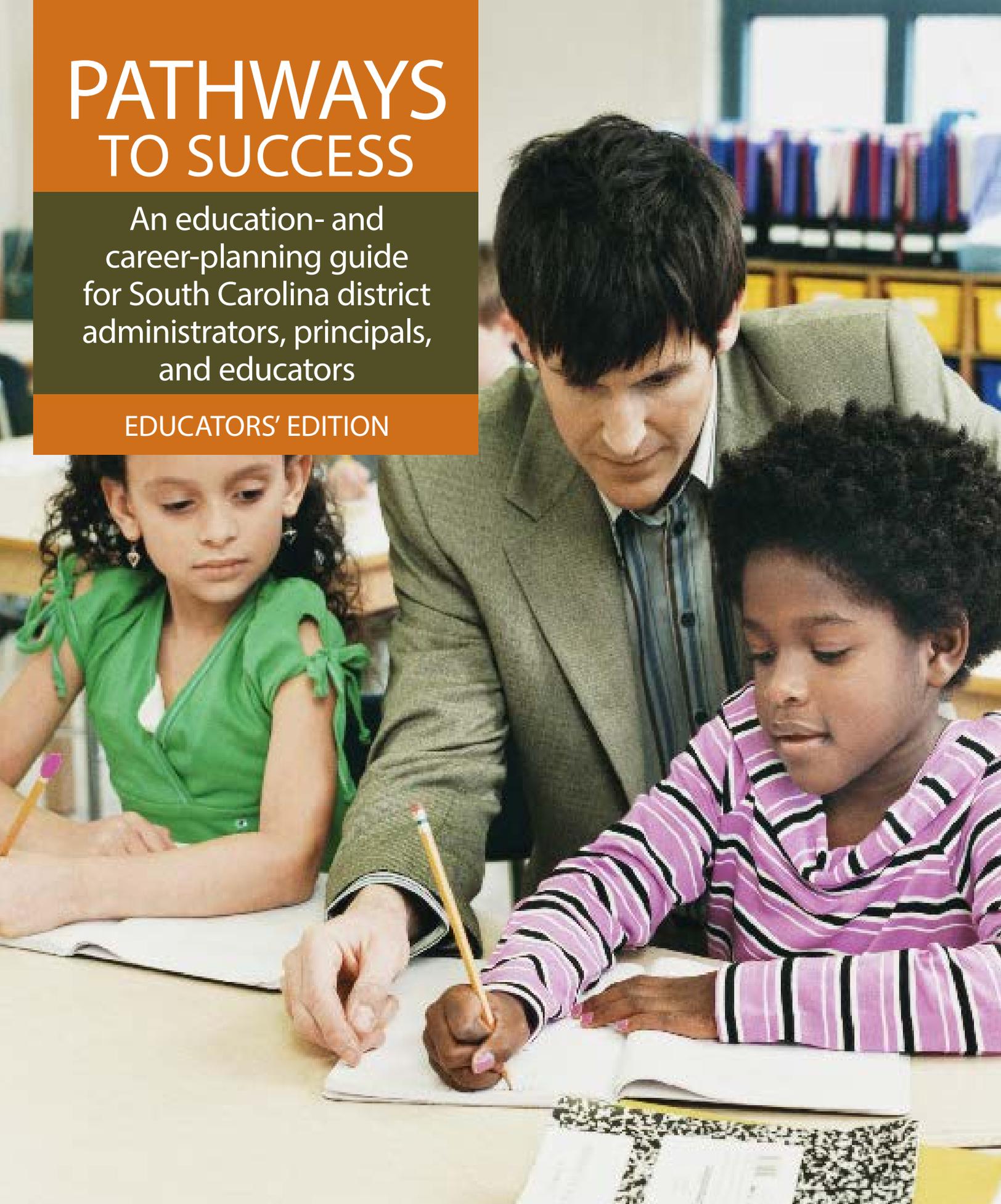


PATHWAYS TO SUCCESS

An education- and
career-planning guide
for South Carolina district
administrators, principals,
and educators

EDUCATORS' EDITION





Paving *Pathways to Success*

South Carolina's schools are on the verge of an important transformation.

A number of districts and schools across the state are at the leading edge of the national movement toward organizing education around clusters of study representing various sectors of the economy — business, agriculture, health care, information technology, manufacturing, and others. By combining rigorous academics with relevant career education, these career clusters represent the most direct answer to the questions all students ask of the education system: “Why should I care about school? Why should I work hard to do well in class? What’s in this for me? What do I want to be when I grow up?” Furthermore, career clusters:

- create clear and smooth educational pathways young people can follow from kindergarten through grade 12, on to college or other postsecondary education, and into the workplace;
- empower students (and their parents/legal designees) to make smart education and career choices by providing the information and experience they need; and
- support the success of all students — rich and poor; urban, suburban, and rural; from all backgrounds.

Career clusters are also a key element in enhancing economic development. By connecting schools and businesses, they help ensure that South Carolina has a high-quality workforce and a prosperous economy.

This special South Carolina edition of *Pathways to Success* is a guide for school administrators and other educators to use in building comprehensive local systems. It covers the basics of the Career Cluster Model, continues with the five goals for cluster systems, and outlines the eight steps for success.

Each of these eight key steps to follow when building strong cluster-based systems also features examples of the way South Carolina schools have already acted to implement aspects of the cluster concept. As these success stories show, the career cluster movement is in full swing in many areas of the state. Some districts already have advanced programs, while other districts continue to strengthen cluster pathways. Every district and school, however, can make further progress. You are also encouraged to use the 16 editions of *Pathways to Success* that have been created for South Carolina students — each of which focuses on one of our state’s 16 career clusters — as part of your local career clusters program.

Read on to learn how to put the power of career clusters to work for students, parents, educators, and employers.

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Eight Steps to a Successful System

How can districts and schools reach the five key goals for a local cluster system? This special edition of *Pathways to Success* is a “how to” guide to the eight steps administrators and other educators can follow to build a system such as that shown in “A Model Career Cluster System.”

The steps follow:

- STEP 1: Establish Strong Leadership (page 6)
- STEP 2: Build a Broad Partnership (page 8)
- STEP 3: Provide Professional Development (page 10)
- STEP 4: Refocus Guidance on Career Clusters (page 12)
- STEP 5: Find Financing (page 14)
- STEP 6: Develop Extended Learning Opportunities (page 16)
- STEP 7: Reorganize Curricula (page 18)
- STEP 8: Achieve Articulation (page 20)

For examples of career clusters in action and more information about each step, please turn to the pages indicated.

Resources Available

Many resources are available to help local districts and schools implement comprehensive career cluster systems. Start by turning to the South Carolina Career Guidance Model at www.careerguidancemodel.org, then tap the other sources listed in the “Resource Roundup” on page 22.

Five Key Career Cluster Goals

A quick introduction to creating a comprehensive local system

A career clusters system takes time, effort, and resources to build, but pays off in graduates who are prepared to earn a good living in the global economy. Here are the five key goals on which to focus when building a strong local system:

1 Establish Career Clusters for Schools

A strong career cluster system transcends all K–12 schooling and links to postsecondary education and the workplace. It focuses on career awareness in elementary school, career exploration in middle school, and career preparation in high school and beyond (see “A Model Career Cluster System” on page 3). South Carolina recognizes 16 clusters in all (see “South Carolina’s Career Clusters” on page 4); not all districts, however, offer all of the state-designated clusters, and some use different names or groupings.

2 Create Career Majors

Each cluster is divided into career majors, sometimes called “career pathways,” which represent more specific slices of the job market. In a comprehensive cluster system, each high school student, by the 10th grade, has chosen a career major on which to focus his or her studies and career planning. Completion of a major usually requires at least four units of study in that area as well as complementary electives (see “Reorganize Curricula” on page 18).

3 Require Individual Graduation Plans for All Students

Working with school guidance personnel, each student in a cluster system, along with his or her parents or guardians, develops an Individual Graduation Plan (IGP) in middle school, as required by state law. The plan is reviewed and updated at least once each year (see “Refocus Guidance on Career Clusters” on page 12). The IGP records the student’s career cluster, career major, planned or completed courses from ninth to 12th grade, postsecondary objective, and planned and completed extracurricular activities and work-based learning experiences. An IGP can be used as a “career portfolio” that includes results of career assessments and test scores, samples of student work, and career research.

4 Organize Curricula and Courses Around Career Clusters

In a comprehensive cluster system, schools or districts reorganize curricula and other elements of education around the careers students will pursue after graduation, particularly at the high school level. Rather than focusing just on traditional disciplines, career cluster systems combine rigorous academics with relevant career education (see “Reorganize Curricula” on page 18).

5 Align K–12 Schooling, Postsecondary Education, and the Workplace

An effective cluster system offers all students clear pathways for K–12 schooling, on to college or another postsecondary option, and into employment. Articulation agreements among education institutions are the primary way programs are aligned to establish seamless transitions as students accumulate the knowledge and skills they need to attain independent adulthood (see “Achieve Articulation” on page 20).

