and instruction. Marketing teacher **Ann Stewart** conceived the idea, shared it with students and teachers, and presented it to Vick, who gave wholehearted support. The academy satisfies a Tennessee requirement for all high school students to complete three units in a career/technical area or another elective focus such as the humanities or science and math.

The school received a \$50,000 Perkins grant to launch the academy in 2007 and a \$330,000 contribution from the school district to support the first year of operation. **“The academy represents a model for career/tech education that appeals to and makes room for students of all ability levels,”** Vick said.

“The variety of courses encourages students to expand their horizons and provides opportunities for students with various learning styles to really shine and appreciate their gifts and those of their peers.”

Blackman High School has been named a Pacesetter School on the basis of deep implementation of the *HSTW* design and outstanding student achievement, including a high graduation rate.

This newsletter of “best practices” in implementing the *High Schools That Work (HSTW)*, *Making Middle Grades Work (MMGW)* and *Technology Centers That Work (TCTW)* school improvement models is based on presentations at the 24th Annual *HSTW* Staff Development Conference in Louisville, Kentucky, in July 2010.