

Sustaining Career Pathways: Funding, Leadership, Policy, & Professional Development

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Blog 2: Legislation and Policies: Levers to Drive Change

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Legislation and policies can serve as a barrier to transformation and success or they can spark, support, leverage, scale up, and systematize successful models. This chapter explores federal and state legislation and policies that have been used to move the needle and bring Career Pathways and Programs of Study (POS) into the spotlight and mainstream of our nation's education and workforce systems.

Evolution of a Concept

The concepts that underlie Career Clusters™ and Career Pathways aren't new, but they have been relatively slow to be adopted because, as with all innovations, recipients will not adopt them until they see value in them. Recent and ongoing changes, especially in technology, are creating an environment that is favorable to widespread adoption. Today the educational expectations of the nation reflect a changed landscape in which postsecondary education is increasingly recognized as a necessity in preparing for the modern workplace.

Federal legislation beginning with the Goals 2000: Educate America Act (Public Law 103-227) and continuing through the School-to-Work Opportunities Act (Public Law 103-239), the reauthorization of the Carl D. Perkins Vocational and Technical Education Act of 1998 (including Tech Prep; Public Law: 101-392; 105-332; 109-270) and the Workforce Investment Act (Public Law 105-220) created a national focus on increasing student achievement and improving transitions into postsecondary education and the workplace. While the federal legislation gently supported the movement toward Career Pathways, the U.S. Department of Education's Office of Vocational and Adult Education (OVAE) made investments in several key initiatives that built resources and momentum for the transformation of vocational education to Career Technical Education (CTE). The chart below spells out elements of transformation needed.

The College and Career Transitions Initiative

| Vocational Technical Education | Career Technical Education |
|--------------------------------|--|
| For a few students | For all students |
| For a few jobs | For all careers |
| 6 to 7 program areas | 16 Career Clusters™ and 79 Career Pathways |
| In lieu of academics | Aligns/Supports Academics |
| Limited articulation | Portable, transferable credit |
| Secondary versus postsecondary | Secondary and postsecondary |

In November 2002, the College and Career Transitions Initiative (CCTI) of the League for Innovation in the Community College received a federal grant to select 15 community colleges, in partnership with employers and secondary education, to design model strategies for implementation of Career Pathways and to conduct research and develop case studies to determine the effectiveness of Career Pathways. CCTI implemented Career Pathways in five of the 16 Career Clusters®: Health Science; Law, Public Safety, Corrections, and Security; Education and Training; Information Technology; and Science, Technology, Engineering, and Mathematics (STEM).

CCTI formulated the following definition of the term career pathway:

A career pathway is a coherent, articulated, rigorous sequence of academic and career courses, commencing in the 9th grade and leading to an associate degree, and/or industry recognized certificate or licensure, and/or a baccalaureate degree and beyond. A career pathway is developed, implemented, and maintained in partnership among secondary and postsecondary education, business, and employers. Career pathways are available to all students, including adult learners, and are designed to lead to rewarding careers.

CCTI, which was created in the era of No Child Left Behind had three goals:

1. Close the achievement gap;
2. Create meaningful educational options that help students with diverse backgrounds and needs reach uniformly high standards; and
3. Ensure that students attain these high standards at each level of their educational careers.⁶

These goals underscored the breadth of the possible impact Career Pathways could have. CCTI was further influenced by the policy environment, and grantees were required to measure and report performance in the following areas:

- decreased need for remediation at postsecondary level;
- increased enrollment and persistence in postsecondary education;
- increased academic and skill achievement at secondary and postsecondary levels;
- increased attainment of postsecondary degrees, certificates, or other recognized credentials;
- increased entry into employment or further education.

CCTI, built upon Career Clusters® and Tech Prep, contributed many positive elements to the progress of Career Pathways: It created a structured, replicable model and a clear definition of the term career pathway. It highlighted the opportunity for Career Pathways to align, and underscore the importance of aligning, systems (education and workforce) and to serve the full spectrum of learners—youth to adult.

And it highlighted the importance of building an evidentiary and data-driven case that the model works.

Federal Legislation: Bringing POS into the Spotlight

One of the purposes of the Carl D. Perkins Career and Technical Education Act of 2006 (Perkins IV)⁸ was to call for “providing individuals with opportunities throughout their lifetimes to develop, in conjunction with other education and training programs, the knowledge and skills to keep the United States competitive.” One way to achieve this goal was to incorporate the notion of Career Pathways into the Act. Perkins IV introduced a new term—CTE Program of Study (POS)—instead of calling it a “career pathway,” despite the similarities in definition. This new label was the result of a contingent in Congress which felt that the term Career Pathway connoted job training or tracking and opted for the term Program of Study, which has its roots in higher education community, as a better indication of their intentions.


