

# Six Stories About Six States: Programs of Study

April 2011



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National Research Center for Career and Technical Education  
Louisville, KY

## **Funding Information**

Project Title: National Research Center for Career and Technical Education  
Grant Number: VO51A070003

Act under Which Funds Administered: Carl D. Perkins Career and Technical Education Act of 2006  
Source of Grant: Office of Vocational and Adult Education  
U.S. Department of Education  
Washington, D.C. 20202

Grantees: University of Louisville  
National Research Center for Career and Technical Education  
354 Education Building  
Louisville, KY 40292

Project Director: James R. Stone, III

Percent of Total Grant Financed by Federal Money: 100%

Dollar Amount of Federal Funds for Grant: \$4,500,000

Disclaimer: The work reported herein was supported under the National Research Center for Career and Technical Education, PR/Award (No. VO51A070003) as administered by the Office of Vocational and Adult Education, U.S. Department of Education.

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<sup>1</sup> The appendices are available in the electronic version of this report, downloadable at <http://www.nrccte.org>.

## **Executive Summary**

The purpose of this investigation is to tell the story of how six states are developing Programs of Study (POS) as mandated by the Perkins IV federal legislation. Our effort focuses on how states' technical assistance systems evolved and what successes and challenges existed for states developing POS. There was no intent to compare one state with another; instead, we sought to identify those elements they have in common and those that are unique to each state. The report includes profiles of each state, which are located throughout the United States.

States for the study were recommended from a group of states that had applied to a national organization to receive technical assistance on their POS. From that pool of states, three were selected from among those who received formal technical assistance; three were also selected from those that had not been included in the formal technical assistance program. All states agreed voluntarily to participate in the study.

Data were collected from March 2010 to June 2010 during on-site meetings and through “participatory journal” entries responding to specific questions about POS development. Interviews and voice recordings were transcribed and all data were analyzed using Spradley’s Developmental Research Sequence (1980), through which major themes and cluster topics were identified across sites. State profiles were based on two sources of information: (1) site visits to school districts (rural and urban) where interviews, focus groups, and group meetings were conducted with middle school, high school, college and university instructors and administrators, and community members supporting POS efforts, and, (2) written reflections by individuals in the states who were intimately connected to POS development. The two researchers involved in the study individually compared and contrasted the themes developed and then as a team generated a set of common themes and challenges reported from the states.

## **Findings**

The overall findings were quite positive. No matter whether a state was described as “top-down,” with major direction and impetus for POS coming from the state department of education, or “bottom-up,” with a major focus on developing programs at the local level, all states had some mixture of involvement through advisory committees with the state for establishing the general guidelines and templates for program requirements, important program components, processes for program approval and validation, and systems for communicating among and between the various levels of institutional participation.

Every state had excellent examples of good collaborations, alignment, inter-institutional articulation and matriculation between secondary and postsecondary, integration of academics with career and technical education (CTE) courses and activities, and long-term plans for achieving Perkins IV goals for 2013. Based on spoken and written comments, the trends for states updating and continuing their POS development efforts to align with Perkins IV goals were both positive and promising.

Supporting these positive trends were some specific findings or themes that included the following.

- **Technical assistance is provided at both the state and local levels.**

Technical assistance for POS development came from both the state and local levels, delivered by teams experienced with CTE. Every state had a technical assistance team that was competent and passionate about ensuring the success of POS efforts.

- **No matter what the context, “relationships matter.”**

A commonly repeated sentiment expressed by one study participant, and implied by many others, was: “You have it backwards. It is not rigor, relevance, and relationships; it is relationships, relevance, and rigor.” Participants posited that where there were good relationships between individuals and units, relevant and rigorous courses and programs emerged. Although both relationships and rigor were considered vital, developing good working relationships between individuals involved with POS, including teachers and students through student CTE organizations, positively impacted student motivation and learning and the ultimate delivery of the program.

- **Champions deliver much of technical assistance.**

At the state level, and even more so at the local level, technical assistance was delivered by “champions,” people deeply committed to CTE and to teacher and faculty collaborations. Many of those providing technical assistance came from the Tech Prep movement and leveraged their knowledge of program components to forge better and stronger secondary and postsecondary collaborations, as well as articulated, aligned curricula. In some states, individuals were actually recruited out of retirement to bring their extensive Tech Prep knowledge to provide additional supports for updating and aligning their state’s POS development efforts with the Perkins IV goals for 2013.

- **POS are more than just about CTE: They are about basic educational reform connecting academic learning with real-world contexts.**

Most participants in the six states suggested that the POS system in their state, despite its tremendous requirements for detail and paperwork, was a positive force because it promoted dialogue and discussion among and between secondary and postsecondary institutions, and, business/industry personnel. The POS system in each state allowed the POS stakeholders a venue to focus on what was being taught, what needed to be taught, and why it was important to have articulation and collaboration between educational systems and business to produce high quality preparation for education, work, and life. Participants thought the POS effort was about more than just connecting CTE with academics and different institutional levels: It was more about developing educational reforms around project-based learning; integrating academics with hands-on, real-world learning; and engaging students in interests that go beyond the school curriculum.

## **Challenges to the Implementation of Programs of Study**

Although much of what was occurring in the states appeared to be moving in positive directions, the study also found that there were fundamental challenges to implementing large-scale federal legislation at both the state and local levels. Not all states had the same infrastructure or level of organization and collaboration between secondary and postsecondary education for instance; nor did they have the same priorities for program development (e.g., labor market responsiveness vs. career education orientation). Specific challenges noted included the following.

- **Cultural/mission misalignments existed between secondary and postsecondary, as well as between academic and CTE programs.**

One of the greatest challenges to the development of POS was the perceived mission misalignments between secondary and postsecondary institutions and faculty. The missions and focus of secondary and postsecondary institutions were highlighted as being different, partially due to the ages of the students they serve and their ability to operate independently in the world of adults and the world of work. In addition, at both the secondary and postsecondary level, connecting academic instruction and CTE programs has been around for a long time. Getting academic teachers to understand POS means they need to work with CTE personnel, however, and getting postsecondary faculty to understand POS means they need to work with secondary education teachers. Bringing these groups together remains a persistent challenge that has been increased by a lack of sufficient time to develop relationships and a shortage of people with credibility in both worlds who could lead such efforts. It can be difficult to foster a spirit of collaboration when some educators and administrators perceive that their efforts at the different academic levels misalign with the educational aims and expected outcomes of others.

- **Time and resources are needed to meet all the demands of POS development and certification.**

Besides the time needed to build successful collaborations, most participants thought there was a need for more extensive time and resources to address all the logistical and programmatic demands of the Perkins IV POS goals for 2013. Most felt the paperwork, articulation, collaboration, and group development of curriculum and dual credit systems' expectations were enormous and that they would require more time and resources to effectively implement to the letter and intent of POS legislation. One described the process as “building a boat while sailing it”—even meeting the implementing challenges of just the basics for Perkins updates didn't seem to allow for the time needed to update and maintain, let alone construct and test, the reworked POS system before making it fully operational.

- **Real-world occupational pathways are not always linear.**

Many individuals in the participating states suggested that measuring the success of POS might be compromised because career or occupational pathways are not always linear. Some of the adults interviewed cited their own personal experiences in which they left education right after high school in order to take jobs to which they were connected (frequently through after-school

career programs) and then later returned to postsecondary education to pursue their careers. Yet, as mentioned by several teachers and business people, some students do well in secondary programs and actually get job offers right out of high school, thus forgoing immediate transition into postsecondary training programs. This meant, according to the interviews, that while there was some occupational and skill success on the secondary level, it actually undercut the standards for success for POS sequences and outcomes, thus making the programs appear to be unsuccessful, when in fact, the student had actually benefitted from the CTE program itself.

### **Recommendations**

Several recommendations arose from the data and analyses that could potentially improve the development and implementation of POS. They include the following.

- **Continue the collaboration between state and local personnel around issues of articulation, alignment, and course and program implementation.**

In order to keep improving POS initiatives throughout the states, participants believed that it was necessary to continue to (1) develop collaborations between secondary and postsecondary and between academic and CTE instructors, as well as to (2) pursue stronger articulations between courses, programs, and business and industry outcomes. Every state had already developed good models of POS systems and had already approved and authorized their adoption and implementation. The challenge was simply to continue the process and expand the opportunities for all connected to the effort to meet, interact, and develop the courses, institutional articulation, and personal relationships needed to achieve the goals set for 2013 in the Perkins IV legislation. The problem, for several interviewed, was that they might not be able to meet the expected outcomes. More time and resources were needed.

- **Find a way to streamline the paperwork and approval process so as to remove some of the burden from teachers and business and industry representatives. Try to keep the process simple and consistent—don't keep changing the requirements and system each year.**

One of the challenges mentioned in all states was the enormous amount of paperwork associated with documenting important POS components, including courses, aligned and articulated curricula, business and industry involvement, and other related elements. Many states regularly altered some of the POS forms and requirements over the years. Several participants vented their complaints during the focus groups and interviews regarding putting in hours of work preparing and having POS materials signed off on, only to have to redo their efforts to accommodate the newest requirements. Although all of the states are moving to more stable, sophisticated systems, it is important to be reminded that frequent changes at the top were often mentioned as frustrating and demoralizing for people on the ground.

- **As some states have done, develop stronger partnerships with other postsecondary education institutions to assist with staff training and evaluation. There should be**

**special emphasis placed on teacher development and training models to connect academic instruction with real-world contexts.**

In some states, individuals who had a long history with CTE and with the newer POS efforts suggested that the effort could be strengthened by helping teachers learn to develop programs that used real-world contexts, such as work-based learning, as a teaching platform for academic instruction. They said that academic teachers were not taught how to use work-based learning contexts to teach academic concepts. Vice-versa, career and vocational teachers were not as effectively taught how to teach academic concepts through work-based activities. Several cited models, such as Math-in-CTE, as efforts to do just such teaching, and suggested that these efforts needed to be reinforced and developed in teacher education/teacher development programs in universities responsible for teacher pre-service and teacher staff training. They suggested that four-year institutions involved in this work could collaborate with high schools and community colleges to provide added support and direction to ensure that the more general goals of Perkins IV legislation was being supported through a larger, connected program.