A Model Career Cluster System

Career Awareness (K-5)	Grades K–2	<ul style="list-style-type: none"> • Students learn about different kinds of work. • Students are instructed in diversity and gender equity in the workplace. • Students learn about goal setting and decision making. • Students learn what it means to be a good worker.
	Grades 3–5	<ul style="list-style-type: none"> • Students use career assessment instruments to identify occupations. • Students learn about occupations in the various career clusters. • Students would be involved in career guidance classroom activities.
Career Exploration (Grades 6-8)	6th Grade	<ul style="list-style-type: none"> • Students begin career exploration activities, including identification of learning opportunities in the community. • Students take career assessment instruments. • Students identify jobs within the clusters requiring different levels of education.
	7th Grade	<ul style="list-style-type: none"> • Students identify the steps of the career decision-making process. • Students identify and explore sources of career information. • Students take career assessment instruments. • Students explore work-based learning activities including service learning, job shadowing, and mentoring.
	8th Grade	<ul style="list-style-type: none"> • Students pick a cluster of study that they are interested in exploring. • Students explore work-based learning activities including service learning, job shadowing, and mentoring. • Students meet with parents, counselors, teachers, guardians, and legal designees to develop both an academic and career portfolio consistent with their academic and career focus. • Students take career assessment instruments.
Career Preparation (Grades 9-Postsecondary)	9th Grade	<ul style="list-style-type: none"> • Students may declare majors and focus their elective choices in particular areas.* • Students review and update their IGPs. • Students take career assessment instruments. • Students explore work-based learning activities including service learning, job shadowing, and mentoring.
	10th Grade	<ul style="list-style-type: none"> • Students should declare a career major.* • Students review and update their IGPs. • Students take career assessment instruments. • Students explore work-based learning activities including service learning, job shadowing, and mentoring.
	11th Grade	<ul style="list-style-type: none"> • Students review and update their graduation plans, with particular attention to postsecondary goals. • Students take career assessment instruments. • Students explore work-based learning activities including service learning, job shadowing, and mentoring. • Students may change or modify their career majors.
	12th Grade	<ul style="list-style-type: none"> • Students complete requirements for their majors. • Students receive recognition for completion of career cluster majors at graduation. • Students take career assessment instruments. • Students explore work-based learning activities including service learning, job shadowing, and mentoring. • Students may change or modify their career majors.
	Postsecondary	<ul style="list-style-type: none"> • Students follow aligned career cluster pathways to a two- or four-year college, the military, other postsecondary education or training, or employment. • Students obtain rewarding entry-level employment within their chosen clusters. • Students continue to refine career choices throughout their lifetimes of learning.

* Students are encouraged to review their IGPs and can modify or change this focus throughout their secondary school careers with the guidance of educators and parents.

National Career Cluster Model



Core Requirements for Graduation

High School Graduation

Subjects	Units Required
English/Language Arts	4
Mathematics	4
Science	3
U.S. History and Constitution	1
Economics	0.5
U.S. Government	0.5
Other Social Studies	1
Physical Education or Junior ROTC	1
Computer Science	1
Modern or Classical Language or Career and Technology Education	1
Electives	7
Total *	24

* Must pass the exit examination.

State Certificate

Subjects	Units Required
English/Language Arts	4
Mathematics	4
Science	3
U.S. History and Constitution	1
Economics	0.5
U.S. Government	0.5
Other Social Studies	1
Physical Education or Junior ROTC	1
Computer Science	1
Modern or Classical Language or Career and Technology Education	1
Electives	7
Total *	24

* Must have failed to meet the standard on all subtests of the exit examination.

College Entrance

Subjects	Units Required
English/Language Arts	4
Grammar and Composition	2
English Literature	1
American Literature	1
Mathematics	4
Algebra 1 and 2	2
Geometry	1
Pre-Calculus	1
Modern or Classical Language	2
Science	3
Biology, Chemistry, or Physics	3
Social Sciences/US History/Economics and Government	3
Electives	1
Physical Education/ROTC	1
Arts	1
Total	19



Establish Strong Leadership

Skilled, energetic administration is needed to guide cluster systems to success.

When W.J. Keenan High School Principal Steve Wilson looked at his school's resources, he just knew he could do more. He was especially interested in boosting his students' interest and opportunities in math and science courses at the Richland County high school and wanted to do it in a way that could be aligned with the cutting-edge career cluster curriculum approach.

"I really wanted to come up with a creative, productive way to bring together students, teachers, and community resources," explains Wilson. "We wanted to make something happen."

As a direct result of this desire to "do more" for his students, Wilson has become the driving force behind W.J. Keenan's widely lauded program, Project REAL, an exciting collaboration between the high school, the University of South Carolina's College of Engineering, and FIRST Robotics.

FIRST Robotics (For Inspiration and Recognition of Science and Technology) is a nonprofit organization that inspires high school students around the world to be creative in the areas of Math, Science, Engineering, and Technology. The FIRST robotics program makes these subjects accessible, even cool, to the students. Project REAL stands for "Raider Engineering and Academic Leadership," and the team members call themselves the RoboRAIDERS. The program was conceived as a new way to actively engage high school students in math and science courses by featuring concrete engineering applications.

Project REAL presents math and science taught in the context of the world of work, an approach characteristic of career cluster curricula. Students who complete the curriculum with an overall grade point average of at least 3.0 receive special diplomas at graduation indicating their advanced grounding in pre-engineering studies. Students who pass a special examination at the end of the course work are awarded college credit from the University of South Carolina (USC).

The emphasis on the connections between education and work, as well as the pathway linking students to postsecondary study at USC, are approaches taken straight from the career cluster handbook. Wilson and his teachers foresee that Project REAL eventually will serve as a cornerstone for a comprehensive career-cluster-oriented curriculum and counseling system at their school. "This collaboration and partnership are really going to transform Keenan High School," says Wilson. "The rigor of the curriculum is going to help in terms of academic achievement. If our students take full advantage of this collaboration, they will benefit tremendously."

In recognition of his leadership in spearheading Project REAL and other Keenan initiatives for educational improvement, Wilson was named Secondary Principal of the Year by the South Carolina Association of School Administrators. While he is modest when discussing his own role in setting up Project REAL, Wilson acknowledges that effective leadership is critical in implementing career cluster programming.

Leadership Qualities

No matter how brilliantly a school or district conceptualizes its career cluster program, the effort won't achieve acceptance and success without the backing of effective leadership. According to Wilson and other successful educators, career cluster programs led by articulate, passionate, skilled individuals are much more likely to take root and thrive. These experts recommend these specific leadership action steps:

Create Accountability

When the buck stops with a particular individual or department, that person or group is more likely to expend the required effort to achieve its cluster program's stated goals. By clearly

designating who is ultimately responsible for the success (or failure) of a program, leaders create a sense of accountability that gets results.

Cultivate Political Savvy

Building a career cluster system is a collaborative exercise involving a cross section of people with a variety of interests and constituencies. To help a program succeed, administrators must be able to sense what people want and motivate them to lend their support. Leaders must possess both sensitivity to people's emotions and a willingness to insist on what's right.

Convey Passion

Leaders must demonstrate an authentic passion for the ability of career cluster systems to make a difference in the lives of students and the communities in which they live and work. Without a sincere belief in the value of their programs, leaders will fail to animate them with vitality and drawing power.

Be a Strong Advocate

Building partnerships among all stakeholders in career cluster implementation is critical. This means that leadership must possess the skill to draw teachers, students, business leaders, and educational administrators together via strategic and ongoing advocacy. The ability to convince others to connect with the career cluster concept is a key factor in building the coalitions that ultimately will determine success.

Construct a Solid Organization

Effective leaders possess the expertise and experience to create a functional, effective, and sustainable organizational plan and structure. Without this blueprint for success, individual efforts within the program are unlikely to achieve long-term, comprehensive results.

Assemble an Effective Team

Strong leadership is only as effective as the team of individuals that supports it. Career cluster implementation requires enthusiastic cooperation from a diverse group of talented professionals with a wide variety of skills. Career cluster leadership must acknowledge this need and demonstrate the ability to attract, retain, and motivate others in support of the larger implementation plans. This talent for team building will prove crucial to attracting and sustaining the involvement of business and community leaders who must become invested in career cluster programs if the programs are to reach their potential.

As for the risks involved in undertaking educational reform, Wilson says that his best advice to other South Carolina educators is to "go for it."

"Don't be afraid to try," he says. "We came up with this idea and wrote the proposal. Then we approached USC and our school board. The reaction was just so positive on all sides. This is going to be great for our students, and other educators can see that it's something they can do, too."