The introduction of POS and the allowance for states to choose to merge Tech Prep funding into the Basic State Grant reflect Congress’s intention to bring the concepts underlying Tech Prep, Career Pathways, and POS into the mainstream of CTE. The requirements of Perkins IV, however, were timid with regard to the implementation of POS: Eligibility for funding required implementation of only one POS. Some state and community leaders saw that POS could serve as a vehicle for the implementation of aspects of the federal legislation that the CTE community had struggled with, for example, connecting learner levels with workplace expectations and seamlessly integrating academic and technical instruction. The same leaders also saw the potential for Perkins IV to be a key tool in achieving the goal of transforming vocational education from preparation for jobs to preparation for careers in an ever-changing global economy.

Unfortunately, the Perkins IV definition for a POS was vague. The legislative language states that, at a minimum, a POS must:

- Incorporate and align secondary and postsecondary education elements,
- Include academic and CTE content in a coordinated, non duplicative progression of courses,
- Offer the opportunity, where appropriate, for secondary students to acquire postsecondary credits, and
- Lead to an industry-recognized credential or certificate at the postsecondary level, or an associate or baccalaureate degree.

The four statutory requirements for POS did not fully explain what was unique about a POS, compared to Tech Prep or any CTE program. Some people interpreted this as Perkins IV’s way of perpetuating “business as usual.” As the federal legislation’s reauthorization was about to be finalized, there was a call from national and state leaders for tools to help the CTE community see how they could align their programs to industry sectors or Career Clusters™. OVAE funded NASDCTEc, through the League for Innovation’s CCTI grant, to develop sample plans of study for each of the 81 (now 79) Career Pathways. This “CCTI template”¹¹ has been modified for both state and local use. It outlines a six-year educational plan showing academic and technical courses, courses offered for dual high school and college credit, and postsecondary courses. The sample plans of study were intended to show how to construct non-duplicative instructional sequences, inclusive of academic and technical requirements, across learner levels. Built using the National Career Cluster™ knowledge and skills statements, the plans of study, unveiled in the summer of 2007, became the visual for what many think of as a POS today.

First Steps toward a Common Approach



Name _____

Locator ID _____

School/College/University _____

SAMPLE

Health Science
Career Cluster Plan of Study for ▶ Learners ▶ Parents ▶ Counselors ▶ Teachers/Faculty

The Career Cluster Plan of Study (based on the Health Science Career Cluster) can serve as a guide, along with other career planning materials, as learners continue on a career path. Courses listed within this plan are only recommended coursework and should be individualized to meet each learner's educational and career goals. *This Plan of Study, used for learners at an educational institution, should be customized with course titles and appropriate high school graduation requirements as well as college entrance requirements.

| EDUCATIONAL LEVEL/COURSE | English/Language Arts | Math | Science | Social Studies/Sciences | Other Required Courses Other Electives Recommended Electives Learner Activities | *Career and Technical Courses and/or Degree-Related Courses for Health Sciences | SAMPLE Occupational Strand to This Career Cluster |
|--|------------------------------|-----------------------------|-----------------------------|---------------------------|--|---|--|
| Required Inventory Addressed and Plan of Study (linked for all Learners) | | | | | | | |
| SECONDARY | 8 English Language Arts I | Algebra I | Dependent on chosen pathway | State History Civics | All parts of study should meet local and state high school graduation requirements and college entrance requirements. Certain local student organization activities are also required including public speaking, record keeping and work-based experiences. A foreign language is recommended. | *Health Science I: Introduction to Health Science *Information Technology Applications | Competency Resulting Less than Baccalaureate Degree ▶ Serial Assistant/Registered ▶ EMT/Paramedic ▶ Health Information Coordinator ▶ Home Health Aide ▶ Lab Technician ▶ Phlebotomist ▶ Radiographer ▶ Registered Nurse Competency Resulting Baccalaureate Degree ▶ Athletic Trainer ▶ Dietician ▶ Health Services Administrator ▶ Health Information Management Systems Specialist ▶ Occupational Therapist ▶ Physician Assistant ▶ Physical Therapist ▶ Podiatrist ▶ Research Scientist ▶ Speech-Language Pathologist ▶ Veterinarian |
| | 9 English Language Arts II | Dependent on chosen pathway | Dependent on chosen pathway | U.S. History | Certain local student organization activities are also required including public speaking, record keeping and work-based experiences. A foreign language is recommended. | *Health Science II: Health, Safety and Ethics in the Health Environment | |
| | 10 English Language Arts III | Dependent on chosen pathway | Dependent on chosen pathway | World History | | *Health Science III: Employment in Health Occupations | |
| | 11 English Language Arts IV | Dependent on chosen pathway | Dependent on chosen pathway | Psychology Economics | | Continues courses pertinent to the pathway selected. | |
| Additional/Cross-Curricular/Postsecondary courses may be incorporated in the secondary level for additional/individual credit purposes. | | | | | | | |
| POSTSECONDARY | Year 1 English Composition | Dependent on chosen pathway | Dependent on chosen pathway | American Govt. Psychology | All parts of study need to meet learners' career goals with regard to required degrees, licenses, certifications or journey worker status. Certain local student organization activities may also be important to include. Work-based learning is an integral part of this Career Cluster. | Continues courses pertinent to the pathway selected. | |
| | Year 2 English Composition | Dependent on chosen pathway | Dependent on chosen pathway | American History | | | |
| | Year 3 English Composition | Dependent on chosen pathway | Dependent on chosen pathway | | | | |
| | Year 4 English Composition | Dependent on chosen pathway | Dependent on chosen pathway | | | | |