- **Develop a publicity campaign within the state that promotes POS, explaining why they have value for all students.**

Individuals in most states believed there were POS models that were sufficiently well developed that they could be publicized as exemplars of what POS are trying to accomplish. Many felt POS were still not well known in their state and would benefit from a media or promotional campaign to inform the public, especially parents, of the availability of this outstanding model of education. Such a promotional campaign would also help to alert business and industry and get them more involved. In essence, going public with the purpose, goals, and opportunities presented by POS would broaden their appeal and make them much more credible as an educational initiative.

- **Ensure, no matter what the configuration (top-down or local control), that there is sufficient information flow so that those “at the top” may constantly hear and react to the comments or perceptions of those people “on the ground” who are actually delivering the instruction.**

Participants in every state expressed concern about the tensions between the ideal POS operating at the state level and the reality of trying to implement POS for people “on the ground.” People at the state level were aware of these tensions; they just needed to find more time, resources, and opportunities for interaction to ensure that those actually implementing and teaching POS in school districts and community colleges could provide continuous feedback so the system didn’t get too complicated or too distant from reality.

- **Focus on making counselors an important part of the POS team.**

Most of the participants in the study believed that POS needed more involvement from counselors, especially high school counselors, in order to reach their full potential as an effective educational and occupational strategy. Students and their parents needed to think about career

plans and pathways and the many programs available to help them achieve their lifetime goals. To do this, counselors should be included in the POS teams so they can both obtain and share the POS story with students as they plan their school programs.

- **Collect appropriate and accurate data on participants and program outcomes.**

One of the real challenges to state personnel was devising systems that provided accurate data regarding who was involved in CTE (and POS) and how students could be tracked and monitored in order to determine the full impact of the effort. There was concern that, because of inefficiencies in collecting data, some students wouldn't be counted and the overall measure of the success of POS might be diminished. All states were aware of this issue and were developing plans to address it. States should be reminded that clear and effective ways to identify POS students and track their progress from secondary to postsecondary to employment will weigh heavily in the overall assessment of their programs' success.

- **Recognize the legal and logistical restrictions in developing POS efforts and resolve them in realistic ways.**

Individuals from almost every state discussed some of the issues that prevented them from developing POS. Some were concerned about legal restrictions, especially for secondary students, that prevented students from performing the physical activities of certain occupations identified as strong POS models. They suggested there were laws in place that didn't allow students under 18 to perform work in particular settings, especially if there were safety concerns and limitations. In addition, they also noted logistical problems where a CTE training program at the secondary level didn't have a matching course/program in the local community college. This prevented the kind of articulation and alignment envisioned in the Perkins IV legislation.

## **Conclusions**

Six stories of POS in six states reveal that this CTE initiative is alive and well. Despite several challenges, many of which were experienced in Tech Prep programs developed years ago, POS are expanding their scope and numbers and becoming a more stable component of the CTE system for delivering articulated, documented, collaborative programs that truly connect secondary schools, community colleges, and business and industry. Technical assistance in developing these initiatives is provided by real "champions" in the field, frequently persons with Tech Prep experience, who assist with all levels of course development, cross-institutional collaboration, and instructional integrity. Time will tell how effective this technical assistance is in creating a sustainable, effective system for delivering CTE that is integrally connected to academic instruction and produces educated and skilled employees for tomorrow's workforce.

## **Six Stories About Six States: Programs of Study**

The purpose of this investigation is to tell the story of how six states across the country are developing their Programs of Study (POS) under the Perkins IV federal legislation. The effort focuses on how the technical assistance systems evolved or developed and what the successes and challenges are for states responding to the federal requirements of POS. There is no intent to compare one state with another, only to describe how they are developing and to identify elements they have in common and those that are unique to each state system.

Data were collected from March 2010 to June 2010 during on-site meetings and through “participatory journal” entries responding to specific questions about POS development. Interviews and voice recordings were transcribed and all data were analyzed using Spradley’s Developmental Research Sequence (1980), through which major themes and cluster topics were identified across sites. The analysis proceeded through a multi-step process in which observations and interview data from one setting or state were used to help refine and frame the next. This was an iterative process that sought to identify component and thematic trends in the data.

State profiles were based on two sources of information: (1) site visits to school districts (rural and urban) where interviews, focus groups, and group meetings were conducted with middle school, high school, college and university instructors and administrators, and community members supporting POS efforts, and (2) written reflections by individuals in the states who were intimately connected to POS development. We identify the positions of people interviewed (for individual interviews and focus groups) and the location of the programs observed (rural or urban). We also include select characteristics about the states, but our goal is to describe the nature of the process of POS development and not identify individual states. The two researchers involved in the study individually compared and contrasted the themes developed and then as a team generated a set of common themes and challenges reported from the states.

The six states are located across the country. State A is located in the West and is generally described as a state that practices “local control.” State B is a Midwestern state that also describes itself as a state with a local focus on POS development. State C is a Midwestern state that practices more “top-down” development. The same is true of State D, located more to the East, which also practices more top-down strategies for POS development. State E is located even farther to the East and describes itself as a “combination” state: both top-down and bottom-up. Last, State F is an Eastern state that is more top-down in its organizational structure.

Although these descriptors emerged during discussions with POS personnel in all six states, it appears from our perspective as researchers that all states actually were combinations of both top-down and bottom-up practices. All had involvement at the state level, usually coordinated by a person in the state department of education who was specifically responsible for POS. Those states that were top-down had more direction and activities dictated from the state level. Other states that were described as more local, or bottom-up, had guidelines established by state advisory groups that were spear-headed by a person who worked for the state department of education, but who spent a majority of the time and effort at the local level engaging teachers,

faculty, and business people in developing curricula and areas of focus (e.g., career clusters, career pathways) for the actual POS.

## **Methodology**

Data gathering included two major approaches. For the “participatory” portion of the study, each state was asked (usually through a state coordinator who recommended names of individuals who could provide good information) to identify a person at each of three levels: secondary, postsecondary, and business and industry. Those individuals were asked to write reflective reports on their involvement in the POS process, indicating what was happening from their specific perspectives. Individuals were asked to write something every few weeks after they initially wrote a “retrospective” that described their involvement from the beginning of the year.

Because the project began at the end of March 2010—participants were asked to submit a brief report reflecting on what had happened earlier in the year as a means of gathering important information and a perspective on their involvement and progress made on POS prior to the start of the study. These participants also submitted responses to several research questions on their POS systems and involvement approximately once every two weeks. This allowed project researchers to track POS development in each of the states between March 2010 and June 2010. Participants writing the reflective reports received modest compensation for the time they took to answer questions and engage in the additional work required to tell the story of their involvement in POS development in their states.

The second major data-gathering activity was site visits in each state to interview participants regarding their recent development of POS. Each of the two researchers on the project contacted state CTE POS coordinators for suggestions on districts and POS contact personnel in both urban and rural settings. Researchers then contacted the recommended personnel and arranged site visits. Site visits lasted from one to two days and involved meetings with secondary and postsecondary instructors, counselors and administrators, and individuals from business and industry supporting POS efforts. Separate meetings were held with the local person who was responsible for training and technical assistance for the district or consortia of districts (as was usually the case in rural settings). For one state, due to a scheduling conflict between the start of the research project in March and the state’s testing activities, site visits could not be arranged. Instead, researchers were able to conduct phone interviews and collect written reflections and documentation from these POS educators and coordinators.

Audio recordings were made of personal interactions (i.e., interviews, focus groups, and general meetings). Audio recordings from individuals and groups were transcribed (although not all transcribed because of budgetary limits). All data were assessed using Spradley’s Developmental Research Sequence (1980), identifying and clustering themes and key concepts. The DRS analysis is an iterative process where one set of data yield components and themes that are tested in the next round of interviews/observations. The goal is to identify major components and themes existing in the settings. Approximately 40 recordings were produced over the course of the study, along with 30 written documents from participants. Data were collectively analyzed to produce the overall themes and descriptions contained in this formal report.

The researchers conducted data collection and created written reports for each of their three states independent of each other. The researchers then collaborated to identify common themes on the collective data from the six states to produce an interrelated chart of common topics for analysis. Descriptions of those combined themes can be found in the following sections dealing with the analysis of the data.

### **Themes Emerging from the Research**

Researchers compiled the data from the site visits, interviews, and written reflections to produce state profiles that included basic information about each state's POS development efforts and trends highlighted in the analysis. Researchers then added information obtained from websites and other documents to include basic overviews for each state in terms of POS development and specific information about the technical assistance activities that went on related to implementing POS as mandated by Perkins IV. Presented below are results from the analysis of all six states' data. Our goal was to produce some general categories, or clusters, of topics that were relevant to the POS development initiative.

- **Technical assistance is provided at both the state and local levels.**

POS technical assistance is provided at both the state and the local levels. Most states developed the larger frameworks (for approval processes, articulation, and elements essential to program quality) at the state level, usually under the direction of a person responsible for CTE. A few states, especially in rural areas, focused more attention at the local level. The process of determining essential program components and characteristics usually was developed through a statewide committee with input from local participants. Depending on whether a state oriented as top-down or was more local control, standards were conceived and constructed through committees that operated at both state and local levels of organization.

- **No matter what the context, “relationships matter.”**

One of the consistent themes across the states was the notion that “relationships matter.” A commonly repeated sentiment expressed by one study participant, and implied by many others, was: “You have it backwards. It is not rigor, relevance, and relationships; it is relationships, relevance, and rigor.” In the area of technical assistance to the schools, and in the development of POS efforts, relationships between CTE personnel and academic teachers and faculty affected their ability to develop strong curriculum alignment and collaborative courses. Relationships between school administrators, teachers, faculty, and business and industry representatives helped to connect educational and work-based cultures. Educators thus better understood the needs and expected outcomes of the business community, and business and industry representatives better understood the culture and context of educational systems, especially No Child Left Behind accountability pressures and the nature of secondary-postsecondary collaborations.

State POS personnel regularly expressed an interest in producing high-quality POS systems that were based on both the process of developing POS as well as the outcomes. To support quality

efforts for their district or state's POS system, it was often stressed that where there were good relationships between individuals, relevant and rigorous courses and programs emerged. Good working relationships among POS stakeholders were considered vital. On the other hand, where relationships were considered absent across the various POS units, including when state-level personnel were not able to listen to the concerns and challenges faced by people carrying out POS program expectations at the local level, rigorous content and program structure did not seem to come together well or occur as frequently. It was not an either/or situation: Both relationships and program rigor mattered. Adherence to program models, alignment of curriculum, integration of academic with career courses, and instruction were clearly all important for supporting high-quality POS systems. It was suggested, however, that working on these system goals happened more effectively when the people involved had developed good working relationships, often long-term, that supported and enhanced POS efforts and POS delivery within their districts or throughout their states. In addition to this, it was mentioned that developing relationships between teachers and students (e.g., through student CTE organizations) positively impacted student motivation and learning.