Leadership Resources

Here is a list of selected must-read books for leaders in education and in life:

Education Leadership Books

The Enemies of Leadership: Lessons for Leaders in Education, E. Grady Bogue (Phi Delta Kappa International)

Lead, Follow, or Get Out of the Way: How to Be a More Effective Leader in Today's Schools, Dr. Robert D. Ramsey (Corwin Press)

Leadership Through Excellence: Professional Growth for School Leaders, Raymond L. Calabrese (Allyn and Bacon)

General Leadership Books

Execution: The Discipline of Getting Things Done, Larry Bossidy and Ram Charan (Crown)

If It Is to Be, It's Up to Me: How to Develop the Attitude of a Winner and Become a Leader, Thomas B. Smith (Possibility Press)

Leadership and the New Science: Discovering Order in a Chaotic World, Margaret J. Wheatley (Berrett-Koehler)

Leading Change, John P. Kotter (Harvard Business School Press)

The World is Flat: A Brief History of the Twenty-First Century, Thomas Friedman (Farrar, Straus, and Giroux)



Leadership To-Dos

Goal: Drive the Establishment of a Strong Career Cluster System

- Be a visibly active, committed force for change.
- Enlist the support of the school board and district administration.
- Communicate clear goals and vision for the future.
- Develop a comprehensive strategy for achieving those goals.
- Cultivate broad business and community support.
- Be creative and entrepreneurial in finding resources.
- Do not be afraid to take risks to make things happen.
- Respond to obstacles with flexibility and innovation.
- Learn from your mistakes.
- Empower all parties with a team-building approach.

Career Clusters in Action:
W.J. Keenan High School, Columbia
keenan.rcsd1.org

Build a Broad Partnership

Career cluster systems need the strong support of a unified team of community leaders.

The career cluster model originated out of a need to unite the business and education communities in their common goal of preparing students for life after graduation from high school. If core knowledge and skills is the foundation of student success, then collaboration is the cornerstone. In order to effectively serve the needs of students and business, it is critical that educators open lines of communication that connect the career exploration stage of middle school with secondary and postsecondary education and the business community.

The Midlands Education and Business Alliance (MEBA), for example, is a dynamic organization that has used the Career Cluster model to shape its mission of connecting the business, education, and student communities. It serves nine school districts in Richland, Lexington, and Fairfield counties; Midlands Technical College; and area businesses. The organization began as part of the 16 original Tech Prep Consortia that were started in 1990, but has evolved into a powerful engine that drives the creation of cluster-based career pathways. Since 2002, MEBA has served as a venue for local business leaders, educators, and other community leaders to develop a curriculum framework that can be adopted by schools across the region. To date, at least nine cluster-based alliances have been formed. These alliances work with educators to ensure that curriculum continues to be relevant to the changing needs of the local economy.

MEBA contributes to the creation of curriculum, but it also guides educators, students, and parents through the process of career planning through numerous programs and activities such as “Your Child Is Job #1,” education and training experiences, resources, speakers’ bureaus, field studies, mentoring, shadowing, and internships. The Alliance works diligently to provide high school students with the knowledge and skills that will allow them to continue in postsecondary education or training and transition effectively into the workforce.



MEBA impacts the community by collaborating to identify needs, develop appropriate curriculum to address those needs, and communicate them to students, educators, and parents. When students understand the practical application and relevance of their course work to their options available after high school, they will be encouraged to complete high school and continue their education at the postsecondary level. These individuals will be properly trained in fields that correspond with their talents, interests, and abilities that will then lead to a qualified workforce for existing business and industry. A qualified workforce will promote economic development and attract a new knowledge-based industry to the Midlands. With an abundance of new, high paying jobs and citizens educated to fill those jobs, the community will benefit through an increase in personal income and quality of life.

Recruit Partners

MEBA is a large-scale version of the kind of broad community partnerships individual school districts and schools need to set up in order to organize, fund, and administer career cluster systems. But partnerships are built even more locally and can often begin with the efforts of just one teacher. The cluster model empowers individuals to act locally to create partnerships that complement existing curricula. The first step toward building such a group is to identify potential participants, which might include the following:

- business and education leaders;
- presidents and executive directors of education, business, and government organizations;
- representatives of postsecondary education;
- experts in curriculum and careers;
- social service agency representatives;
- employment agency owners;
- parents;
- teachers;

Partnership To-Dos

Goal: Build a Community Partnership

- Recruit partners among business and industry, two-year colleges, four-year colleges and universities, parents, teachers, counselors, and social service agencies.
- Find a rallying point to get partners to the table.
- Establish a common mission.
- Set up a governance structure.
- Create a communications system.
- Get down to work on the eight steps to a strong career cluster system.
- Institutionalize partnerships with formal agreements.

Career Clusters in Action:
Midlands Education and Business Alliance
www.mebasc.com

- administrators; and
- guidance counselors.

Think creatively about whom to recruit, and think about existing partnerships to bring new energy to the task at hand.

Provide a Rallying Point

How can districts or schools get these kinds of people—many of whom are extremely busy—involved? Give everyone a good reason to do so. The cause of better prepared, more focused students, for example, is a potent rallying point. It is very easy to get businesses to the table because they are hungry for employees. The ability to find qualified employees has a direct effect on businesses’ bottom lines, and that makes a difference. Business involvement from the earliest stages is important because of the support they can lend later in the process—providing scholarships, helping keep curriculum relevant to the changing needs of the economy, and providing students with work-based learning experiences. Local two- and four-year postsecondary schools should also be brought on board early for the same reason. Students’ pathways from high school to work invariably lead through additional education at postsecondary schools, and their early involvement can lead to arrangements that smooth students’ progress to their goals later. Finding common ground and a common purpose that unites a diverse group of partners should be a first priority.

Organize the Partnership

Local conditions also can affect the way partners are brought on board. In a small community, a career cluster program might work directly with the local chamber of commerce. Businesses in a small town might not be that diverse. In a larger community with a more diverse economy, businesses are brought in according to cluster group, so their concerns can be considered directly. Businesses involved in MEBA are organized in alliances according to industry—such as the Business Management and Information Systems Alliance, the Health Science and Human Services Alliance, the Arts and Humanities Alliance, the Engineering and Industrial Technology Alliance, and the Public Services Alliance. Approaching potential partners through intermediaries such as the local chamber of commerce or existing partnership members is helpful. Given the level of interest in education reform among businesses, enlistment should not be hard in that sector. If a particular business candidate is important to the effort, there’s certainly no harm in asking.

Put Partners to Work

In many ways, real partnership building begins only when partners meet for the first time. Members must immediately begin work on nurturing a united focus on the mission at hand. Simply bringing everyone to the same table helps counter the tendency to waste effort, which occurs when community groups all go their own ways instead of coordinating efficiently with one another. Working together also promotes respect for differences in agendas among partners. Partners realize that each group represented has its own set of concerns, some that they may not yet be aware of. Knowing that not everyone is making judgments according to the same measuring stick actually helps partners operate as a team, because they understand what other people can and can’t do. Operating as a team leverages a variety of skill sets into a common goal while promoting flexibility, positive spirit, and focus that can be contagious.



Meeting Manners Matter

Building solid partnerships can depend on matters as seemingly insignificant as the way meetings are conducted. The Midlands Education and Business Alliance’s school-based committees and ad hoc task forces meet once a month, as does the executive committee. They never meet without an agenda, without a chairperson, and without set times for starting and adjournment. It is important to put the mission statement at the top of the agenda for the day. This helps the group keep focused on the task at hand.

It’s important to remember that partners working on cluster implementation are busy people making time in their schedules to serve the community. Any efforts to make the process as efficient as possible will be welcomed, not resented. Respecting the time and efforts of colleagues means taking precaution to not waste either one. Potential stakeholders in the business community will respond to a professional approach to building partnerships.

Provide Professional Development

Career cluster planning and implementation requires a well-trained, enthusiastic staff.

You can't buy an effective program. It has to be a philosophical change. For many educators who may be deeply immersed in their own areas of academic expertise, being asked by administrators to align their instruction with students' career planning requires a shift in focus. Increasingly, however, teachers are becoming aware that career cluster curricula can combine traditional academics with practical applications in ways that boost students' motivation to succeed.

Located in the northwest corner of South Carolina, Walhalla High School's faculty shares the vision of career cluster programming getting students to think early about their career options. At Walhalla, 95 percent of the 800 students graduate with a designated career focus. Providing all faculty members with opportunities to learn and grow as local cluster systems develop is one of the most important keys to success. Schools must affect educators' attitudes first and then translate that into action as students learn inside and outside the classroom.

Build Awareness

Before educators can be expected to play a role in the implementation of career clusters, they need instructions on how this innovative system is supposed to work. Everyone from English teachers to librarians must understand that the roles they play as the program goes into effect will shift just as much as those of guidance counselors and instructors.

First, as a school loses existing teachers to retirement and other types of attrition, administrators should make a strong push to bring in new faculty members with some background in and genuine enthusiasm for career cluster systems.

At Walhalla, each new hire is someone who supports the career cluster concept. Even substitute teachers have received training in career education. Because staff members will have to evolve and evaluate the program continually, they must be equipped with the team-building and participatory management training they need to

succeed. It is important to give teachers the information to make good, student-based decisions, not just to do what is convenient because that's the way it may have been done in the past.

Commit Time and Resources to Development

For professional development to be successful, the school or district administration must make it a priority. Professional development programs during which educators participate in programs to extend their professional skills should be developed early and offered often. Schools need to work hard to resolve conflicts with standard school schedules and logistics, and leaders must authorize the spending of time and money to make these programs happen. This isn't always easy. With states strapped for cash and school budgets in crisis across the country, schools have to find ways to support professional development. That's one place the community can step in to make a difference.