http://www.careertech.org/career-clusters/resources/plans.html.
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With Perkins IV having just passed and the Federal Government having made the decision not to enact regulations, states and communities found that they had tremendous flexibility in interpreting the requirements of the new law. Leaders from the Career Clusters™ work and the Tech Prep movement recognized that successful programs are driven by the same core principles. Further, there was a growing call from researchers for consistency in programs within states, or even among states. The final evaluation of Tech Prep, conducted by Mathematica in 1998, called for federal and state leadership to strengthen Tech Prep by placing greater emphasis on comprehensive Programs of Study. The evaluation found that by implementing individual and often unconnected elements of Tech Prep, most consortia have foregone the chance to change students' experiences substantially and have put only modest emphasis on promoting the anticipated seamless transition from the secondary to the postsecondary stage of Tech Prep. Further, the report suggested that a more structured program approach has a better chance of improving student learning and postsecondary transitions. Federal and state leadership could encourage local consortia to adopt a more structured, comprehensive program as the model for Tech-Prep implementation.

One response to this call for consistency was NASDCTE's 15 critical Components for effective implementation of Career Clusters™.

15 Critical Components for Career Cluster™ Implementation

- Administrative Support
- Shared Planning Time
- Career Development
- Professional Development
- Standards-Based Curriculum
- Parent and Community Support
- Education Partnerships
- Business and Industry Partnerships

- **Multi-Measure Assessment**
- **Interdisciplinary Teams**
- **Flexible Schedules**
- **Integrated Curriculum**
- **Creative and Innovative Teaching Strategies**
- **Workplace Learning**
- **Student-Centered Learning**

These components, built (along with the accompanying rubric) from research conducted by the National Consortium on Health Science Education, 14 outline the steps to be taken by states and communities in implementing Career Clusters™. While this resource existed, there was no requirement or policy or legislation requiring its use and so its impact was somewhat limited. It did, however, begin the movement toward a common policy framework for implementation.

The First National Models

In 2008, OVAE initiated a grant competition to promote the development of common POS models within states. Each of six states received a grant to create a statewide articulation agreement in one of the 16 Career Clusters®:

- Florida—Health Science and Manufacturing focusing on Biotechnology
- Hawaii—Marketing
- Indiana—Transportation, Distribution and Logistics
- Nebraska—Transportation, Distribution and Logistics
- New Hampshire—Finance and Health Science
- South Carolina—Science, Technology, Engineering and Mathematics

The intent of the initiative, titled “Promoting Rigorous Programs of Study Through Statewide Articulation Agreements” (RPOS 1), was to create a system in which students throughout the state would receive the same rigor of instruction, verified by a common state-approved assessment, and could transfer cluster credits to any postsecondary institution offering the same Career Cluster-related programs. OVAE believed that working through the process of creating statewide agreements would require states to implement certain steps that could define what a high-quality POS looks like.

RPOS 1 was designed with the awareness that implementation of statewide articulation agreements is difficult and has sometimes been thought impossible. But as states began working together to develop a common interpretation of the definition of POS, secondary and postsecondary education began collaborating at the local level and aligning with other local partnerships, creating an environment in which statewide articulation agreements became possible. The most difficult issues the RPOS 1 grantees had to work through were these:

- Statewide partnerships—bringing all the players to the table
- State and local secondary and postsecondary validation and agreement on POS standards based on industry standards (Career Cluster® standards were recommended because they are the only nationally validated set of standards organized with a broad-to-narrow focus.)

- Common sequences of courses organized around the validated standards
- Adapting the broad-to-narrow approach in lieu of traditionally narrow, job-specific training
- Common, validated technical skills assessments, including state-approved assessments resulting in high school credit, postsecondary credit, and (where appropriate) industry certifications
- Common teacher certification requirements

RPOS 1 achieved its goals, with most of the participating states achieving their goal of creating statewide agreements.

Getting to More Consistency

As states and local recipients began to work through the early stages of Perkins IV implementation, OVAE held a series of regional summits designed to showcase POS as a transformative tool for CTE.

It became increasingly evident that states and locals were seeking more guidance, more specificity in how to define and implement high-quality POS. In summer 2010 OVAE convened CTE leaders, national associations, states, participants from OVAE-funded projects, representatives from secondary and postsecondary education, and employers. Drawing from lessons learned from Tech Prep, the 15 Critical Components, and the National Research Centers for CTE’s Technical Assistance Academy, OVAE formulated a “career and technical programs of study design framework,” which this book refers to as the POS design framework. The POS design framework serves as a quality-assurance marker for states seeking to promote local development of consistent POS that comply with Congressional intent and promote continuous improvement of Perkins-funded programs.