- **Champions deliver much of technical assistance.**

All of the states used “champions” of CTE and Perkins IV to deliver direct technical assistance at the local level. States targeted those individuals who were extremely knowledgeable and experienced with previous CTE and Perkins initiatives to provide support for completing the forms and requirements of POS. Many of those providing technical assistance came from the Tech Prep movement and/or had a background in dual credit, making them able to leverage their knowledge of program components to forge better and stronger secondary and postsecondary collaborations as well as articulated, aligned curricula. Those with a background in dual credit also helped tremendously with POS efforts. Several of the people performing these roles came out of retirement in order to take up positions related to CTE POS.

All states had individuals who mentioned experience with previous Perkins legislation, especially Tech Prep and other CTE initiatives, as the basis for their entrance into POS. Several identified that they were already doing POS through their Tech Prep initiatives. The primary difference was that Tech Prep was more of a “paper relationship” between secondary and postsecondary institutions or based more on simple matching of specific courses. POS took the legislated mandates to a new level, requiring connections between courses to create alignments and sequence of courses leading to pathways producing verifiable vocational and occupational proficiency. POS helped enhance previous “written articulations” and course alignments with sequences that focused on integrating academic and CTE subjects and standards. POS were thus the next natural step following Tech Prep.

One participant's evaluation report emphasized the importance of Tech Prep in the development and preservation of POS efforts. This person suggested that:

- As intermediaries, Tech Prep directors helped link several parts of a very disjointed system.

- Some POS link secondary and postsecondary institutions together in ways never seen before the advent of Tech Prep. This helps students transition and connects their respective curriculum; it also helps these institutions have a better general understanding of each other.
- Tech Prep directors also serve an important role in helping extend the reach of the [state CTE department] in educating local CTE directors and teachers on state rules, regulations, and initiatives as they relate to CTE. As the federal government has decreased the amount of funding for state administration of Perkins, Tech Prep directors have been placed in a position of helping local secondary CTE directors understand rules and regulations regarding POS implementation (and other topics) and have become a quasi-government representative in assisting in POS implementation. If the separate funding stream for Tech Prep goes away, this will negatively impact the ability of the state government to rapidly implement change.

Another participant in a top-down state described the POS development and articulation process in great detail. This person suggested that they were able to develop their updated POS system from the sequence of courses that their community colleges already had in place and that had been used for years. Many participants emphasized that POS development is not really new because they had been supporting or working on occupational programs, and even helping with Tech Prep articulation, for years. One focus group member remarked that the recent POS process basically made the former articulation and alignment system they had in place clearer through the use of more uniform POS templates, and broader, because POS programs are available for both general education and occupational education.

- **POS are more than just about CTE: They are about basic educational reform connecting academic learning with real-world contexts.**

Most participants in the six states suggested that the POS system in their state, despite the tremendous requirements for detail and paperwork, was a positive force because it promoted dialogue and discussion among and between secondary and postsecondary institutions and business and industry personnel. The POS system in each state gave POS stakeholders a venue in which to focus on what was being taught, what needed to be taught, and why it was important to have articulation and collaboration between educational systems and business to produce high-quality preparation for education, work, and life. Good education, they suggested, combined academic learning applied in some real-world context. Interactions with members of business and industry, social organizations, and public spaces helped ensure that their input was used in supporting POS instruction that is relevant and applicable to situations in life after formal schooling. Several commented that that was what POS and Perkins IV were all about—and that high-quality programs across the board had similar characteristics. Several mentioned that they hoped the POS model would be implemented in more than just CTE and that people would come to realize that POS were a boilerplate for better programs to come. Thus, POS were simply about good educational reform in all areas.

Comments from one of the state interviews with rural participants described the engagement of Tech Prep in the process of broadening the scope of POS and indicated that POS were more than just for occupational students.

I agree that we were doing programs of study when I started seven years ago, but it was Tech Prep articulation. We have improved it over the years, but to me that was Programs of Study. But as X has pointed out, this program has made it clearer, that it is broader, and it is not just occupational programs, and it isn't just about high school students and what credits they will get. It can be broader in terms of its availability for general education, not just occupational. It isn't just what happens from high school to college, but also for adult education, the underprepared student, and the older adult who isn't coming directly out of high school. An advantage to our region is that a lot of the work was done prior [to Perkins IV and POS] and there has always been a strong partnership, especially at the postsecondary level; a very, very strong partnership to help these things get done.

This has brought more data into play. The articulation agreements—the two plus two plus two—have been in place since Tech Prep started way back. This has taken it to another level, now at the postsecondary level, where we are asking faculty to partner with their institutional research department to look at what are some of the schemes? ACT scores and accurate placement assessments help describe what would be good predictors of student success. The pilot in accounting... required an 18 ACT score for admission, but they found that if they wanted to transfer, they needed a 23 ACT score. What this does is clarify that the ACT 23 score is desirable and may lead to success in the accounting program.

We also found there was a reading discrepancy between the high school textbooks and the college textbooks. At this point, the colleges are an open door and are not looking to sort out or limit student admissions, but are going to talk to students and explain that if they had trouble reading a ninth-grade level textbook, they will really have problems with college texts. We want them to know what they are getting into prior to coming in. This is what articulation was all about.

Comments such as these indicate that there was not only concern for issues of articulation and connection with CTE, but also a focus on integrating academic subjects with CTE. Participants recognized that examining reading requirements across the different academic levels was an important consideration in the ultimate success of students in both higher education and employment.

### **Challenges to the Implementation of Programs of Study**

Data from the state profiles and interviews were also analyzed for trends relating to challenges and obstacles to implementing POS within state and local contexts. To be included in this area, comments and themes needed to be cited by participants with specific knowledge related to POS implementation in at least four (4) of the states.

This analysis showed that there were several challenges that needed to be addressed through technical assistance efforts delivered to the states. The most frequently mentioned included the following:

- **Cultural/mission misalignments existed between secondary and postsecondary, as well as between academic and CTE programs.**

A common challenge mentioned for getting everyone on board with supporting POS efforts was a perception of different aims or expectations for secondary and postsecondary institutions. Secondary institutions most often seemed focused on supporting academic knowledge and skills outcomes for their future graduates and on preparing their students for postsecondary academic work. This usually entailed secondary schools focusing their efforts on developing well-defined, aligned curricula that often needed to meet rigid state academic standards for their students to complete high school. Several participants voiced their concerns about feeling constrained by these academic standards and expectations and mentioned their challenges with these requirements when setting up POS. Postsecondary institutions, on the other hand, were characterized as being able to focus on both content knowledge in courses and on ensuring that instruction in POS aligned with industry standards where there were strong local occupational links. It was expressed that it can be difficult to foster the spirit of collaboration across secondary and postsecondary levels when some perceive that there is a misalignment between education aims and expected outcomes for these different levels and different programs. An additional alignment challenge between secondary and postsecondary efforts was due simply to legal restrictions—students under 18 are not allowed to engage in certain occupations or occupational activities for reasons of safety or statutory limits. An example of this affects POS programs in Radiography, in which academic alignment between high schools and colleges can be worked out, but high school students cannot participate in the practical workplace aspects of the field due to legal restrictions related to exposing minors to radiation.

Differences between academic teachers and faculty and those in the CTE realm were also noted during the site visits and in the written reports. It was suggested that many academic teachers viewed education in a more theoretical mode, believing academic knowledge could or should be taught in terms of academic application. CTE teachers, on the other hand, were more often discussed as educators who saw education in terms of its connection to applications in real-world, occupational settings.

These suggestions regarding secondary and postsecondary schools and academic and CTE educator differences have existed for a long time. Many participants discussed these in terms of challenges they encountered when trying to engage needed POS stakeholders across education levels and community units. Several participants said that collaborative successes occurred after they spent extended periods of time working on developing more personal relationships to support their needed levels of POS collaboration, cooperation, and articulation. The missions and focus of secondary and postsecondary institutions is often different, especially because of the age of the students and their ability to operate independently in the world of adults and the world of work. In addition, in both secondary and postsecondary education, the notion of connecting academic instruction and CTE programs has been around for a long time. Getting academic

teachers to actually work with CTE personnel, and getting postsecondary faculty to work with and respect secondary education teachers, remains the same challenge it was many years ago. The challenge was increased by recent POS development expectations. Many voiced concerns that, between now and the 2013 Perkins IV deadline, there will not be enough time to develop the relationships needed to achieve POS goals in their states. Budget cuts over the past few years have exacerbated these problems, leaving many programs short on people who can lead ongoing POS efforts and on POS support staff.

- **Time and resources are needed to support all the demands of POS development and certification.**

Another challenge included the amount of time required to complete paperwork for the educational systems involved to obtain official certification and authorization. Most felt that the paperwork, articulation, collaboration, and group development of curriculum and dual credit systems were enormous challenges that would require more time and resources to effectively implement to the letter and intent of POS legislation. One state postsecondary coordinator reflected the comments of many of those interviewed across states. She defined the local challenges, including time and resources, as follows:

- This project [POS] is very time and labor intensive—the consortia are having trouble finding the right balance of job duties for both secondary and postsecondary in order to concentrate on this initiative.
- This project also needs on-going changes and revisions, so it will need to become a permanent part of someone’s duties ... I am not sure we considered that when we developed this tool.
- Counselors often get assigned this duty along with so many other things in the school district and they are having trouble getting the work done.
- Small school districts are the most resistant because they generally have limited course selections and do not meet the “purist” criteria of POS—therefore they are worried about open enrollment when this information becomes public.

One secondary coordinator suggested what many others indicated about the POS systems in their districts and states: “It is that they [POS and attendant articulation and alignment systems] take way too much time for the limited impact I believe they will have on CTE and Perkins goals.”

Time and resources were seen as necessary to develop the relationships and systems (e.g., between schools and business) required for successful POS. Time and resources were perceived as in short supply if the 2013 deadline was to be met. It should be noted, however, that many seemed optimistic that the work needed to meet the Perkins IV expectations by 2013 would improve their POS systems overall.