At Walhalla, 95% of the 800 students graduate with a designated career focus.



Most career cluster systems involve business advisory councils set up to advise schools on curricula and the organization of extended learning opportunities. These councils can also support programs organized to educate teachers on the particular staffing needs of local businesses. Because the Walhalla program is incorporated into the entire school curriculum, it requires no extra funding to run. Businesses provide support for special events like the Alumni Forum, which brings graduates back to school to talk about their careers. Those graduates and their parents also become "tour guides" for educators, showing them the work world outside the school walls through tours, internships, and other job-site experiences. Members of the business community also provide knowledge and guidance through various advisory councils.

Empower Teachers with Training

A school should both offer and expect teachers to take advantage of a certain number of staff development training hours in cluster-related subjects each year.

This training can take a variety of forms, including the following:

- courses and workshops at local colleges;
- tours of local businesses;
- business-led workshops in which employers help teachers to understand what they are looking for in potential employees, so teachers can then use this information in preparing students for the workplace;
- summer workplace internships for teachers;
- short-term job shadowing opportunities for teachers; and
- incentives and bonuses for teachers who individually pursue additional training in career counseling.

Learn More and Teach Others

Walhalla takes advantage of every opportunity for staff members to learn more and then teach others. The staff has not only attended classes, toured workplaces, and visited other schools, but they have delivered hundreds of presentations on their program and hosted hundreds of visiting school groups.

The staff development picture includes workshops, Internet and print materials, and conferences from various organizations such as the Center for Educational Leadership, the *High Schools That Work* program (see "*High Schools That Work*"), and the Kaufman Center for Entrepreneurial Leadership. It is crucial to get educators out into the community in order to see the skills needed in businesses and industries. It also provides the opportunity to allow parents to guide educators and learn from their experiences.



Staff Development To-Dos

Goal: Educate All Local Educators

- Commit money to pay for professional development.
- Adjust school schedules to permit teachers to attend training.
- Support academic development in teachers' fields.
- Support training in management and education reform.
- Involve business partners to help attune staff to workplace needs, including business speakers in the classroom.
- Enlist business advisory councils in awareness-building activities for teachers, including
 - company tours,
 - summer business internships, and
 - workshops conducted by businesses.
- Support educators in achieving Global Career Development Facilitator Certification and contextual methodology.

Career Clusters in Action:
Walhalla High School, Walhalla
www.oconee.k12.sc.us/whs

High Schools That Work

High Schools That Work is the nation's first large-scale effort to build partnerships to improve the way all high school students are prepared for work and further education. *HSTW* was started in 1987 by the Southern Regional Education Board State Vocational Education Consortium.

It provides a framework of goals, key practices, and key conditions for accelerating learning and setting higher standards. The successful national initiative stresses education improvement based on 10 key practices, including high expectations for students and work-based learning opportunities. *HSTW* provides assistance in more than 32 states and 1,200 sites. In South Carolina, 120 schools take part in the program.

The South Carolina network focuses on providing intensive technical assistance (three-day visits by a team of educators from across the state every third year), focused staff development (national and state workshops), ongoing communications and information, and a nationally recognized yardstick for measuring school progress. The *HSTW* Assessment, based on the National Assessment of Educational Progress (NAEP), is administered every other year to senior students. Over the past 15 years, South Carolina has shown continuous gains not only in growth, but also in reading, mathematics, and science scores as well as the number of students taking the *HSTW* recommended curriculum.

High Schools That Work is working in South Carolina. These schools are letting students know in many ways that their lives are important. These schools are sending a strong message that high schools can expect greater effort from students and students can achieve at higher levels. South Carolina High Schools That Worksites will continue to examine the data, celebrate the accomplishments, and push forward by continuously raising the bar for all students.

www.sreb.org

Refocus Guidance on Career Clusters

Expert and caring career guidance is the heart of an effective career cluster system.

The annual CAPS day at Wren High School is the time when a year of intense career guidance comes together for the school's 1,450 students. So what does CAPS mean? The administrators have been doing CAPS so long they joke that they aren't sure what it originally stood for, but they think it stands for Career Action Planning Sessions.

Regardless of its origin, CAPS is the day the entire school, which is in the Piedmont near Greenville, meets on a Saturday in the school cafeteria.

School advisors sit down with each student and his or her parents or guardian. Together, they review the student's plans for graduation, including his or her choice of one of four career clusters: Health and Human Services; Business and Information Services; Arts and Humanities; and Engineering and Technologies.

The group talks about what courses the student has already taken, and they sign him or her up for the classes he or she will take the next year. Parents are impressed that they've worked with their sons or daughters and set up a plan with them that meets their individual needs. Getting the parents' input really makes it a collaborative effort.

CAPS is just a part of the comprehensive career guidance program at Wren High School, though. Each and every faculty member—including the principal and the librarians—has an assigned group of about twenty students as advisees. The adult advisors and their teenage charges maintain this relationship from beginning to end of each student's time at the school. By the senior year, the advisors get to know the students pretty

well. Such comprehensive career guidance is the hub of an effective career cluster system. Students can take thousands of possible routes through school and into careers; the challenge is to help individual students find their right roads to success and match them with the resources they need to get there.

Create IGPs for All High School Students

Effective career guidance begins in kindergarten, but in the upper grades it relies heavily on Individual Graduation Plans or IGPs. In sound guidance systems, students don't come to the task of creating an IGP cold. They have gotten plenty of information and experience through extensive career awareness and exploration activities in their elementary and middle school years.

An IGP is a document or portfolio in which a student, in consultation with his or her advisors and parents, guardians, or legal designee, selects a career goal and plans a program of study through high school and on to a two-year college, four-year college, apprenticeship, the military, employment, or another postsecondary option. In an IGP, a student records such information as

- personal, school, and career interests;
- choice of career cluster;
- intended class schedules;
- standardized test scores;
- post-high school goals;
- personal data;
- awards; and
- results of career assessment interpretation and career counseling.

IGPs also usually include the student's choice of a career major within his or her cluster. (See "Five Key Career Cluster Goals" on page 2). A thorough IGP can be the basis for a college application or employment resume.

Effective IGPs are updated at least once a year as a young person's interests and experiences change. In fact, flexibility is an essential part of any effective career cluster counseling system. Rather than locking students into one path, the role of counselors, faculty advisors, and parents/legal designees is to help students explore options and change directions if needed.

Empower Counselors

Naturally, moving to a career cluster system requires counselors to change how they serve students and how they think about their jobs. With career development taking center stage in students' studies, counselors should see themselves as knowledgeable guides who help students learn the lifelong skill of career decision-making. They need to extend their horizons to look beyond educational goals, such as getting students into college. Instead, they should focus on the ultimate objective of schooling—preparing all young people to lead personally and professionally successful lives.

To help achieve this, schools need to empower counselors through extensive professional development opportunities. Schools must have professional staff trained not only to provide savvy career advice, but to help students overcome barriers to success such as drug abuse, family problems, economic evolution, or low self-esteem.

Take a Holistic Approach

Good career guidance, however, is a responsibility for the whole school, not just counselors. Adopting a cluster system requires schools to rethink counselors' workloads and responsibilities and to weave career development throughout the entire curriculum. Career guidance at Wren High School is really a collaborative effort. The school's system has evolved as the cluster system has grown and student needs have changed.

The staff of faculty advisors tailors guidance to their advisees' grade levels. In ninth grade, for example, advisors lead students in discussions of issues such as resolving conflict and following rules at school and work. Seniors, on the other hand, receive advice on topics such as finding funds for college, applying to postsecondary programs, and preparing resumes.

At Wren High School, changing how guidance is done has brought many benefits. Most importantly, students there feel a much greater sense of empowerment when they work with advisors and parents to plan their education and career paths. The new system has also had unexpected bonuses, such as increased parental involvement.



Follow the South Carolina Career Guidance Model

Career guidance in South Carolina is based on three grade-specific themes: **career awareness in elementary school, career exploration in middle school, and career preparation in high school.** Each level of career development should include a range of career assessments, counseling, and learning activities, such as research projects, work-based learning experiences, standards-based career guidance, and career information sessions.

The South Carolina Career Guidance Model sets out in specific detail what K–12 schools should do to ensure that every student gets the guidance information he or she needs to make informed education and career decisions. The Internet-based document, which is available at www.careerguidancemodel.org and can be viewed on page 3, tells educators what standards-based structure and career programming are required and recommended for students in grades K–5, 6–8, and 9–12.

Developed by the South Carolina Career Guidance Advisory Committee, which includes more than 75 guidance counselors, the model presents information about resources, standards-based effective exercises, programs, publications, software, and other tools that schools can use to carry out and complete guidance activities.

The Career Guidance Model can provide a concrete foundation upon which to build an effective career cluster guidance system because it is aligned with the South Carolina Academic Standards for English/language arts, mathematics, science, social studies, and health.