The POS design framework consists of 10 POS components:

1. Legislation and Policies
2. Partnerships
3. Professional Development
4. Accountability and Evaluation Systems
5. College and Career Readiness Standards
6. Course Sequences
7. Credit Transfer Agreements
8. Guidance Counseling and Academic Advisement
9. Teaching and Learning Strategies
10. Technical Skills Assessments

The POS design framework provides clarity in defining the core elements of a POS and articulates the supporting subcomponents necessary for a POS to succeed. The following figure shows how the 10 POS components function in relation to one another and to secondary and postsecondary education.

SECONDARY LEVEL

POSTSECONDARY LEVEL

The 10 POS components can be viewed as a scaffold for strengthening the four Perkins IV statutory requirements. Each component can be associated with a particular requirement, as is shown in the following table.

| Perkins POS Requirements | POS Framework Components |
|---|--|
| A. Incorporate and align secondary and postsecondary education elements | <ol style="list-style-type: none"> 1. Legislation and policies 2. Partnerships |

| Perkins POS Requirements | POS Framework Components |
|---|---|
| B. Include academic and CTE content in a coordinated, non-duplicative progression of courses | 5. College and career readiness standards 6. Course sequences 8. Guidance counseling and academic advisement 9. Teaching and learning strategies |
| 10. Offer the opportunity, where appropriate, for secondary students to acquire postsecondary credits | 3. Professional Development 7. Credit transfer agreements |
| 8. Lead to industry-recognized credential or certificate at the postsecondary level, or an associate or bachelor degree | 4. Accountability and evaluation systems 5. Technical skill assessments. |

The four statutory requirements of the Perkins legislation focus on secondary-postsecondary alignment, course sequencing, dual credit, and attainment of degrees and other credentials. The 10 POS components of the POS design framework compliment and go beyond the Perkins requirements and, in so doing, more thoroughly assist students in achieving the “college and career readiness” that today’s educational and business climate demand. A POS is the sum of multiple parts, each of which must be present in order for a Career Pathways system to achieve the rigor that the POS definition requires. “Each of the (POS framework) elements has a pivotal role to play with POS development and implementation. They are not independent of each other nor are they of equal priority.”

Each of the 10 POS components has two or more subcomponents, as is shown below.

POS Components and Subcomponents

1. **Legislation and Policies:** State and local legislation, rules and regulations, or administrative policies that promote POS development and implementation, such as—
 - The allocation of state or local funding (and other non-federal resources) designed to promote POS development and long-term sustainability;
 - The use of established, formal procedures for the design, implementation, and continuous improvement of POS;
 - Adherence to policies that ensure opportunities for any interested secondary student to participate in a POS; and
 - The use of individual graduation or career plans for participating students.
2. **Partnerships:** Ongoing relationships among education, business, and other community stakeholders that support POS design, implementation, and maintenance, such as by—
 - Using written memoranda that specify the roles and responsibilities of partnership members;
 - Conducting ongoing analyses of economic and workforce trends to identify POS that should be created, expanded, or discontinued;
 - Linking POS development to existing initiatives that promote workforce and economic development; and
 - Identifying, validating, and updating technical and workforce readiness skills to be taught within POS.
3. **Professional Development:** Sustained, intensive, and focused professional development opportunities for administrators, teachers, and faculty that foster POS design, implementation, and maintenance, and that—
 - Support the alignment of academic and technical curriculum within the POS from grade to grade (within grades 9 through 12) and from secondary to postsecondary education;
 - Support the development of integrated academic and CTE curriculum and instruction within the POS;
 - Ensure that teachers and faculty have the necessary content knowledge to align and integrate curriculum and instruction within the POS;
 - Foster innovative teaching and learning strategies within the POS; and

- Assist administrators, teachers, and faculty in using assessment data for POS program and instructional improvement.

4. Accountability and Evaluation Systems: Systems and strategies that gather quantitative and qualitative data on all 10 POS design framework components as well as on student outcomes to inform ongoing efforts to develop and implement POS and to determine their effectiveness, and that—

- Yield valid and reliable data on key student outcomes (indicators of performance) referenced in the Perkins act and other relevant federal and state legislation; and
- Provide timely data to inform ongoing efforts to develop, implement, evaluate, and improve the effectiveness of POS.

5. College and Career Readiness Standards: POS content standards that define what students are expected to know and be able to do to enter and advance in college, their careers, or both, and that include aligned academic and technical content, and that—

- Are developed and continually validated in collaboration with secondary, postsecondary, and industry partners;
- Incorporate essential knowledge and skills that students must master regardless of their chosen career area or POS;
- Provide the same rigorous knowledge and skills in reading or language arts and in mathematics that employers and colleges expect of high school graduates; and
- To the extent practicable, are internationally benchmarked so that students are prepared to succeed in a global economy.