- **Real-world occupational pathways are not always linear.**

Individuals in every state mentioned problems with how real-life career pathways and processes allow students to gain occupational access, training, and placement in jobs. Discussions revealed

a conundrum: Secondary students were often not old enough to gain access to jobs or even legally perform some of the tasks in certain occupations (e.g., safety issues and legal restrictions in certain health occupations). Thus business and industry representatives relied more heavily on postsecondary programs for certification and placement. Yet, as mentioned by several teachers and business people, some students do well in secondary programs and get job offers right out of high school; such students do not make an immediate transition into postsecondary training programs. According to our participants, this means that although a student may achieve occupational success and skill attainment at the secondary level, such outcomes may actually undercut the standard for success for POS—transition to and acquisition of postsecondary certificates or degrees. Programs in which students powerfully benefit from participating may appear to be unsuccessful. One business advisor described this problem based on his own experiences:

When I graduated from high school, I got a job right away in industry. I worked for a few years and then came back to continue my education...in a slightly different field. I graduated from college and have been involved in several business ventures since. So, even though I benefitted greatly from my CTE courses, my FFA and 4H experiences, I wouldn't be a success for POS because I didn't follow the strict path to community college.

Both secondary and postsecondary CTE faculty members discussed how they actually had to “discourage” business and industry partners from hiring students “too early.” Some students would complete an internship or occupational experience with a company and the employer would be impressed enough to offer her or him a job. However, in some cases, the job offer (often responsive to the needs of the local labor market) was immediate. This meant that the student was taken out of the secondary-postsecondary POS pipeline and therefore could not be deemed evidence of the success of the POS.

An additional issue, as noted in several states, was the inherent conflict in developing POS that were labor market sensitive—a process that often required a year or more of development and implementation before the POS could enroll students. In states in which there was close attention paid to developing “high-priority” occupations (assumed to be an important part of the Perkins IV legislation), POS were occasionally developed and implemented after an occupation had dropped off the “high-priority” job list.

This discussion suggests that there were concerns about how to track and measure occupational and educational success when students didn't always follow a straight path from secondary education to postsecondary education and training to employment. Participants wanted POS efforts to allow for more flexibility in determining a true positive outcome.

### **Recommendations and Discussion**

Based on these general trends and themes derived from the data, there are several recommendations to be made as we move forward with the implementation and development of high-quality POS. Our goal in this section is to highlight just a few of the more important and

realistic goals and activities that could be undertaken in the years ahead to ensure the successful and sustainable implementation of POS.

- **Continue the collaboration between state and local personnel around issues of articulation, alignment, and course and program implementation.**

There was little doubt in all six states that POS were a worthy endeavor and should be continued, improved, and expanded. As noted earlier, many participants felt that POS were more than just a CTE program. They were about a larger vision of connecting academic learning with real-world contexts so students learn how academic subjects can be applied in work and community settings; how language arts, math, science, and social studies can be used in architecture, agriculture, welding, or the fire or police service.

Such connections and collaborations need to be continued at both the state and local levels. It did not really matter if the state considered itself top-down or local control; the work involved actions, resources, and partnerships on both levels. Those responsible for implementing POS had to make adjustments in response to local conditions in their states that both helped and hindered the process.

States were clearly not all the same. For example, participants in one state reported that the Governor's office was highly involved in POS development. The governor and his representatives had a clear agenda about how POS and CTE would be implemented, were very concerned about urban implementation, and spent time focusing on issues affecting only the state's largest urban districts. Sometimes the interests of those on the political side of the equation differed with the thinking and planning of local CTE staff, so those differences had to be ironed out before everyone could move forward in unison.

Most other states had governors' offices that were intimately involved with planning and policy issues for POS but worked with local CTE staff in a compatible manner. In these states, there was a unified purpose and plan for POS, resulting in more opportunities for input from local staff and local businesses in the overall state strategy.

One of the suggestions offered through our site-level interviews emphasized the need to develop sample curriculum models to help everyone conceive of what POS actually looked like as an instructional strategy. One individual mentioned many different points of access to engage in technical assistance—from meetings, to webinars, to conferences. In this participant's state, the state held common meetings and information exchanges to update knowledge and skills; the state also produced Resource Guides that helped to model what an effective, well-designed POS looked like. Almost all of the states had similar processes in place. Yet the actual guides and models proved to be most helpful in engaging others in the process. Continuing to produce such documents that model the process may be one of the best ways to expand the system and help newer districts and personnel create their own POS efforts.

In one state, information on POS development is being collected and shared between the state and the various colleges collaborating with it to develop POS. An extensive POS website has

been set up and includes POS online training, a POS Resource Guide, POS working documents, archived information on POS development efforts, and grant information. Online meetings and webinars, conference calls, visits to sites, and statewide conferences are also used as venues to provide additional updates and support on POS efforts and federal mandates. POS templates for specific program areas (e.g., accounting or health sciences) are made available for anyone in the state involved with POS efforts. These templates can be copied and modified as needed for specific colleges and programs.

One program administrator in a health sciences program mentioned that having a Resource Guide had been extremely helpful because the steps in the guide offered direction for her team to address what was needed in her program. She also emphasized that having a state POS support person to facilitate the process was helpful because this person was in constant contact and offered lots of resources that they could choose to use or not. One participant reported that online POS meetings were helpful even if she could only just sit and listen. Another focus group member commented that, in the past, there had not been a lot of technical support for Tech Prep beyond an annual or semiannual conference or update. This participant believed that the new system was very good by comparison because, through the pilot process, they had had very good support, monthly training, and ongoing meetings with the state support team.

Participants believed that they greatly benefitted from written models and the guidance of personnel who could help them interpret, copy, or use such models to produce new programs. It would behoove all states to continue such efforts and help to expand POS as true statewide initiatives.

More specific recommendations for technical support mentioned by participants were: helpful management, leadership, frequent meetings, conferences, and online meetings (usually guided by one or two units overseeing all POS development sites in the state). Other helpful technical supports mentioned were websites containing POS development guides or frameworks, basic program information, working documents, templates, webinars of past online meetings, and online training options for developing specific components of a POS. All of these were stated as being helpful or useful for the people working on POS development. However, all of these supports require resources to sustain, and several focus groups expressed concern that ongoing budget cuts threatened current levels of support.

- **Find a way to streamline the paperwork and approval process so as to remove some of the burden from teachers and business and industry representatives. Try to keep the process simple and consistent—don't keep changing the requirements and system each year.**

A secondary coordinator of CTE in one state emphasized that staff turnover and changing requirements and systems both delayed the process and made some teachers and other personnel frustrated—enough that they were hesitant to stay connected for the long haul. She noted:

For the past four years, working with the implementation of Perkins IV has been a series of stops and starts. Some of the issues had to do with the difficult task of designing a new

model for CTE, and some had to do with the turnover of key staff involved with CTE at state, regional, and district levels. CTE Program of Study development in our district will be good in the end, but a description of our uneven start follows:

#### 2006-2007 Transition Plan

The state identified five core elements and developed five statewide task forces to define each element and determine related components.

#### 2007-2008 Original POS Application

The POS Application was written by the state CTE team and every high school building receiving Carl Perkins funds was required to have one CTE POS completed, approved, and ready to implement by September of 2008-2009. Program instructors in the district worked many hours to research and prepare their applications, but the state revised their specifications throughout the school year. In the end, no POS applications were accepted in the state. The 10 applications district teachers thought they had completed (along with all the other regional applications in the state) were never reviewed, and all applications were given a new deadline of June 2009.

The state director overseeing CTE took another job, and the state CTE coordinator retired. The district director of CTE took a full-time principal job. CTE operated as its own department in the district.

#### 2008-2009 POS Application Rewrite

All of the POS applications previously submitted needed to be rewritten according to a significantly revised application. This was frustrating for teachers, and it was difficult to get them invested in a second effort. All 10 applications were submitted with the required documentation in June of 2009, but most lacked solid evidence of real change to meet the requirements of Perkins IV. The applications with recommended modifications were all finally approved as POS.

The new state CTE Coordinator was hired for another position in the department, but she continued her CTE work for lack of a replacement.

The Regional Coordinator retired in May.

#### 2009-2010 POS Application Re-rewrite

The state again rewrote the POS application, delaying its release until February of 2010. Two Marketing programs, one Early Childhood Education program, and one Health Sciences program will submit applications this year, due June 30, 2010. The instructors are working extremely hard to make up for the late start on the application.

The state has not yet replaced the CTE coordinator, but interviews of applicants for the position are scheduled. The new Regional Coordinator was hired in December 2009. A community college dean filled in from May 2009 to December 2009. The CTE in our district was reassigned to the Curriculum Department.

2010-2013

The remaining district CTE Program of Study applications will be submitted during that time period.

Clearly, this description points out the challenges of developing a system in which the guidelines and requirements changed from year to year and there was turnover in key staff roles. It suggests that states need to work on developing guidelines and systems that have a level of consistency and uniformity so that people “on the ground” don’t have to keep revising what they do. This frustration was expressed in all of the states, so it needs to be addressed as well as possible, given the other factors that require or force states to alter their systems to respond to evaluation feedback and to changes in the federal operation of the legislation.

- **As some states have done, develop stronger partnerships with other postsecondary education institutions to assist with staff training and evaluation. There should be special emphasis placed on teacher development and training models to connect academic instruction with real-world contexts.**

Comments from participants in a few states indicated that the entire CTE and POS efforts could be strengthened if teacher education institutions (universities) would place a greater emphasis in the preparation of teachers on actually connecting academic instruction with real-world settings. They suggested that teachers, if they hadn’t had personal experience teaching in this manner, weren’t adequately prepared to make the connections and were also underprepared to evaluate the learning outcomes of such connections to ensure that students understood how and why such learning was critical to life-long educational programs.

For example, both a teacher at the secondary level and a faculty member/dean at a community college talked about how they were working collaboratively with the local four-year institution in their city to ensure that teachers participated in joint training efforts to ensure they included work-based learning in their academic teacher preparation. This, they said, was critical if the concepts of POS were to be implemented more broadly across the educational spectrum. CTE, they claimed, couldn’t exist in isolation from mainstream academic teaching—and all had to work together in order to make the goals of Perkins legislation a reality.