Guidance To-Dos

Goal: Refocus on Clusters

- Design a standards-based, comprehensive school guidance plan that involves all faculty members.
- Offer standards-based, age-appropriate career guidance in all grades, from kindergarten to high school graduation.
- Create Individual Graduation Plans (IGP) with students and parents.
- Guide students in periodic career assessment and updates to IGPs.
- Facilitate work-based and community-learning opportunities for students.
- Offer recognition for students who participate in collaborative career guidance activities.
- Offer recognition for students who graduate with career cluster majors.

Career Clusters in Action:

Wren High School, Piedmont
www.anderson1.k12.sc.us/schools/wrws

Find Financing

Raising money to sustain a career cluster program requires networking, persistence, and creativity.

North Charleston High School has a career cluster coordinator; however, she isn't on the school payroll. She is employed instead by the Education Foundation, a tax exempt fund-raising organization set up by the Charleston Metro Chamber of Commerce in 1995 to build better schools in the Charleston area.

The foundation is a big help to the school in terms of donation of equipment, time, and resources. For example, one of the other coordinators arranges learning opportunities for students at businesses in the community. Teachers don't have to worry about that, which enables them to concentrate on teaching.

To busy teachers, this might sound more like having a fairy godmother than an education foundation. It's just a small example, but illustrates how ample financial resources can transform and energize every aspect of a career cluster program. Money gets things done, in big ways and small, and finding resources to support a cluster program is vital.

Enlist Business Partners

The Education Foundation is a significant force driving a Charleston-area initiative to improve public education in Berkeley, Charleston, and Dorchester counties. Businesses have a natural interest in education (see "Build a Broad Partnership" on page 8), and they have the resources and access to resources to make a big difference for schools. With some Charleston-area businesses reporting that they have to interview up to 35 job candidates before finding one with minimal qualifications, they are realizing that investing in education quality will positively affect their bottom lines.

The Education Foundation is a tax-exempt foundation set

up by the Charleston Chamber under section 501(c)(3) of the federal tax code. A 501(c)(3) foundation can receive tax-deductible charitable contributions, as the Education Foundation does. The foundation has made North Charleston High School its pilot project in school reform, establishing a ninth grade academy and career cluster program in the school.

The ninth grade academy exists separately from the rest of the school, with its own dedicated teachers; throughout ninth grade, students are immersed in career exploration. In 10th grade, students emerge to select career pathways in one of six clusters established at North Charleston. Each cluster has its own coordinator employed by the foundation. The foundation, making the most of its Chamber connections, has received grants from numerous outside foundations and more than 60 corporate donors to benefit education. A number of ways to duplicate North Charleston's success include the following:

- Establish financial or nonfinancial relationships with businesses, early and often.
- Involve businesses in the design of a program, and ask them to sit as permanent members of business advisory boards for particular clusters in the system.
- Ask businesses to provide students with out-of-classroom learning opportunities at their work sites.

The broader a career cluster program's involvement with individual firms and the more businesses with which it establishes relationships, the greater its chances of developing business sources of financial aid. Once businesses are involved financially, seek their advice and support in setting up and running fund-raising operations, such as a 501(c)(3) foundation.

Tap Private and Public Education Reform Grants

Through the Education Foundation, North Charleston High School has applied for and received federal grants to operate its program. In both cases, the school was able to position itself to receive money not expressly set aside for career cluster programs but available to North Charleston because of its program design.

For example, North Charleston received a \$418,000, three-year federal Smaller Learning Community Grant. These grants are targeted at large high schools that set up smaller, more personalized learning communities within their student bodies. North Charleston qualifies for the grant because of the ninth grade academy set up to feed into the career cluster program.

North Charleston also held a \$2.8 million, three-year federal Magnet Schools grant. It received the Magnet Schools grant because its career pathways program qualified as an innovative program not generally available in the local schools that could bring in kids from outside the district and help prevent isolation of a minority student population.

In both cases, even though neither grant was directly targeted at career cluster programs, North Charleston benefited because its innovative program fit the qualifications of grants targeted at larger categories of educational improvement. Another source of federal money to consider is funds authorized under the Carl D. Perkins Act, which supports career and technical education. There is a multitude of other funding sources out there from both public and private sources. Be creative in finding funding for programs, equipment, or training. A good place to start might be the Web site of the Foundation Center, a leading research center on private philanthropy, at foundationcenter.org.

Leverage Resources

Savvy system-builders leverage existing funds and resources to find new money. They may ask new sources of financial aid, for example, to match donations from current benefactors. They are creative in constructing chains of interlocking financing that operate to draw the entire community into support of a cluster system.

Fund-raising is a constant challenge, however, even for systems backed by a foundation. When North Charleston High School was in the last year of its Smaller Learning Communities grant and its Magnet Schools grant ran out, they launched a capital campaign to raise \$2.3 million in private and public money over the following three years to maintain funding.

At North Charleston High School the career cluster program was phased in year by year. As the first class of ninth graders to use the career cluster model rose through the system, it was set up, adding to the model each year. It is still building slowly to make sure everyone has a chance to buy in to the system.



The CEO Principal

One key financial advantage enjoyed by North Charleston High School is its autonomous budget status. In 1998, before the launch of its career cluster program, North Charleston applied for and was granted the special status by the Charleston School Board. While autonomy gives the North Charleston principal no more money to work with than other district schools, it does give him considerable flexibility in determining how money will be spent. The arrangement gives the principal more discretion in his spending. It allows him to act more as a CEO of a business.

For example, if the principal decides that the school might be better served at a particular time by hiring a teacher in the career cluster program rather than a reading instructor, he has the flexibility to do so.

The budget autonomy reflects a trend in the district towards specialized, more independent high schools with open enrollment status. In such a system, autonomy would allow principals to tailor their individual programs to attract more students.

As far as adapting to the career cluster model is concerned, North Charleston's autonomy has been enormously helpful. Education, like business, is constantly evolving in order to stay relevant to market needs. Autonomy has given the school a much greater ability to allocate money to set up cluster-based curricula, programs, and resources designed around the changing capabilities, needs, and desires of the students, educators, and businesses in its community.



Financing To-Dos

Goal: Obtain Sufficient Funding

- Treat fund-raising as a high priority.
- Enlist help from businesses.
- Ask for other types of aid from business to establish relationships that can lead to financial help later.
- Enlist the business community's help in setting up a tax-exempt fundraising foundation.
- Request that benefactors to the foundation put up matching funds.
- Leverage existing financing and non-financial resources to win new funds. Seek general education reform government grants (don't limit yourself to money specifically earmarked for cluster programs), including
 - Perkins Act grants,
 - Smaller Learning Community grants, and
 - Magnet Schools grants.

Career Clusters in Action:

North Charleston High School, North Charleston
www.theeducationfoundation.org

Develop Extended Learning Opportunities

Students gain skills and clarify goals when they have the chance to take their learning into the community.

For many young people, the Internet has become the first place they go in search of information. For students in Aiken, it has also become the first place to go to find opportunities for learning about the real world of work. C2 Career Connections is an innovative online database launched by Aiken's Public Education Partners, a nonprofit foundation that raises private funds to support local public schools. Located at www.publicedpartners.org, Aiken County's C2 Career Connections brings young people, parents, educators, and community resources together in cyberspace to match students with outside-the-classroom career learning opportunities such as internships and co-op education.

The Web site is designed to provide information for students, employers, school counselors, and site administrators. Students and parents can review and apply for extended learning opportunities. Employers and counselors can look at students' records, including their performance in previous out-of-classroom placements, and site administrators can monitor the operation of the database. C2 Career Connections is a very easy-to-use tool that automates the whole process of connecting students with potential employers. It converts stacks of papers containing vague descriptions of outside-the-classroom opportunities in Aiken into a searchable online database for use by everyone involved.

The philosophy behind C2 Career Connections is that all students can benefit from the opportunity to pursue extended or work-based learning opportunities outside the classroom. In the past, schools sometimes had a two-tiered system that valued the student who wanted to be an electrical engineer over the student who wanted to be an electrician. That's why the C2 database includes opportunities for future neurosurgeons as well as

radiology technicians; attorneys as well as court clerks; and archaeologists as well as sanitation engineers. All career paths have value, and Aiken's Public Education Partners Foundation wants students to see the amazing variety of opportunities in their own community.

Connect the Right Student with the Right Opportunity

Extended learning opportunities, which are also sometimes called work-based learning opportunities, complement classroom work with real-world career experiences, starting as early as elementary school with activities such as workplace field trips and culminating in high school. Research and real-world experience show that academic achievement is often enhanced when students' school schedules include hands-on learning in local workplaces. Prior to making a match with an opportunity, students should be assessed for career interests, skills, and developmental readiness. Potential placements should be screened just as carefully. Career cluster planners should seek to avoid placing students in environments with low productivity, labor-management conflicts, cultural insensitivity, and other problems.

C2 Career Connections is designed with careful student-opportunity matching in mind. Students must complete an online career information sheet before applying for any specific community learning opportunity. After selecting an available opportunity, the student fills out an online application and delivers the application to the C2 faculty contact at the student's school. The faculty member forwards the application to the local C2 representative, and Public Education Partners contacts

the designated workplace contact by e-mail.