6. Course Sequences: Course sequences within a POS that help students transition to postsecondary education without the need to duplicate classes or enroll in remedial courses, as evidenced by—

- Course sequence plans that map out recommended academic and career and technical courses for the POS;
- Course sequence plans that begin with introductory courses that provide broad foundational knowledge and skills common across all POS and then progress to more occupationally specific courses that provide the knowledge and skills required for entry into and advancement in the selected POS; and
- Opportunities for students to earn postsecondary credit for coursework taken during high school.

7. Credit Transfer Agreements: Formal credit transfer agreements among secondary schools and postsecondary institutions that—

- Provide a systematic, seamless process for students to earn college credit for postsecondary courses taken in high school, transfer high school credit to any two- or four-year institution in the state that offers the POS, and transfer credit earned at a two-year college to any other two-or four-year institution in the state that offers the POS;
- Record college credit earned by high school students on their high school transcripts at the time the credit is earned so that they can transfer seamlessly into the college portion of the POS without the need for additional paperwork or petitioning for credit; and
- Describe the expectations and requirements for teacher and faculty qualifications, course prerequisites, postsecondary entry requirements, and locations and of courses, tuition reimbursement, and the credit transfer process.

8. Guidance Counseling and Academic Advisement: Systems that provide career counseling and academic advisory services to help students make informed decisions about which POS to pursue and that—

- Are based on state or local guidance and counseling standards, such as the National Career Development Guidelines;
- Ensure that guidance counselors and academic advisors have access to up-to-date information about POS offerings to aid students in their decision-making;
- Offer information and tools to help students learn about postsecondary education and career options, including about the prerequisites for particular POS;
- Provide resources for students to identify career interests and aptitudes and to select an appropriate POS;

- Provide information and resources for parents, including workshops on college and financial aid applications, on helping their children prepare for college and careers; and
- Provide web-based resources and tools for obtaining student financial assistance.

9. Teaching and Learning Strategies: Innovative and creative instructional approaches that enable teachers to integrate academic and technical instruction and also enable students to apply academic and technical learning in their POS coursework, as evidenced by—

- Interdisciplinary teaching teams of academic and career and technical secondary teachers or postsecondary faculty;
- The use of contextualized work-based, project-based, and problem-based learning approaches; and
- The use of teaching strategies that foster team-building, critical thinking, problem-solving, and communication skills.

10. Technical Skills Assessments: Existing valid and reliable technical skills assessments that provide ongoing information on the extent to which students are attaining the necessary knowledge and skills for entry into and advancement in postsecondary education and careers in their chosen POS and that—

- Are either third-party assessments recognized by industry or are technical skills assessments developed or approved by the state that are based on industry standards;
- Measure student attainment of technical skill proficiencies at multiple points during a POS;
- Incorporate, to the greatest extent possible, performance-based assessment items through which students must demonstrate the application of their knowledge and skills; and
- Result in the awarding of secondary credit, postsecondary credit, or special designation on a student’s high school diploma.

The components represent:

- all aspects of what POS are: college and career readiness standards, course sequences, credit transfer agreements, technical skills assessments, and innovative teaching and learning;
- the partnerships and conditions that should be in place to support POS: legislation and policies, partnerships;
- the supports needed to implement POS: professional development, guidance counseling and academic advisement); and
- reinforcement of the importance of measuring progress and data-driven decision-making (accountability and evaluation systems).

The subcomponents sometimes indicate multiple means of implementation. (See credit transfer agreements.). In other instances they provide definitions. (See college and career readiness standards and course sequences.) The POS design framework put the stake in the ground in clearly defining high-quality CTE delivered through POS.

The POS design framework was further validated in 2010 through NASDCTEc’s fourth principle—Reflect, Transform, Lead: A Vision for CTE18—which calls for all of CTE to be delivered through “comprehensive programs of study (footnoted as being defined by the POS design framework) aligned to The National Career Clusters™ Framework.”

This national and state support, coupled with growing community-level calls for guidance, provided fertile ground for the growth and expansion of systemic approaches to Career Pathways and POS.

Rigorous Programs of Study National Activity 2 (RPOS 2)

In the fall of 2010, through a project titled “Promoting Rigorous Career and Technical Education Programs of Study” (RPOS 2), OVAE awarded grants to six states to “promote and improve state and local development and implementation of rigorous programs of study.” RPOS 2 is similar to RPOS 1, but the RPOS 2 grantees were asked

to create POS that are organized around the 10 POS components and their subcomponents. Each participating state was required to select three local education agencies (LEA) to implement a POS based on the POS design framework and then collect data on how well participating students are prepared for college and careers, compared with similar sets of students from the general education track. The six states selected to put the POS design framework to the test are Arizona, Kansas, Maryland, Montana, Utah, and Wisconsin.

Initially the RPOS 2 states struggled to align with the POS design framework. The most difficult of the subcomponents to implement are the same as in RPOS 1. RPOS 2 differs from RPOS 1 mainly in that it requires the following:

- Selection of general education students for the comparison group and collection of data for the required performance indicators
- Ensuring common technical skills assessments for non-industry certification standards and setting the level for success aligned with college and career readiness standards
- Implementing a common POS in all three LEAs The Six States in RPOS 2

RPOS 2 states have established formal procedures for the design, implementation, and continuous improvement of POS. The following provides a snapshot of each.