- **Develop a publicity campaign within the state that promotes POS, explaining why they have value for all students.**

Following the belief that CTE can’t drive the POS initiative alone, participants in several states indicated that they would like to see information campaigns that focus on the positive outcomes made possible by POS. Such campaigns might explain why, how, and where students can engage in such programs and enjoy experiences that lead to employment and a feeling of accomplishment as they achieve both career and educational goals.

One postsecondary coordinator summed it up this way:

At this point, consortia and the public are getting mixed messages: State staff are talking about POS in the purest form. Local implementation is not that clean and simple. We need a middle ground—from the federal government down, we need to have a conversation about why we are promoting Programs of Study. Then we need to talk about how to honor what all school districts are able to offer students and determine how POS works in all areas. We should develop a sliding scale with students to help them understand why they should care about a Program of Study; that is:

- Academic Beginning = no CTE pathway-specific courses;
- Career Introduction = one CTE pathway-specific course
- Career Exploration = two or more pathway-specific courses and some type of college credit available (appropriate student organization or service is a bonus)
- Model = generic state model available for review and comparison

We need support—information sharing—a media blitz type of process [that goes] from the Federal level to the states [that] shares the concept, values, criteria, and what students can expect from having this information. We should also share some success stories ... and some challenges.

[We also need to] give people information and enthusiasm for this initiative. At this point it is a secret—we are doing this work in silence with no end date in mind. We are doing it so slowly that it is very hard to keep up the enthusiasm. We have no testimonials of success or excitement.

She felt, as did many others, that there needs to be a better public dialogue about CTE and POS so the public can get behind the initiative and make it a more visible and supported educational endeavor. Across interviews and focus groups, it was deemed very important to share success stories and demonstrate that POS are working. For example, several states had data on CTE and POS students that showed that more of them stayed in school, excelled in academic achievement, and were engaged and passionate about learning. One student, interviewed at a career and technical center, said: “I’m here because I get a chance to do things, to make things, and to interact with my friends and the teachers. I was bored at my home school.”

- **Ensure, no matter what the configuration (top-down or local control), that there is sufficient information flow so that those “at the top” may constantly hear and react to the comments or perceptions of those people “on the ground” who are actually delivering the instruction.**

A consistent theme shared by participants in all states was the need to integrate the practical world of teachers and faculty who were implementing POS with the more idealized perspectives of state-level personnel. There was a constant tension between those who were responsible for developing overall policy for the state and those charged with implementing programs at the local level. This is a normal tension in developing any large system: It must have some standardization and overall plan and design, and yet it must be flexible enough to accommodate local situations and contexts that require modification.

All states were aware of this issue and were attempting to address concerns. The perception was that insufficient resources were available to address issues adequately. It will be important for state-level personnel to continue to engage in dialogue with practitioners so that their concerns are addressed. At the same time, local practitioners need to be aware of national and state goals and agendas, which sometimes don't always align with reality on the ground.

There is no easy fix to this problem. However, as long as all involved are aware it is a tension and are committed to seeking solutions, conditions may improve.

- **Focus on making counselors an important part of the POS team.**

In most states, people believed that counselors could be much more helpful in making students aware of both the potential of POS and the positive outcomes that could follow from knowing about and following POS plans, courses, and related experiences.

One postsecondary participant commented, saying: “The Program of Study has a counseling component—give counselors and career centers information to share with students and parents about what information and direction the Program of Study can offer students in choosing courses and experiences in high school and when taking that next step.”

This statement suggests that counselors can become one of the key elements in the POS design, but they need to have more information to share with students and parents about which programs are available and how those programs might enhance students' educational and career goals. The more students become aware of the scope and benefits of POS, the more likely POS will become central to the school culture and accessed by a more diverse student population.

- **Collect appropriate and accurate data on participants and program outcomes.**

One of the overall challenges to the POS system was the collection of data. Concerns were expressed about not being able to easily categorize program participants at the secondary level and the difficulty of tracking them into the postsecondary system. Each state seemed to have a slightly different model for identifying and monitoring student progress and outcomes. It is therefore necessary and vital that the states work with the Office of Vocational and Adult Education (OVAE), the National Research Center for Career and Technical Education (NRCCTE),<sup>2</sup> and other national and state entities to establish a uniform monitoring system to collect data on program outcomes, especially those related to educational transition and employment.

An individual from one of the states expressed her concern about the issue in the following way:

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<sup>2</sup> The NRCCTE's Crosswalk Validation and CTE Accountability and Evaluation projects, directed by NRCCTE Deputy Director Pradeep Kotamraju, address these concerns and more. See the NRCCTE's [CTE Accountability and Evaluation page](#) for more information.

I am unhappy about one aspect of the Tech Prep data reporting. The state has elected NOT to use a potentially powerful part of the system for the identification of Tech Prep students. Instead, they are still asking the postsecondary to identify the Tech Prep students. The state has:

- A single educational id number that follows students secondary to postsecondary.
- The secondary system reports by id number the students' CIP code and whether they are Tech Prep, POS, or occupational classified student.
- The postsecondary reports data by the same id number.
- The postsecondary provides College major CIP code data for them.
- Hence, they could easily code if a student was Tech Prep or POS in high school, if they continued to our College, and if their CIP code “matched” the high school. This is the state’s definition of a Tech Prep student.

Instead, we are to do all of this matching and data collecting internally at the postsecondary level and report the data to the state if the college student is a Tech Prep student or not. This process takes one Tech Prep staff member about 2 full weeks a year to capture all of these students—and I still think we miss a few.

Our College is lucky to be both a Tech Prep consortium and a local plan institution so ... we know how to find out this information. For the other postsecondary institutions that do not have Tech Prep contracts, I wonder how they are ever going to collect this and how accurate this data will be. I am guessing that it will either not be collected or will be very inaccurate.

It is important to construct a system that can identify and monitor the progress of its participants. Because there is more than one CTE POS, and because secondary and postsecondary tend to track and identify students differently, there is potential for missing students (and potential success stories). Continued dialogue between federal, state, and local personnel regarding this issue may lead to an acceptable resolution to the problem.

- **Recognize the legal and logistical restrictions in developing POS efforts and resolve them in realistic ways.**

Individuals from almost every state discussed some of the issues that prevented them from developing POS. Some were concerned about legal restrictions, especially for secondary students, that prevent students from performing the physical activities of certain occupations identified as strong POS models. In addition, they also mentioned logistical problems involved in connecting with community colleges when there was a mismatch between what was offered in one system and not offered in the other. One participant stated:

Other logistical issues for POS development discussed ... in this state are POS Perkins mandates requiring programs to have a secondary partner, which sometimes conflicts with health and labor laws. For instance, one group remarked that for their Radiography program, they needed a secondary program that could feed into it. However, by law, if

you are younger than 18 years old, you cannot be exposed to radiation. So developing an x-ray program in the high schools in this case would not allow the students to gain the workplace experiences necessary for this type of program.

There was a similar issue regarding their interest in building a food science program. Company and state labor laws prevent students from gaining the hands-on experiences needed for this type of a program at the local food manufacturing organizations before they are 18 years old. So, even with the colleges, health, and other local organizations interested in helping students seamlessly transition into specific occupations from the secondary level, there are practical barriers that need to be addressed in order to complete the mandates and intent of the Perkins legislation.

Besides these legal and practical issues, there were also concerns about not having matching programs between secondary and postsecondary. One participant put it this way:

Interestingly, it was not only the postsecondary system ... trying to align program options with ... secondary education levels that was a concern. There was also a need to match this high school program with a postsecondary partner ... that had the same program courses and projects. In this case, a high school offered auto mechanics as a program, but the local community college did not have an auto mechanics program.

One participant said: “One of my biggest frustrations is that I can’t do an articulated dual enrollment Program of Study with our community college partner because they don’t offer the course.”

To address this logistical issue, some people were creative in finding solutions. However, the solutions often worked for the students and the system but didn’t quite match the data requirements for POS. Thus these programs lost claimed successes because the POS initiative didn’t accommodate colleges that were out of state (even if these colleges were closer to the main CTE campus offering the POS).

One collaborative clearly wanted to offer their students options, and because they were near a state border, they actively sought and created program agreements with colleges across the state line that had programs into which their students could matriculate. However, because these program agreements were not between secondary and postsecondary institutions within the same state, the program was not considered truly articulated.

A focus group member voiced concerns about the time spent on POS development and the need to ensure that whatever they produced should be useful for students. He suggested, “If the need is just for compliance to the state, then maybe we should not put so many resources into it.” Similar concerns regarding the work and time spent on POS development were voiced in other states.

Additional technical assistance efforts need to sort out technical challenges like these so students can seamlessly transition into suitable programs and the POS system can claim credit for the successes for which it is responsible, even when those successes don’t quite comply with state mandates or definitions.

## The Findings in Context

Sarason's *The Predictable Failure of Educational Reform* (1990) is a frequently cited work on the challenges of changing the educational system. Sarason argued that educational reforms fail because reformers don't address the power relationships involved in school decision-making and don't develop plans for systemic change. He suggested that teachers need to have more power and authority in developing educational programs; that systems need to address the primary challenge of making schooling interesting, relevant, and connected to the lives of students; that we need to teach students, not subjects; and that instruction needs to involve the entire community, including business interests and parents. A primary challenge is engaging students in learning and stimulating their passion and curiosity. Sustainable educational change will require getting students involved in learning that affects their current and future lives and helps them develop critical thinking skills and ways of applying knowledge.

Findings from this study align with those found in a study by the Academy for Educational Development's National Institute for Work and Learning (AED/NIWL, 1996), which contained recommendations for policy considerations in developing new school-to-work (STW) initiatives. Reviewing the literature on CTE and school reform, the study identified 12 elements that affect quality STW programs. They included the following items.