The emphasis on automation and process makes the experience as easy as possible for participating employers. Communicating by e-mail prevents businesses from having to deal with lots of disruptive phone calls from schools and students. It is also yet another positive example of how businesses buy in to programs that are set up and administered in a professional manner.

Assist Students in Overcoming Obstacles

Some students may face practical obstacles that prevent them from taking advantage of out-of-classroom learning opportunities. Schools need to identify potential barriers facing individual students and, when possible, help students overcome these obstacles to career exploration. Potential problems may include the following:

- lack of transportation to and from off-site placements,
- lack of child care for students who are also parents,
- lack of money for expenses, and
- inappropriate attire for particular work environments.

Students with limited proficiency in English face special obstacles to full participation. Schools can help these students take part by accelerating English language instruction, by finding employers who have a need for the native language skills of the students, and by recruiting employers to the program who have employees who speak the students' native languages.

Create a Varied Menu of Community Learning Opportunities

A well-designed career cluster program should offer a full range of opportunities for all kinds of students, based on their individual interests, school demographics, and geographic availability of workplace and other placements. Options available to students—both paid and unpaid—might include the following:

- job shadowing;
- internships;
- cooperative education;
- mentoring;
- senior projects;
- school-based, student-led entrepreneurial ventures;
- youth apprenticeships;
- service learning (volunteer community service projects); and
- part-time employment.

To make such a rich array of opportunities available, local career cluster system designers must build a strong partnership that includes local businesses (see "Build a Broad Partnership" on page 8). The C2 Web site features internships, part-time jobs, plant tours, and job shadowing. One of the most popular initiatives has been Groundhog Job Shadow Day, a large scale job shadowing opportunity for students organized around Groundhog Day. Currently there are over 300 businesses listed in the database, and 2,500 students have participated in C2 activities. They've had nearly 200 evaluations returned by businesses that hosted students for Groundhog Job Shadow Day, and 99% of these businesses said that they would participate again. C2 is now poised to move to the next level. The service is aimed at involving all the students in all the schools in a career cluster framework. The goal is for every student in Aiken to use this resource.



Special Opportunities for Special Needs Students

Extended learning opportunities in the local community clearly can open new worlds for every student; for high school students with disabilities, however, extended learning opportunities have long been an essential part of education and the first step these students take toward building independent adult lives.

The federal Individuals with Disabilities Education Act of 1990 (IDEA) mandates that a coordinated set of services that facilitates the transition to the world of work be provided to all students with disabilities at age 16, or earlier if appropriate. These services are required to match students' needs, preferences, and interests. At minimum, they must include the following:

- instruction,
- community-learning experiences,
- development of individual plans for work and living after graduation,
- acquisition of daily living skills when appropriate, and
- functional career and technology evaluation.

The design of career cluster systems must include provisions for meeting the needs of students with disabilities. By making community-based learning a routine activity for every student, schools can improve their expertise at providing learning opportunities for students with disabilities and bring those students more easily into the mainstream of school life.



Extended Learning To-Dos

Goal: Establish Extensive Community-Based Learning Opportunities

- Realistically inventory the local job market.
- Create partnerships with local business and community leaders.
- Involve business partners in finding learning opportunities.
- Offer students a variety of learning opportunities.
- Prepare students for the demands of the workplace.
- Assist students with logistical needs.
- Intervene quickly when students are having difficulty or causing trouble.
- Collaborate with students, parents, and employers on a written, actionable plan.
- Award students official recognition of program participation.

Career Clusters in Action:
C2 Career Connections, Aiken
www.publicedpartners.org

Reorganize Curricula

Curriculum building creates new opportunities for teaching and learning.

When a bond referendum gave Fort Mill High School the resources it needed to recreate its instructional program, the principal jumped at the chance. He set up a faculty-parent committee to research clusters and drafted a set of recommendations. He balanced his wish-list with the reality of the funding and went to work. Balancing project goals with fiscal reality helped Fort Mill maintain its budget, but it was also the guiding principle behind the reorganization of the school's instructional program.

The process that realigns curricula to create a career cluster system involves connecting rigorous traditional academics with the reality of making a living that all students face when they leave school. This dose of the real world is designed to wake students up to the fact that what and how well they learn right now can affect their futures. When it works, more students see a reason to stay in school and achieve.

Curricula are the contents of education, the nuts and bolts of what actually happens in the classroom. Reworking curricula for a career cluster system does not mean taking math, English/language arts, science, and social studies out of instruction, but teaching those subjects in the context of their applications. The lesson is that, whether high school math students become professors of mathematics or bookkeepers, math will pay the bills. Several different approaches can be taken to integrate academic and career oriented instruction, including the following:

- tailoring academic subjects for each career cluster, such as teaching math for engineering applications and math for business/finance applications;
- consolidating academic and career instruction, usually by having an academic teacher and a career teacher collaborate



- on developing and team-teaching the course; and
- incorporating academic instruction into career courses or learning projects.

Dedicate Resources to the Effort

Although creating cluster curricula is a matter of realignment rather than building everything from scratch, it remains a large task and requires a serious investment in time and money. Because career clusters are a relatively new concept, standardized curricula are not common. Schools rightly prefer to customize their programs to fit opportunities for workplace learning in the local economy. That means schools must take the time to design their own programs. In the case of Fort Mill, the research committee visited schools from New Jersey to Miami before it sat down to determine what Fort Mill's program might offer. It had been moving its instruction toward increased alignment with the workplace for five or six years. Now plans called for the school to add television production, small animal care, early childhood education, and other cluster-focused curricula. It brought new staff on early in the summer and made sure they had the time they needed before classes started to put their course work together.

Organize the Course Work

Fort Mill High School organized its instructional programs into four large clusters of study: Arts and Humanities, Business and Computer Technology, Engineering and Industrial Technology, and Health and Human Services. Ninth graders come into the school and in their introduction to high school class are told what career clusters are, the particular clusters currently

Curricula To-Dos

Goal: Create Cluster Curricula

- Decide which clusters and majors to offer locally.
- Design curricula to support out-of-class learning by doing the following:
 - featuring applications of academic learning,
 - using real-life examples, and
 - offering workplace readiness courses.
- Create curricula to fit postsecondary course work.
- Involve business and postsecondary partners in curricula planning, including
 - developing curricula that take full advantage of resources partners can contribute and
 - using involvement in curricula planning to strengthen partnerships.
- Sell new curricula to students and parents by doing the following:
 - providing counseling to explain the new system and
 - awarding medallions and special diplomas to students completing the program.

Career Clusters in Action:
Fort Mill High School, Fort Mill
fmhs.fort-mill.k12.sc.us

set up, and how the instruction is organized. Freshmen then begin using the clusters to create the IGP for their high school careers. In 10th grade, students pick a major course of study from among those available and begin focusing their IGPs in a particular direction. Students in the engineering and industrial technology cluster, for example, may pick from four majors: Agriscience, Construction Technology, Drafting and Design, and Engineering.

This is an elective program. Students must still take the required core curriculum, but to complete a major they must complete four additional elective courses in that major. Some students complete one major; some complete two. Students are encouraged to evaluate their interests often and change majors if necessary. The program is about career exploration, not just completing a major. The state has adopted 16 career clusters (see "South Carolina's Career Clusters" on page 4). Districts

and schools such as Fort Mill, however, usually customize clusters based on their particular local curriculum, resources, job market, and extended- or work-based learning opportunities.

Connect Curricula to Work and Later Education

Fort Mill has set up business advisory councils for each of its clusters. These partnerships provide significant input on curriculum and attract students to community-based learning opportunities at local businesses. The goal is to create agreements for shared credit with postsecondary schools in the majors offered by the school and South Carolina postsecondary institutions that will connect the curricula with what happens after high school. Students have responded positively to the cluster-based approach, with an overwhelming majority demonstrating support of the model through increased participation.

Inside a Fort Mill Cluster

Fort Mill operates on a 4x4 semester schedule. That means each student takes four classes, each 90 minutes long, each day for a semester. That totals eight different classes a year. Core courses are required for graduation, and elective courses can be used to complete a career cluster major.

The chart to the right shows what an Individual Graduation Plan (IGP) for an Engineering major at Fort Mill High School might look like.

To complete a cluster major, Fort Mill students complete four of the major courses in the cluster. Students are also free to take supporting elective courses in the major, electives from other clusters, or additional academic courses as electives.

Career Major Map: Pre-Engineering and Technology

Workers in Pre-Engineering and Technology apply advanced mathematics, life science, physical science, and technology to alter natural matter and energy, resulting in processes, facilities, and devices that improve people's lives.