The first two examples, Montana and Wisconsin, provide excellent snapshots of how policy is established in locally controlled states.

Montana: Because Montana is a locally controlled state, the state board of education provides formula-based funding to support the Big Sky Pathways Consortium (2010–2011). LEAs develop local policies supported by memoranda of understanding (MOU) inclusive of all stakeholders to execute development and implementation of POS.

The Office of Postsecondary Instruction and the Office for Continuing Higher Education partnered with the Montana Department of Labor to include the Big Sky Pathways Consortium and the capacity to develop individual Big Sky Pathway MAPs (Montana Achievement Plans) in Montana’s Career Information System (MCIS). The completion of POS at each high school that can be formatted as MAPs in MCIS is viewed as essential to the ultimate effectiveness of that career and curriculum-advising tool.

Wisconsin: Wisconsin Technical College System’s Grant Category #150-242 with requirements for development of POS. Because Wisconsin is a locally controlled state, LEAs drive development of POS with MOUs via advisory boards that include representatives of local manufacturing businesses and postsecondary institutions, K-12 district personnel and faculty members, school board members, and parents. Local economic development associations drive studies and data collection relating to local employment trends, changes in the economy, and employment demand. This advisory board reviews quarterly employment data.

Arizona: Arizona State Statute ARS 15-391 provides for the formation of joint technical education districts and allocates funding to:

- Meet the standards of a CTE preparatory POS that, as determined by the CTE division of the department of education, must meet requirements of the POS design framework.
- Have a defined pathway to career and postsecondary education.
- Require an assessment that demonstrates a level of skill or competency in a vocation or industry or that leads to certification in and acceptance by that vocation or industry.

- Require work-based learning components, CTE student organization participation, and laboratory experience as determined by the CTE division of the department of education.

Kansas: In 2010 the Kansas State Board of Education approved actions designed to promote “comprehensive redesign with integration and partnerships” and “redefine the delivery model by integrating career/ technical and academic standards.” The initiative will:

- Create and approve gold standard assessments (industry recognized credentials and certifications) for each of the Career Clusters™ that support high expectations.
- Integrate core content standards with technical program standards utilizing the 16 Career Clusters™ as the organizing principle.
- Support implementation of personal plans of study for all students in 8th grade and above.
- Improve access to CTE by removing barriers and promoting partnerships.
- Support alignment of guidance counseling initiatives with the Career Ready Kansas website (<http://crk.ksde.org/>) to disseminate POS implementation.

Maryland: The Maryland State Board of Education’s “Policies and Procedures for the Development and Continuous Improvement of Career and Technology Education Programs” were formulated to organize and develop CTE POS within ten broad career clusters for the purpose of providing multiple career pathways to employment and further education, rather than narrow job training. The state departments of education’s ten career cluster frameworks are described in “Maryland Career Clusters: Restructuring Learning for Student Achievement in a Technologically Advanced, Global Society.”²⁰ The frameworks were developed by career cluster teams comprising over 350 business and industry partners in collaboration with secondary and postsecondary educators.

Utah: The Utah legislature provides separate funding for CTE. Utah State Board of Education (USBE) policy requires a unique program approval process for high schools to be eligible for these funds. The policy requires that each high school have at least one POS to qualify for the funds.²¹

For over 25 years, Utah has had a strong concurrent enrollment program, established through a secondary-postsecondary partnership. The program is guided by state board of regents policy R165-1, state board of education policy R277-713, and state legislative statute 53A-15-101. Last year over 27,444 secondary and postsecondary students participated in CTE concurrent enrollment, earning over 73,485 credit hours. Utah’s POS initiative utilizes well-established

Building Capacity to Implement Programs of Study

Not every state would be a recipient of an RPOS grant, nor would every community benefit from these grants. To help expedite the adoption of POS that meet the expectations of the POS design framework, in 2010 OVAE contracted MPR Associates (<http://www.mprinc.com>) to produce a self-assessment tool based on the POS design framework. The purpose of the tool, titled Programs of Study: Local Implementation Readiness and Capacity Self-Assessment: A Tool for Local College and Career Readiness was to provide clarity and offer criteria for assessing whether the four statutory requirements and the 10 POS components of the POS design framework are being satisfied.

The tool provides self-assessment templates for the 10 POS components and suggests readiness and capacity guidance to which states can refer when providing technical assistance to local POS developers and reviewing state CTE program approval processes. The POS design framework is the foundation for self-assessment of local capacity for POS implementation. Consideration of each component of the POS design framework fosters stakeholder conversation and reflection. In the assessment tool, the “implementation characteristics” described on the template for each of the 10 POS components serve as quality indicators that enable the user to gauge POS implementation readiness and capacity, at both the state and local levels. Some of the quality indicators may be better suited to either a state application or a local application, but all can be adapted for use at either level. Each component has a pivotal role to play. They are not independent of each other, nor are they equal in priority. In carrying out their self-assessments, state and local POS developers and implementers must determine which of the components are the most critical and thus should be given highest priority.