- Element One: Leadership from executives of educational systems
- Element Two: Leadership from program deliverers
- Element Three: Professional development for teachers and other staff
- Element Four: Cross-sector collaboration
- Element Five: Student self-determination
- Element Six: School-based curriculum and instruction
- Element Seven: Work-based learning strategies
- Element Eight: Integrated career information and guidance system
- Element Nine: Progressive system that starts before grade eleven
- Element Ten: Articulation with postsecondary institutions
- Element Eleven: Creative financing
- Element Twelve: Application of research (AED/NIWL, 1996)

Nearly all of the issues and findings in this current report contain most of the 12 elements identified by AED/NIWL. Included in the AED report was a statement consistent with the present study's recommendation that there be more publicity about POS efforts in order to educate both policymakers and parents about their value. The AED/NIWL (1996) report stated:

Another implication of the AED/NIWL study is the need for more widespread and effective publicity about STW—locally, nationally, and at the state level. Parents, teachers, and employers often do not understand STW, let alone how it could benefit themselves and their children, students, and prospective employees, respectively. Policy makers, who do not understand STW, cannot appreciate how regulatory or financing systems create arbitrary and unnecessary barriers. These informational campaigns should recognize the distinctions among these prospective audiences and incorporate the principles and techniques of "social marketing," a marketing approach that attempts to

influence people to voluntarily change their behavior, through persuasion, incentives, or social norms.

In other literature on community and educational reform, notably Schorr's *Common Purpose: Strengthening Families and Communities to Rebuild America* (1997), we find language similar to that found in the present report. Schorr suggested that reform is difficult to develop if there aren't clear goals and sufficient community support, including parental support. Besides emphasizing the need for early childhood education, she noted that teachers need to have more autonomy, that one size does not fit all, and that there is no silver bullet to drive reform. She also noted that successful reforms create "intentional communities" in which teachers have some autonomy to teach. It is critical that there be essential connections between school and work, and she cited the importance of apprenticeship programs "run by unions, trade associations, and schools where learning takes place in both the school and the workplace (p. 294). Career Academies, which integrate "academic and vocational instruction around broad career themes" (pp. 294), are needed to teach youth the knowledge and skills for the 21<sup>st</sup> century. She also called for more cooperative education, in which students work and learn at the same time, and for more school-based enterprises, where students can combine work with entrepreneurial efforts. Schorr cited the 1994 School-To-Work Act as a model for the future, allowing states more autonomy in developing their programs and encouraging more development of a coherent system to "weave the various elements together in a coherent system" (p. 294).

Schorr's review of the literature and suggestions echo many of the findings in this study related to POS, including that there needs to be autonomy at the state level for developing POS. Further, there needs to be a coherent system based on clear goals and aligned curricula between educational systems. Finally, good relationships must exist between all members of the educational community. POS connect schools with business and industry, align curricula between secondary and postsecondary, and ensure some level of accountability and clear outcomes. Schorr's comments about school-based enterprises echo this study's findings about the power of student career and technical organizations as opportunities for students to enhance their career knowledge and skills and learn to work on projects outside of school that lead to enriched learning and entrepreneurship.

On a similar note, the recent Pathways to Prosperity project (Symonds, Schwartz, & Ferguson, 2011) presents a synthesis of reports that suggest the United States needs multiple pathways for students to pursue success and that CTE and work-based learning are key ingredients to moving the nation forward. With the highest dropout rate in the industrialized world, the United States needs to engage students in relevant learning and work-based learning, career education, and education that connects schooling with the community and connects academics with practical learning. European countries have well-established educational systems that place a large number of students in programs that connect academic study with learning in the workplace and that emphasize CTE as a necessary and equivalent learning activity for a majority of students. These programs connect youth with the workplace during secondary education; connect secondary and postsecondary education in ways that promote learning job skills, allow participants to engage in college-level learning in most areas, and connect academic and vocational programs.

In a recent study of dropouts sponsored by the Gates Foundation, *The Silent Epidemic* (Bridgeland, Dilulio, & Morison, 2006), the authors conducted focus groups with 467 youth aged 16-25 who had dropped out of school in 25 locations across the United States. The authors found that almost half of all participants reported being bored with school, even though many had passing grades and might have finished; many participants recommended that education needed to be more relevant to their lives. All were clear about what would have helped them to stay in school: More than 80% agreed “that if schools provided opportunities for real-world learning (internships, service learning projects, and other opportunities), it would have improved the students’ chances of graduating from high school. Outside studies have noted that clarifying the links between school and getting a job may convince more students to stay in school” (p. 12). Teaching and curriculum that make school more relevant and connected to the world of work and positive relationships between youth and adults also make a difference in helping students feel connected to school.

As indicated in this report, POS have the potential to engage students in rigorous and sequenced education that makes learning active, relevant, connected to the world of careers and work, and delivered through courses that honor student choice and meaningful educational practice.

### **Conclusions**

In this study of six states and their development of POS under the Perkins IV legislation, we learned of strong efforts to create collaborations between business and industry, secondary, and postsecondary partners focused on integrating academic learning with CTE. The goal of POS is to produce non-duplicative course sequences and programs that engage students, from secondary to postsecondary education, in long-term journeys to acquire knowledge, skills, and employment in desirable fields. Every state had examples of excellent programs in which all of the elements of POS worked in flawless concert. Teams of “champions” with strong backgrounds in Tech Prep and academic integration who were dedicated to improving CTE worked with local practitioners to ensure that POS had solid backgrounds, rigorous curricula, and sustainable connections with business and industry. These teams also worked to create schools in which project-based learning is the norm and student, faculty, and community engagement are flourishing. From the Charter School in State A to the Career and Technical Centers in State F, states brought together curriculum integration, articulation with community colleges, and the input of advisory committees to ensure that they had high-quality POS leading to postsecondary education and post-college employment.

Strengths in each state included their overall planning for program implementation and ability to provide teachers, counselors, business partners, and school and college administrators with support, models, and resources to develop a high-quality POS system by 2013. All states relied heavily on their own experts and champions who were familiar with previous CTE efforts (including Tech Prep) in order to produce secondary and postsecondary partnerships that connected courses and aligned curriculum with state and national standards and incorporated the needs, advice, and expectations of business and industry. Most states had well-developed systems for connecting secondary and postsecondary programs and for connecting educational standards and outcomes with instructional integrity and applicability.

Although states had many strengths, participants articulated some concerns and challenges that need to be addressed. Program models need to listen to people working “on the ground” in order to understand the complexities of implementing federal legislation at the local level. There were not enough resources, according to participants, to carry out all the charges of the Perkins legislation. There was not enough time to develop good relationships between secondary and postsecondary teachers and faculty and not enough financial resources to manage the articulation, alignment, and data collection processes inherent in the system. Developing the connections, relationships, and alignments was labor- and time-intensive work; many felt their progress was not as good, thorough, or timely as they had hoped. Developing standardized systems to identify, monitor, and measure the progress and success of POS eluded many states. Although a complex task, this process needs more attention and analysis in order to build a system that is both structured and measured through uniform indicators and descriptions.

In reality, not all POS programs can be structured and aligned as mandated by Perkins IV. Students in secondary schools were sometimes too young to participate in certain activities because of legal or age restrictions. Other POS lacked the logistical connections between secondary and postsecondary programs; for example, a course or occupation offered in a high school might not be offered in the community college servicing the region, or vice versa. Program coordination remained a challenge.

Labor market connections also proved elusive. We heard from many participants that movement through education and training programs does not always occur in a linear fashion. Students sometimes get jobs early and step out of the educational pipeline, only to return at a later date—and sometimes into a different career and training focus. Capturing this dynamic process in a nationally prescribed system was difficult in some cases.

Although half of the states received technical support from outside sources, delivery of technical assistance for these six states was primarily an inside job—state-level personnel, partnered with local “champions” and knowledgeable individuals, helped make the system work and provided the energy and passion to ensure that the principles of CTE and POS were well articulated and implemented.

What should we do with these stories? We need to take time to distill our findings and come up with only slightly revised strategies to continue the forward momentum of POS. This report might serve as a template for other states new to the POS development process to analyze their strengths and challenges and develop a list of “must do” activities. Delivery of technical assistance clearly appears to be an essential element of any federal, state, or local model of learning and career and employment preparation. We offer this report as a means of adding detail and substance to the discussion of POS as a national model for CTE.

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## **Appendices**

Appendix A: State A Report  
Appendix B: State B Report  
Appendix C: State C Report  
Appendix D: State D Report  
Appendix E: State E Report  
Appendix F: State F Report  
Appendix G: Protocols/Questions

## Appendix A: State A

State A is a western state that has a long history of work with Career and Technical Education. Much of the early preparation for Programs of Study was conducted during the first transition year, 2007, for Perkins IV, where individuals worked with local/state personnel to develop the framework and structure for the effort. They developed the state system for standards and alignment procedures and established the basic understanding that this would be a locally driven initiative. A state advisory committee met to consider the particulars of the program and then laid the foundation for the subsequent development during the following years of Perkins support. The State Department of Education unit involved with Programs of Study used an advisory committee to help develop a State Recognized Program Guide and Application packet that directs the development of individual POS efforts at the local level. The state sets numerical goals for the POS approved programs it hopes to achieve during the year through local entities, working collaboratively between secondary, postsecondary, and business/industry members. The state DOE Programs of Study Committee helped to formulate a system that describes each element of the POS model and came up with the ideas for the four (4) core components at some of the early meetings of the task force in 2007-2008.

The current effort this year is being conducted on two levels. There is a general focus on POS led by a state person responsible for CTE/POS, and there is also a state leader specifically for those programs that emphasize “green” technologies and “green” POS. The “green” group has its own advisory committee that meets periodically to discuss program requirements, policies and procedures. It is supplemented by involvement of a state facilitator from a Washington, DC educational organization that has specific expertise in “green” Programs of Study.

The current implementation structure calls for regional coordinators to direct and engage local secondary academic teachers and administrators, CTE personnel, community college faculty and administrative staff, and business/industry representatives in a process of producing hundreds of POS approved programs and models. This group is continuing to address the issues of articulation and alignment of both general and “green” POS efforts, stressing the necessary collaboration between secondary and postsecondary institutions.

In State A there are common core elements that are required for all approved programs: 1) Standards and Content, 2) Alignment and Articulation, 3) Accountability and Assessment, and 4) Student Support Services. There is a fifth element that is included in the state framework, Professional Development. It is in this context that much of the technical assistance for development of Programs of Study is found.