Required Core for Graduation	Sample Core Choices			
	For additional college entrance requirements, refer to the college of your choice.			
	9	10	11	12
English Four Units Required	English 1	English 2	English 3	English 4
Math Four Units Required	Algebra 1	Geometry	Algebra 2	Pre-Calculus
Science Four Units Required	Physical Science	Biology	Chemistry	Biology 2 or Chemistry 2
Social Studies Three Units Required	Global Studies	Social Studies Elective	U.S. History	Economics/Government
Additional State Requirements	Physical Education or JROTC (one unit) Computer Science (one unit) Electives (seven units)		Pass High School Assessment CTE or Modern or Classical Language (one unit)	

Required Courses for Major (Minimum of four credits required)	Complementary Course Work	Extended Learning Opportunity Options Related to Major
Emergency Medical Services 1, 2, 3, and 4 Introduction to Health Science Health Science Technology 1, 2 Health Science Work-based credit Gerontology Sports Medicine 1, 2 Sports Medicine Work-based credit Medical Terminology	Anatomy and Physiology Probability and Statistics Physics	Career Mentoring Shadowing Internship Cooperative Education Career Information Delivery System Exposure Senior Project Health Occupations of America membership

Professional Opportunities Upon Graduation		
High School Diploma Phlebotomist	Additional Training to 2-year Degree Cardiovascular Technologist Clinical Lab Technician Histotechnician Radiologic Technologist/Radiographer	4-year Degree & Higher Medical Technologist/Clinical Laboratory Scientist Nuclear Medicine Technologist Pathologist Exercise Physiologist Geneticist Histotechnologist Diagnostic Medical Sonographer

Achieve Articulation

Articulation means students can travel a seamless route to postsecondary education.

Many talented teachers say that they knew they wanted a career in education long before high school graduation. But for most young people interested in becoming teachers, their dream must be deferred until their last two years of college or beyond. At the Academy for the Arts, Science, and Technology in Myrtle Beach, however, the teenaged teachers of tomorrow are able to begin earning university-level education credit before they leave high school.

Students who have declared a major in education as part of the high school's career cluster program can receive introductory, college-level education credit through the Academy's articulation agreement with nearby Coastal Carolina University. Participating students are dually enrolled at the Academy and as freshmen at Coastal Carolina. They take classes at the Academy but receive credit at both schools. The articulation agreement was the first one operating between a South Carolina high school and a baccalaureate degree-granting university when the agreement was signed in 2001. Since then, agreements for shared credit between high schools and two-year technical colleges are also fairly common.

Articulation agreements such as these are crucial components of fully developed career cluster programs. They are formal agreements among high schools, two-year colleges, and four-year colleges, guaranteeing that certain courses can be transferred from one school to another. Thus, they enable students to save time and money and allow career cluster courses and majors to align across institutional boundaries, making the total educational experience more efficient than ever.



Forms of Articulation

To serve the full spectrum of student needs, systems must be in place to carry students seamlessly from kindergarten through undergraduate school and beyond, including all conceivable stops in between, so that every student can reach his or her career destination. Articulation agreements are the connections established among institutions that make transitions from one to another as smooth as possible.

Articulation agreements can take a number of different forms, for example:

- college credit for high school courses taken as part of a career cluster curriculum;
- opportunities for dual/concurrent college enrollment in which students take some courses at high school and others at college;
- acceptance by higher educational institutions of alternative forms of assessment such as portfolios and certificates of mastery in lieu of traditional academic testing;
- shared faculty or faculty interchanges in which instructors from connected postsecondary institutions spend time in high school classrooms or vice versa; and
- systematic articulation of high school and college curriculum and credits, specifying a menu of equivalent courses at participating schools.

Articulation To-Dos

Goal: Connect K–12 Schooling and Postsecondary Education

- Assess geographic availability of business, higher education, and technical training options.
- Create relationships with decision makers within these institutions.
- Follow postsecondary schools' process for applying for articulation agreements, for example:
 - articulation committee is set up with high school and postsecondary representatives,
 - articulation committee reviews high school courses to determine whether or not they meet college standards,
 - career cluster coordinator drafts articulation agreement based on review, and
 - representatives of high school and college approve draft.
- Network with other educators in crafting comprehensive articulation agreements.

Career Clusters in Action:

The Academy for the Arts, Science, and Technology, Myrtle Beach
www.hcs.k12.sc.us/high/aast

Set Up Articulation Agreements

Creating articulation agreements is essentially a process of negotiation between potential partners. The Academy's agreement with Coastal Carolina University was negotiated by Beth Havens, at that time head of the Academy's program in education.

In the case of the Academy for the Arts, Science, and Technology, Coastal Carolina analyzed the Academy's education curriculum and standards and looked at the types of products and assessments the students underwent. They then analyzed data in terms of a possible overlay between Coastal Carolina's courses and the courses offered by the Academy.

More elaborate agreements often require setting up special articulation committees of faculty from both schools to review the courses in question and negotiate draft agreements. Quite often, the original articulation committee reconvenes at the end of the year to review how the course went and to make adjustments as necessary.

Work Toward Comprehensive Articulation

The best articulation agreements are comprehensive. For South Carolina to fully realize the advantages of career cluster systems operating in every school, it must work toward a truly seamless system linking all elementary, secondary, and postsecondary education—and the workplace.

While a single agreement for integration between an individual high school and an individual college does benefit students, a comprehensive articulation agreement that covers an entire school district or an entire state, that has enlisted as partners a variety of colleges and universities, and that includes full menus of articulated courses, is far more effective and efficient.

A comprehensive local articulation plan promotes diversity and equal access for students. When a variety of postsecondary educational programs is connected to a school system's career cluster curriculum, options exist for virtually every type of student, from the young woman who wishes to learn metalworking to the teenage boy interested in becoming a cardiologist.

The Academy for the Arts, Science, and Technology was among the first to achieve articulation agreements, but schools across the state are constantly planning more dual credit opportunities for their students. These connections are as exciting for the teachers as they are for the students. Articulation is a win-win component of the career cluster model.



Making It a Standing Date

To get the most out of articulation, treat it not as a one-time negotiation, but as an ongoing process. When articulation is limited to two or three meetings among faculty members from a high school and a college, an opportunity to build an agreement into a relationship is squandered.

Some schools nationwide have turned one-time negotiation groups into standing curriculum design teams. These teams usually consist of high school and college faculty volunteers from the same academic discipline. The teams determine their own schedule of meetings, set up subcommittees as needed to tackle special curriculum problems, and establish meeting agendas. Most teams meet several times a year; some meet every month.

These arrangements carry the group's work beyond monitoring of a specific articulation agreement to comprehensive cross-level curriculum planning. Feelings of professional isolation are reduced, particularly among secondary teachers, who sometimes feel left out of the decision-making process. The meetings offer a natural opportunity for formal and informal staff development.

Most important, by establishing permanent relationships among faculty members across institutional lines, the meetings make expansion of articulation agreements that much easier and open the possibility for collaboration in other areas.

Resource Roundup

Useful sources of information on career cluster systems and educational reform.

Organizations

Classroom Inc.

www.classroominc.org
245 Fifth Avenue, Suite 1901
New York, NY 10016
212-545-8400
fax: 212-481-7178

This nonprofit organization develops workplace simulation and learning software for middle and high school students. The workplace simulations cover jobs in banking, law, health care, and the hospitality industry. The organization also provides professional development for teachers who wish to incorporate the software into their instruction.

The Council of Chief State School Officers

www.ccsso.org
1 Massachusetts Avenue NW, Suite 700
Washington, DC 20001-1431
202-408-5505
fax: 202-408-8072

This is the professional organization of chief state school officials. It conducts studies and prepares publications on many topics, including systems connecting education and the world of work.

The Foundation Center

www.foundationcenter.org
79 Fifth Avenue/16th Street
New York, NY 10003-3076
212-620-4230 or 1-800-424-9836
fax: 212-807-3677

The most comprehensive source of information on the funding interests of philanthropic foundations, the Foundation Center publishes several guides and maintains an extensive collection of materials from and about large and medium-sized foundations.

National Institute for Work and Learning, Academy for Educational Development

www.niwl.org
1825 Connecticut Avenue, NW, Suite 800
Washington, DC 20009-1202
202-844-8185
fax: 202-884-8422

This organization conducts research and evaluation, prepares publications, and provides technical assistance for education reforms related to work.

Public/Private Ventures

www.ppv.org
2000 Market Street, Suite 600
Philadelphia, PA 19103
215-557-4400
fax: 215-557-4469

This organization designs, sponsors, and evaluates innovative programs for low-income youth that involve school-business partnerships. It also publishes major reviews of research literature, resource guides, and model curricula.

States' Career Clusters Initiative

www.careerclusters.org
1500 W. Seventh Avenue
Stillwater, OK 74074
405-743-6850
fax: 405-743-5142
e-mail: pstac@okcareertech.org

This organization disseminates information on the 16 federally defined career clusters. It has published brochures as well as knowledge and skills structures (catalogs of knowledge and skills required for different occupations) for each of the 16 clusters of jobs. Both sets of publications are available online at the organization's Web site.

General Information Web Sites

South Carolina Department of Education

www.ed.sc.gov
Stay up-to-date on developments in South Carolina education.

O*NET (Occupational Information Network)

online.onetcenter.org
Also available in schools and libraries, O*NET provides information on occupations, including compensation, employment prospects, and skill matching for students. Information on compensation is available on a state-by-state basis.