The self-assessment tool provides a template for assessing the extent to which each of the 10 POS components is being met, or has the potential to be met. The process of self-assessment is helpful in determining capacity for local POS implementation and readiness for state POS approval as well as for statewide systems and local programs. Consideration of each of the 10 POS components can foster stakeholder conversation and reflection on the status of local and/or state readiness and capacity for full POS implementation. The process of analysis that the tool makes possible is necessary to determine which components require policy support and to provide seamless delivery of career technical education. States use different methods of policy implementation, ranging from state-led to site-based. These differences are illustrated in the implementation examples provided at the end of this chapter.

State and Local Sustainability of Career Pathways through Legislation and Policies

Sustainability is not possible without sound legislation and policies— the first of the 10 POS components. Legislation and policies at the federal, state, and local levels should mandate, support, and foster practices that encourage and help to sustain POS. The early part of this chapter lays out how the federal legislation (Perkins IV) and policies (Career Clusters™, CCTI, RPOS, RPOS 2 and the POS design framework) have paved a solid pathway for building and sustaining a national interest and support for Career Pathways and POS. We now turn to the role state and local legislation and policies can have in sustaining and supporting Career Pathways.

To be effective, legislation and policies should:

- Provide for state and/or local funding and other resources for POS development (e.g., professional development and dedicated staff time).
- Establish formal procedures for the design, implementation, and continuous improvement of POS.
- Ensure that all learners have the same opportunities to participate in POS.
- Require that secondary students develop individual graduation or career plans.
- Provide resources for long-term sustainability.

Much can be learned from others who have led in the area of legislation and policies. Consider the following examples from South Carolina, California, and Maryland.

In 2005, South Carolina enacted the Education and Economic Development Act. The EEDA established the Personal Pathways to Success system to help South Carolina students be prepared for good jobs and help businesses find good workers.

Combining high academic standards with enhanced opportunities to explore career options and build real-life working skills, Personal Pathways to Success gives students the guidance and experience they need to take full advantage of real opportunities in the South Carolina economy. . . . The Personal Pathways system maintains the state's established high school graduation requirements—17 required academic core courses plus seven electives—but requires that all students declare a career major in one of a number of different clusters of study. . . . Schools partner with businesses and other local institutions to provide students with the chance to get hands-on, real-world working experience in the field of their choice. . . .

Beginning in the elementary grades, Personal Pathways to Success provides programs of career awareness and exploration. Skilled counseling is a linchpin of the program. In the eighth grade, students and their parents or guardians sit down with counselors and create individual graduation plans (IGPs) that lay out their personal education and career strategies. IGPs specify students' choices of cluster, major, postsecondary goals, high school course work, out-of-class learning experiences, and more. Students and their parents revisit these choices at least once a year to make adjustments in their plans or change course altogether if that is required.

In today's economy, postsecondary education and training is a prerequisite for success. For nearly every student, career preparation continues after high school—at two-year or four-year colleges, in the military, in on-the-job training, or in state-approved apprenticeships. Personal Pathways will set up seamless transitions to postsecondary education by establishing articulation agreements among the state's high schools, two-year colleges, and four-year colleges. . . .

To effectively implement Personal Pathways to Success the EEDA mandates a variety of supporting initiatives, including:

- **Individual Attention for Students:** High schools are mandated to hire more guidance counselors to achieve a ratio of one counselor for every 300 students, and counselors specializing in career guidance will help students plan their educations. Students at risk for dropping out will be identified early and models will be developed to help these students graduate.
- **Protection Against Tracking:** EEDA includes provisions that protect students against being steered into pathways that do not fit their best interests. Parents or guardians review their children's IGPs at least once a year and can designate someone to represent them if they cannot participate. An appeals process will be created to resolve disagreements and ensure that every student has equal access to educational opportunities.

California has enacted a Model Curriculum Standards and Framework that includes skills and standards for each CTE program in each Career Cluster. California also showed specific examples of how CTE and academic content could be integrated to qualify as part of the state's A-G Curriculum, which would help students transfer their credits into the University of California and California State University systems.

Maryland's Department of Education has supported the Career Pathways concept since 1989, when the state's Commission on Vocational-Technical Education instated a new model to prepare students for jobs and postsecondary education.²⁶ The Commission put into place POS to sequence coursework based on the needs of

industry. By 1992, CTE POS were one of three elective choices that students could choose to fulfill high school graduation requirements.

Currently, over half of Maryland high school students are enrolled in CTE programs and many complete CTE POS. Districts have the option of using localized POS or fast-track, state-regulated POS.

The self-assessment tool also provides links to other state resources linked to legislation and policies: Continuous attentiveness and oversight in the establishment of and adherence to policy and legislation is critical to the success of POS implementation. U.S. Secretary of Education Arne Duncan endorsed the POS design framework in an April 2011 speech titled “Rigor, Relevance, and the Future of CTE.” In that speech he stated,

Career pathways now spelled out in the Rigorous Programs of Study initiative would span secondary and postsecondary education by design, and concentrate much more on high-demand, high-wage occupations. . . . These courses combine the rigor of a college-prep curriculum with real-life experiences. . . . They offer a springboard to higher education and postsecondary training—not a dead-end. Let’s all work together to make this happen.