State A has developed 604 approved Programs of Study in their high schools. The programs are focused on the following areas:

<b>Six Career Pathway Areas with their CTE Endorsement</b>		
<b>Agriculture, Food and Natural Resource System</b>	Agricultural Science and Technology Forestry/Natural Resources Integrated Environmental Technology	
<b>Arts, Information, and Communication</b>	Communication Journalism Communications Technologies Design and Applied Arts	
<b>Business and Management</b>	Administrative Services (IT) Financial Services Hospitality and Tourism Marketing/Management	
<b>Health Services</b>	Health Services Leisure and Fitness	
<b>Human Resources</b>	Education Family & Consumer Sciences Legal & Protective Services	Personal Services Social Services
<b>Industrial and Engineering Systems</b>	Computer Technology Engineering Technology Manufacturing Technology	Construction Mechanical Systems (Auto)

### *Technical Assistance*

Technical assistance for the state was delivered through two primary sources. The State Department of Education provided assistance, directed by a state advisory committee consisting of representatives from secondary, postsecondary, and business/industry constituencies. Such help occurred through local professional development meetings and a yearly conference that brought teachers and coordinators together to address issues of CTE.

The state DOE maintains an active website with various pieces of information pertaining to Programs of Study. From a listing of approved programs, to information about the state's five areas of program focus, there are materials provided to help all concerned develop high quality efforts for POS in their area.

There are 15 regional CTE coordinators in the state at the secondary level who are responsible for a majority of the technical assistance provided to all CTE personnel. During this study we had occasion to talk to 3 such coordinators, in addition to representatives from two community colleges and three representatives from business/industry concerns.

Discussion with CTE coordinators revealed that each conducted a series of workshops and trainings that focused on CTE and Programs of Study. The bulk of the technical assistance was provided at the local level by the Coordinators. Each held a series of meetings with teachers and administrators (and community college faculty and representatives) to discuss the Programs of Study application process, the background of CTE and Perkins IV legislative impact on program development, and other issues related to education, training, and skill development.

At one advisory meeting, held in May in an urban district, 26 individuals representing CTE teachers, district and building administrators, industry representatives, postsecondary faculty from a local community college, CTE students, and CTE support services covered a variety of topics related to the history and purpose of Carl Perkins and legislation named in his honor, to intricate details of how programs were being conceived and developed, as well as the actual listing of funding available and how it was intended to be spent. It was at this meeting that some plans were made for follow up trainings for teachers and postsecondary faculty in terms of how POS was being developed and how applications were being approved for implementation.

Similar types of meetings were held in the district consortia (9) that made up the rural program investigated. The researcher for this state actually attended one of the trainings designed more for assisting teachers to fill out POS documentation and engaging them in planning and distribution of Perkins IV funds for the various programs and efforts conducted by the consortia. This meeting was attended by a similar group of individuals from the local community college, as well as by district administrators and a business/industry representative. What was impressive about this particular meeting was the tremendous extent to which the CTE coordinator was attempting to assist the teachers with the paperwork involved in preparing an application and in aligning curriculum with the various state standards. Teachers were very appreciative of the effort, sharing that they thought the time involved in the paperwork was one of the most daunting parts of the POS process. The local CTE coordinator commented that a similar meeting held the following week went even more smoothly, gaining experience from feedback from teachers in this particular training.

### ***Backgrounds of Those Providing Technical Assistance***

It was interesting to note the various backgrounds of those most responsible for providing technical assistance in State A. The person who coordinates the broader POS work has been with the State Department of Education for 13 years working with CTE. Previous to that he was a Language Arts teacher and taught occasional CTE courses. He is considered the CTE Business and Management Specialist and attributes that designation to his personal work as a financial consultant.

The Department of Education person most responsible for technical assistance for the “green” POS effort did not have a background in CTE. His original experience was that of a science teacher. In an interview he revealed that this experience helped prepare him for the job because he always taught science in an applied manner and incorporated career knowledge into his classes. This background seemed to give him credibility (all interviewed suggested he was a terrific person who really understood the challenges of POS) and provided a personal lens through which to connect academic and CTE teachers. He was able to see the need for bringing

teachers together to share their knowledge and expertise, connecting career education with academic applications.

The person responsible for technical assistance at the secondary level in the urban district had an extensive career in CTE and had been at the high school best known for its CTE program for many years. She was familiar with the needs of the CTE teachers and was able to work, to a lesser extent, with the academic teachers at the school. As we will discover later, her greatest challenge was connecting the CTE and academic content teachers so they could develop the Programs of Study that had clear and consistent articulation between job and skill knowledge and academic content.

The person most responsible for training and technical assistance in the rural district was the youngest of the group, but she had a decade of experience with CTE efforts. She had been a classroom teacher in English, so she, like the state-level coordinator, understood the challenges of connecting CTE subjects with academic content. Most interestingly, she was a second generation CTE person in her family, with her father developing CTE efforts for several decades, even serving as a principal of a school that had strong career programming. So, she had grown up with knowledge and background of CTE and was a most respected person in the community for her position and her efforts to connect secondary, postsecondary, and business/industry constituencies.

Technical assistance was provided on three levels. The state advisory committee for the “green” POS met a few times in the year to review policy and to set guidelines for the state-wide program. They discussed the requirements for the legislation, establishing guidelines and specific requirements for program development and approval, and for modifying the existing structures to allow for more input from postsecondary and industry/business representatives. The meetings were led by the DOE representative for Programs of Study. While attendance at these meetings was not always consistent or strong, the presence of the DOE Programs of Study coordinator provided strong cohesion and vision for the attendees. He was able to carry the proceedings of the meetings to other follow up sessions (with smaller attendance) and help provide continuity for all participants. One of the business/industry representatives on the committee commented on how disappointed she was at the low attendance at a few of these state-wide meetings and how much she appreciated the work of the state POS coordinator in ensuring the important sharing of information conveyed by the participants. It was unclear how much value was added to the technical assistance efforts by the external facilitator/consultant.

Local meetings, as described above, covered the general aspects of Perkins IV legislation and its implications for implementing Tech Prep, POS, and other CTE efforts. The focus was on developing general goals and guidelines and on actually engaging teachers, faculty, and business representatives in completing all the forms and paperwork required for POS programs.

### ***Comments by Participatory Members of the Study***

Representatives from secondary, postsecondary, and business/industry were asked to write reflections about their involvement with development of Programs of Study. The protocol for those reflections is included in the appendix of this report. While not including all the comments

made by these individuals, highlights and summary statements are included to provide a sense of how they perceived technical assistance was provided and what the impact was of the POS initiative within the state system.

The secondary participant, who had several decades of CTE experience, had mixed emotions about the implementation of POS in the state. She worked at one of the CTE intensive high schools, and had contact with many individuals and districts within the state. She felt the major success of the POS initiative was its ability to get individuals from the various sectors to talk to one another (secondary/postsecondary and CTE teachers and academic teachers in social studies, Language Arts, math, and science). It also helped CTE teachers involved in Programs of Study learn how to integrate, more effectively, academic subjects with CTE applications.

The distribution and participation of students in the CTE and POS programs was somewhat uneven. The numbers indicated there was a concentration of CTE efforts in one school, with others including only a small percentage in actual CTE and POS efforts. There were nine approved Programs of Study in her school, with all other high schools in the district ranging from 0 to 3. Three high schools had no career/technical education courses. Enrollment in CTE courses in the urban schools ranged from a high of 2/3 of all students in one high school, to 13% in another, 7% in a third, and five other high schools with 2 or 3%. Three schools had no students enrolled in CTE. Thus, the urban district had one high school that focused on CTE instruction for the district, with all the others had only a small portion of students engaged in career education.

The secondary participant had several concerns about the impact of POS on CTE programs in her school and district. She felt that even though she was at a school with a large percentage of CTE courses and POS approved programs (9), efforts to get academic teachers in English and social studies to connect with CTE teachers were not going very well. There were simply different cultures that clashed, with a difference found between hands on learning and learning through theoretical and symbolic means. While teachers from the two domains did communicate, it was not clear how much the academic teachers were able to connect their courses with the more practical orientation of the CTE programs. And this perception was shared by the career/technical education teachers, who felt they were never going to be accepted as equals by their academic counterparts. One of the stumbling blocks was the obsession on academic testing in Language Arts and math required by No Child Left Behind legislation. This made academic teachers much more focused on drill and practice approaches to learning, which hopefully would result in increased test scores.

She was also concerned about the culture clash between secondary teachers and postsecondary faculty. Secondary teachers were much more able to focus on the alignment of the curriculum, connecting content standards with actual course content, whereas community college faculty covered a variety of topics and seemed less interested in writing down the minutiae of academic curriculum rubrics and charts that showed exactly what was being taught and how it covered specific content areas.

She, along with many in the study, was concerned with issues of time. The demands of paperwork, of constant change in the application process where she had to submit “my annual

application which the state keeps revising and we have to keep rewriting” were a constant challenge. She was concerned that there was not appropriate impact for the commitment required, saying that the effort to continuously complete and modify applications “took WAY too much time for the limited impact I believe they will have on CTE and Perkins goals.”

***Postsecondary Participant:*** This individual led the academic component of a community college and was the primary representative for the state Programs of Study committee. She felt there was much good that came out of the advisory meetings, even though she could only attend a few. There were many connections with secondary programs that were “robust and active, including a strong Dual Credit articulation system. She worked to develop communication between both the secondary staff and postsecondary faculty, and helped with articulation between her college and a large four year institution in her city. Here activities included explaining to members of her own Deans and faculty the expectations of POS and “encouraging and supporting collaborative engagement with secondary schools.” She serves on the Degree and Certificates committee at her institution where she is responsible for the articulation agreements between her college and other institutions of higher education.

While many of the efforts proceeded well, she had some concerns about the more “tenuous” connections between secondary and postsecondary programs. There needed to be more time for individuals to discuss the program goals and course content, and schedules and commitments didn’t always allow for this to occur. There were also some cultural issues that interfered with the collaborative efforts, such as the desire for community colleges to have faculty with Master’s degrees in academic disciplines, whereas most of the secondary teachers had degrees in Education, which wasn’t considered an academic area. There were also some historical issues between individuals at different postsecondary institutions which impeded better communication and “trust” that articulations would be carried out.

***Business and Industry Representative:*** The business/industry representative in this state was an active member of the state “green” planning committee and was intimately connected to the development of a charter school that was sponsored by the Carpenters’ Union. She provided important information about industry needs related to “green” jobs and to the connections between industry requirements and certification and job readiness. She was very highly regarded by all who we spoke with and was considered an expert in business/industry/education connections.