U.S. Department of Labor Occupational Outlook Handbook

www.bls.gov/oco
This nationally recognized resource offers information on each job's responsibilities, earnings, working conditions, and job prospects for the future.

U.S. Department of Education

www.ed.gov
Explore volumes of useful education information at the Web site of the U.S. Department of Education.

Funding Sources

The Federal Perkins Loan Program

www.ed.gov/programs/fpl/index.html
This program provides low-interest loans to help needy students finance the costs of postsecondary education. Students can receive Perkins loans at any one of approximately 1,800 participating postsecondary institutions.

Grants and Contracts

www.ed.gov/fund/landing.jhtml
The U.S. Department of Education distributes more than \$25 billion each year to support education in the states. Federal aid opportunities can be found on this site.

Magnet Schools

www.ed.gov/programs/magnet/index.html
This Web site has complete information on Magnet Schools grants and how they work under the latest federal education legislation (No Child Left Behind).

Smaller Learning Communities

www.ed.gov/programs/slcp/applicant.html
The purpose, amounts, and provisions of federal Smaller Learning Communities grants are explained here.

Career Guidance and Counseling

College and Career Guidance and Counseling

www.ed.gov/about/offices/list/ovae/pi/cte/guidcoun2.html
This is a long page filled with a variety of useful career guidance and counseling links from the U.S. Department of Education.

Career Training Concepts, Inc.

www.careertrain.com/
Career Training Concepts, Inc., publishes personal development instruments, books, videos, and software.

Kuder Career Search with Person Match

www.kuder.com/PublicWeb/kcs.aspx
The Kuder Career Search with Person Match helps you discover your career interests, explore occupations beyond job titles, and effectively apply your personal interests to your career plans.

Super's Work Values Inventory-revised

www.kuder.com/publicweb/swv.aspx
Donald E. Super has long been recognized for his research on work values. This revised inventory will assist you in determining what work characteristics are important to you. The online report will help to refine a potentially long list of occupation choices to those that most closely match your work-related values.

Kuder Skills Assessment

www.kuder.com/PublicWeb/ksa.aspx
The Kuder Skills Assessment is a highly reliable self-estimate of your ability to perform work-related tasks. The results of the Kuder Skills Assessment parallel the interest results by aligning your skills with career clusters, promoting occupation selection with the greatest opportunity for satisfaction and success.

Featured Career Cluster Programs

Academy for the Arts, Science, and Technology, Myrtle Beach
(page 20) www.hcs.k12.sc.us/high/aast

American's Career Resource Network Association
www.acrna.net

Center for Credentialing and Education
www.cce-global.org

Fort Mill High School, Fort Mill
(page 18) fmhs.fort-mill.k12.sc.us

Midlands Education and Business Alliance
www.mebasc.com

National Career Development Association
www.ncda.org

North Charleston High School/ The Education Foundation, Charleston
(page 14) www.theeducationfoundation.org

Public Education Partners, Aiken
(page 16) www.publicedpartners.org

To view the C2 Connections on-the-job learning opportunities database, click on "School-to-Life" from the Public Education Partners home page.

W.J. Keenan High School, Columbia
(page 6) keenan.rcsd1.org

Walhalla High School, Walhalla
(page 10) www.oconee.k12.sc.us/whs

Wren High School, Piedmont
(page 12)
www.anderson1.k12.sc.us/schools/wrws

What Does That Mean?

A glossary of terms used throughout this special edition of *Pathways to Success*.

Apprenticeship: a program that offers students a course of study that integrates academic curricula, work-site learning, and work experience leading to mastery of a particular occupation

Articulation agreements: formal agreements between or among educational organizations (high schools, technical colleges, and four-year colleges and universities) that align courses and career majors from one educational institution to another without loss of course credit or time for the student

Assessment: measure indicating the extent to which an objective has been met, learning has taken place, or programs have been successful

Career awareness: career guidance activities and programming provided in kindergarten through grade five to help students develop an understanding of the world of work and the relationship between education and occupations

Career clusters, career clusters system: a way of organizing and tailoring coursework and work experience around specific occupational groups that offers students core academics as well as activities that match their skills and interests; sometimes called clusters of study

Career exploration: career guidance activities and programming provided in middle school enabling students to identify their career interests, abilities, and values and to explore careers to facilitate their career decision-making process

Career major: like a college major, an area of study within a larger occupational field or career cluster

Career plan: a student's personal education plan that specifies career goals, interests, skills, and talents that are associated with the prescribed curriculum in elementary grades and supported by curricula choices in the middle grades and high school

Career preparation: career guidance activities and programming provided in high school supporting students' transition into postsecondary options—two-year colleges, four-year colleges, military, or direct entry into the workforce.

Career specialist: A person hired into an EEDA-funded middle or high school position who is a nationally-certified Global Career Development Facilitator. A career specialist may serve as a career group facilitator, job search trainer, career resource center coordinator, career coach, intake interviewer, occupational and labor market information resource person, employment/placement specialist, or career guidance activity/programming member of a guidance team. This person is supervised by a certified school counselor.

Clusters of study, career clusters system: a way of organizing and tailoring coursework and work experience around specific occupational groups (e.g., business or health services) that offers students core academics as well as activities that match their skills and interests; also called career clusters

Counseling: structured developmental experiences presented systematically from kindergarten through grade 12 that help analyze and evaluate student abilities, skills, interests, and developmental tasks

Curriculum: a fixed group of studies required to achieve an educational goal

Dual credit: credit given at the college or university level for courses taken while a student is still in high school

Extended learning experiences: worksite-based, outside-the-classroom learning experiences that include job shadowing, internships, and service learning; also called work-based learning

Global Career Development Facilitator Certification: is a certification based on individuals' participating in a Center for Credentialing and Education (CCE) approved training for a total of 120 hours. They must also meet education and experience requirements as indicated on CCE's CDF application (found on the CCE Web site: <http://www.cce-global.org/>). Certification is limited to those participants who attend training by a certified instructor. Certification is for 5 years with recertification requirements of continuing education.

High Schools That Work: successful national initiative that stresses high academic and career and technology education standards and based on 10 key practices, including high expectations for students, extra help, and work-based learning opportunities

Individual graduation plan (IGP): a student-specific educational plan detailing the courses necessary for the student to prepare successfully for graduation and transition into the workforce or some other postsecondary educational experience

Internship: a one-on-one relationship for hands-on learning lasting several months during which the student works after school three or four hours a week under the supervision of a mentor/employer

Job shadowing: a short-term experience to introduce a student to a particular job by pairing the student with a worker. The student follows or "shadows" the worker for a specified time to better understand the requirements of a particular occupation

Legal designee: a person representing the parent(s) or guardian(s) of a student for the purpose of the IGP meeting. The inclusion of this person in the IGP meeting requires a completed form signed by the parent(s) or guardian(s) for purposes of input, approval, and signing of the IGP of the represented student.

Mentoring: a long-lasting relationship during which a career mentor and student concentrate on the student's work and interpersonal skills

Pathway: a way of categorizing the curricula and educational activities targeted at a student's specific academic or career goal, such as the career majors that are part of the 16 career clusters

Professional development: organized training and informational sessions for educators and educational support staff that help them stay informed about current trends, important issues, and best practices in their respective fields

Seamless system: a system established for the delivery of a curriculum, program, or initiative, that promotes efficiency by reducing redundancy and providing a logical progression of activities and courses that meet the requirements of two or more educational organizations

Service learning: links schools with their local communities by integrating learning with the needs of the community in the areas of education, environment, human needs, or public safety, promoting both personal and intellectual growth in students while helping them develop civic responsibility and explore careers

South Carolina Career Guidance Model: program that specifies activities, exercises, and resources educators should use to deliver high-quality career guidance in grades kindergarten through 12

South Carolina Occupational Information System (SCOIS): career, wage, employment, and educational information about occupations, available to students in subscribing schools through CD and interactive media

Southern Regional Education Board (SREB): based in Atlanta, this board represents southeastern states in an effort to support educational initiatives such as *High Schools That Work* and *Making Middle Grades Work*

Student portfolio: a collection of student work indicating progress made in subjects, activities, or programs; in career clusters systems, portfolios are sometimes used to assess student performance in out-of-classroom learning experiences

Work-based learning: worksite-based, outside-the-classroom learning experiences that include job shadowing, internships, service learning, mentoring, school-based enterprise, co-ops, and apprenticeships.

Note: Local South Carolina schools and districts may choose to use fewer career clusters, clusters that are organized differently, or clusters with alternative names.

Pathways to Success: Educators' Edition © 2003
South Carolina Tech Prep/School-to-Work Alliance.

Published by the South Carolina Tech Prep/School-to-Work Alliance in partnership with the Office of Career and Technology Education, South Carolina Department of Education and VTECS. Produced by Laine Communications (www.lainecommunicaitons.com). Revised 2007. South Carolina Department of Education with South Carolina Education and Economic Development Act funding. Published by the South Carolina Department of Education in partnership with the Office of Career and Technology Education. Designed and produced by Laine Communications (www.lainecommunicaitons.com) and Chernoff Newman (www.chernoffnewman.com).

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