The “working together” to which Secretary Duncan refers requires sound policies at all levels. Policies provide for the development and sustainability of POS while driving the delivery of instruction and the development and implementation of strategic plans. Basing their decisions on information gained via the POS assessment tool (Programs of Study: Readiness and Capacity Self-Assessment), policymakers and practitioners should move toward full systemic implementation.

Recommendations

The following recommendations are intended for all stakeholders and can be implemented at state, district, and local levels.

Recommendation 1: Articulate a Clear Vision

Policymakers can provide effective leadership by articulating a clear vision for how resources can be best allocated to support a systemic approach to knowledge and skill development for all youth, both in and out of school. Policymakers should acknowledge the key role CTE programs can play in meeting the needs of young people. Education policymakers, along with parents, employers, and the public, must engage in a dialogue around the full range of skills that are needed to be successful in today’s global economy.

Recommendation 2: Break Down Silos

Educational bureaucracies at the federal, state, and local levels are organized around discrete divisions of instruction, pedagogy, and services, such as academic instruction, special education, CTE, and student support services. Because policy has traditionally been developed by people who are responsible for academically oriented education, this structure often prevents the development of holistic and integrated policies.

State and local policy leaders must break down silos between academic, general, career technical, and special education so that all perspectives and stakeholders are involved in policy development.

When all perspectives are integrated and involved, more comprehensive policies and programs that draw upon all instructional resources, pedagogies, and supports can be developed. Policy leaders must ensure that CTE is “at the table” when developing and implementing high school reform strategies.

Recommendation 3: Support Research and Disseminate Research-Based Information

Studies and research receive little attention by national policymakers, other researchers, educators, and the public. Moreover, despite the well-publicized efforts of campaigns such as the National Association of Manufacturers’ Dream It, Do It to change public perception, teachers, parents, and guidance counselors are still slow to encourage students to pursue high-skilled manufacturing and other technical career tracks, despite the availability of high-wage, career ladder jobs.

Policymakers should use this research to inform the development of high school reform policies and programs. More high-quality research about the value of CTE should be supported, particularly longitudinal research that examines student outcomes in postsecondary education and careers.

Recommendation 4: Provide Funding

Policy leaders should develop and provide funding for a clearly defined high school reform framework that serves all students, supports multiple pathways to graduation, and includes a well-defined role for academically rigorous CTE. Policymakers should fund innovative, replicable approaches to the development of multiple pathways based on CTE and career clusters. At the local level, community colleges and CTE programs should collaborate to develop agreements supporting the academic and financial support systems necessary for success.

Recommendation 5: Support Connections

Policies should support stronger connections between secondary and postsecondary education to enable more high school students to earn college credit and progress to postsecondary education more easily. States should conduct system-wide reviews of articulation agreements to clarify which college credits earned by high school students are accepted by postsecondary education institutions in the state.

Recommendation 6: Provide Student Guidance and Advisement

All stakeholders should encourage and support guidance and advisement via administrative policy. Most counselors require professional development to be well informed about the value of CTE and its role in preparing students for careers in the 16 Career Clusters[®]. Professional development for teachers should include information about the Career Clusters[®] and strategies for building career awareness into instruction. States can require students to develop four-or five-year college and career plans, or to designate career majors during high school, as a way to help connect their academic studies to future plans. The recommendations of section 118 of the Perkins Act, which discusses funding to support career guidance and academic counseling programs and promote improved career and education decision-making, should be followed.

Recommendation 7: Align Funding and Focus

Professional development should help CTE teachers learn more about the academic content they can supplement, reinforce, enhance, and apply in their classrooms, and help academic teachers learn how academic knowledge and concepts can be applied in technical settings.

Recommendation 8: Gauge Quality and Success

Appropriate measurements should be in place so that students, parents, postsecondary educators, and employers can gauge the quality and success of CTE programs. Quality assessments should be developed with strong industry input to ensure relevance to the labor market. States should support efforts to build the capacity of administrators and teachers (both regular and CTE) that is essential to creating and sustaining high-quality CTE programs.

Recommendation 9: Establish Policy for Data Collection

As states develop longitudinal student record data systems and student identifiers, they should identify and track students who participate in CTE to determine their long-term outcomes. States should develop the capacity to track labor market participation of all students, and incorporate external industry certifications in any data collection system, to the extent possible.

The Bottom Line

All educational systems rely on sound federal, state, and local policy. Success is not possible without solid policy—whether legislative, administrative, or both. State and local entities must consistently examine and reexamine delivery structures and adjust strategic plans to facilitate systemic Career Pathways implementation. Such policies see greater success when they are adopted at state and local levels and emphasize integration and alignment of all stakeholders.