She was one of the most consistent attendees at state meetings and was continuously providing feedback about connections between industry demands and requirements and educational needs for students in both secondary and postsecondary settings. Her primary goal in the POS effort was to develop green building career pathways and work closely with the state POS coordinator “to evaluate and develop articulation opportunities” for the construction field. One of her roles in the technical assistance process was to work to review project products (including the Green Building Focus Standards document, Courses Matrix, and Pathways Table).”

She also assisted in the review and approval of curricula tied to newly defined pathway knowledge and skill-set statements to provide educators with a variety of web-based tools and

resources designed to assist schools with the planning and implementation of green-building focused CTE programs.

Some believed she was one of the most helpful participants at the state level in assisting to make connections between industry and education. She provided information that helped focus on building science and POS efforts that tied “strong value to educators who implemented a green building POS that was tied to fundamental, in-demand knowledge and skills, and strongly connected to industry recognized professional accreditation programs.”

### *Other Comments*

Interviews were held during the site visits with other individuals involved in the development of POS efforts. Of special note were comments made by two members of the community college team and the business/industry representative during the rural site visit. Noted here are comments that were common to all three individuals.

They all cited personal stories about their education in high school where what mattered most to them was their experience in 4 H/FFA and after-school programming with career/technical education. It was the opportunities offered through 4H/agriculture programs that helped keep them in school and provided the excitement and motivation to continue on in various career and educational modes. One went directly into the workforce after graduating from high school, and then returned to pursue a degree that supported his professional work career. The other two continued on in career programs at the postsecondary level and then went into occupations that eventually allowed them to also become instructors at the community college level.

They all said it was the opportunity to develop relationships through the 4H projects, with other students and adult mentors that really made a difference in their lives. They suggested that the power of career/technical education was in the relationship building process, where teachers/faculty and students were able to work together in engaging and challenging environments to learn things that were both relevant and interesting. All three said they learned leadership skills, teamwork, and perseverance through their student organizations....and that made a huge difference.

They also said something that was repeated in several states: “You have it backwards. It is not rigor, relevance, and relationships. Rather, it is relationships, relevance, and rigor.” Relationships are the most important part of good instruction and good program development. If people develop good relationships between academic teachers and CTE teachers, between secondary and postsecondary teachers and administrators, and most importantly, between teachers and students, then relevant learning will occur and rigorous instruction and development of systems of outcomes that can be measured will result. Given all the components of developing excellent CTE and POS programs, establishing strong and consistent relationships between all the partners was key to effective program development and effective technical assistance.

The challenge, they felt, for Programs of Study, was how to meet the state requirements for paperwork and documentation, and at the same time, develop the real importance of ensuring that students had the time and opportunity to really work with faculty, teachers, and

business/industry representatives (who were highly valued in the after school efforts) to produce effective academic and vocational training. Two of the three suggested there were problems with the overall design and expectations of POS....that many of the students don't go directly on to postsecondary work if they have had successful secondary programs, and that interferes with the "success" of POS students. Yet, this seemed to be a reality.

So, there were concerns about how to provide technical assistance for CTE instructors and programs to build in some flexibility for the system. The discussion for all three revealed they "really get it" when it comes to the connections between CTE/POS efforts and academic learning. All three talked about how easy it was to connect science and other academic content with agriculture and what a good model agricultural education was for demonstrating the CTE/academic connections necessary under POS projects. They suggested that including Ag instructors as part of the technical assistance teams might prove helpful in demonstrating to others just how CTE naturally includes academic content in technical education projects.

### *An Unusual Story....or Not?*

Visiting one of the charter schools in this state provided a unique opportunity to talk with teachers and students about their educational programs. In this school, sponsored by an industry union, secondary students focused on project-based learning tied to career applications. They integrated all their academic instruction through applied situations related to career exploration and learning career and technical skills through their problem-based format.

One young man told about his senior project. He was interested in Architecture and was learning about rendering drawings using computer programs to do the work. He said that normal rendering took a long time, several weeks, to get a drawing finished. He decided to be creative in addressing the issue of time and developed a system to actually connect all 192 computers in the school in a manner similar to that done in Super Computer Centers. The result was a huge time reduction, from weeks to several hours. In the process of developing the system he contacted a computer software company in Texas that developed the programs to do rendering....and was able to enlist their support in addressing his problem. The result: a senior in high school re-created the design for super computers and learned how to develop a sophisticated system to solve a real-world problem.

### *Summary*

If this student story describes the outcome of efforts to develop a strong school/industry connected educational program that links academic and career/technical education through project-based learning and articulation between secondary and postsecondary education, then there is great potential in what CTE and Programs of Study can do for all education. In fact, the CTE coordinator for the state suggested that the real value of POS was in its potential to provide a blueprint for education systems and efforts to tie academic learning to real world settings, and to get teachers, faculty, and business/industry representatives to be more prescriptive in what is taught, why it is taught, and how it is measured. POS isn't just about CTE, it is about education, writ large. Hopefully, others will recognize the value of developing such educational programs, and the education system will be the better for it.

## **Appendix B: State B**

State B is designated primarily as a local level state for Programs of Study, although it has some initiatives generated from the top down. As will become apparent later, its major focus was on the local level. Programs of Study were considered part of the Career and Technical Education area of the Department of Education, and its web portal begins with a description of programs of study. The POS system in State B is organized around career fields, career clusters, and career pathways. Using the interactive website students can select their high school, and then click on career clusters to identify actual Programs of Study at their school.

### ***Background***

Like other states, individuals from secondary, postsecondary, and business/industry participated in providing information and feedback about the development of the POS efforts and the nature of technical assistance. Perhaps one of the best statements of background comes from the person who was leading the state effort and represented the interests of postsecondary programs.

She recalled the history of the development in this way:

In the summer of 2007 we sent a delegation to the Academy for Educational Development (AED) in Washington DC. The purpose was to gain insight on the direction of Programs of Study from a national perspective, to learn what other states were planning and doing, and to determine an approach for our state.

The delegation of approximately twenty-five included state staff from DOE, Office Of the Chancellor (OOC), and field staff from across the state. I was part of that delegation as field staff from our Consortium also representing a Community College.

Upon our return we met a number of times to discuss what the best direction was for our state – taking into consideration the local control of school districts and other qualities and culture relative to our state. We finally determined that Programs of Study were best developed from the local perspective. We talked about the fact that as parents and students plan for their high school years they are using local tools. As they are introduced to “programs of study” and begin to understand the relationship between CTE and academic courses and enrichment opportunities in their school ... they are looking for the local course names and descriptions NOT generic information.

With this decision as the foundation of our Programs of Study I volunteered to spearhead the initiative. I volunteered because I felt strongly about this approach, because I had experience in developing a data driven website, and because I knew a web design firm who I felt could deliver what we had in mind. I began working on this project in the winter of FY08, adding it to my full-time workload. By summer 2008 I was overwhelmed with the work and the technology. Our campus hired a temporary position from July 2008 – June 2009 (FY09). She helped tremendously with follow up and testing of the various features and functions of the site, with developing next steps, with some qualitative research, and with beginning to enter data and see how it worked. In FY10 the temporary

person was hired as a contractor by OOC - Perkins office - to serve as the help desk and technical support for the website.

I continue to provide the leadership in the development of the website, and I field many of the questions from consortia.

- Our Consortia serves as the model in the development of POS. We are first to test the features and functions, to determine what is working well and what needs to be changed or modified.
- We try to be forward thinking regarding issues of concern and create solutions to problems before others realize there is a problem.
- In addition this office has developed a submission process and procedure handbook, we host monthly task force meetings to share what is happening and gather feedback from others who are developing and submitting POS.
- To date we have created most of the examples/best practice pieces that are currently resources available to the consortia.
- Our technical support person and I have visited 5 consortia in FY10 to provide concept conversation, support, and technical assistance in the development of POS. We have one work session scheduled for June 2010.
- In addition, our technical support person hosts web-ex and conference calls with many consortia across the state offering technical assistance in development, submission, and approval.
- The help-desk/technical assistance position is an 80% FTE position devoted totally to Programs of Study.
- At this point I have a split position working 60% OOC – focused on Programs of Study, Technical Skill Assessment, and other duties and 40% campus with all of my FTE workload (and great support staff)

### *Developing Programs of Study at the Local Level*

The consortia develop POS based on guidelines from the OOC Perkins office. There are process and procedure guidelines. In addition, the local consortia must follow the process needed to submit their POS for review and approval.

They take seriously the secondary postsecondary alignment, the interaction with industry, and the workforce data. Most are trying hard to show focus in the POS, although we know that there are politics in the electives listed and in some cases this can be confusing for the end reader.

According to one participant's reflections:

...in previous state-level Perkins initiatives we have had many pieces of the process in place for decades - since Tech Prep articulation was put in place. Our process was based on the suggestions of our high school guidance counselors. It goes as follows:

- 1) We have work days bringing our counselors out of their buildings to a college computer lab

- 2) We provide the counselors with high school course suggestions for entrance into the various Programs of Study at our community college – this handout was created and revised over the last 15 years based on secondary postsecondary and industry conversations and was shared and discussed at all articulation meetings on an annual basis
  - a. The list also includes articulated and concurrent courses available in each of the Programs of Study at our community college
  - b. For information on what articulated courses a particular high school might have available and to double check their registration guide we suggest they go to our Tech Prep website where all participating high schools have a current listing of articulated courses (updated annually)
  - c. The counselors are asked to gather information from their teachers on enrichments available in their districts i.e. clubs, orgs, extra-curricular activities
  - d. We DO NOT incorporate labor market information because we (counselors) decided at the very beginning that we were going to complete the wheel before we made the site public to students/parents. They felt that although it is important for students to know what jobs have a better outlook in our area – we are not going to create POS based on this information. They felt that would be a disservice to students as, in their opinion, career choice should stem from ones interests and abilities rather than where a particular job might be available.
  - e. We do make labor market and placement information available to our counselors throughout the academic year at various meetings – we are told they find this information very valuable and share it with students at the appropriate time
- 3) The counselors work alone and with colleagues to enter data, compare their entries, and make changes to the data as updates are available
- 4) The website includes efficiencies i.e. auto fill data where available, and find and replace functions
- 5) Once we have a pathway complete and ready for review in a number of schools I develop a narrative – the narrative includes:
  - a. Information on how the process was followed
  - b. Any modifications based on the culture and history of our consortium
  - c. The narrative is sent to the state at the same time as the POS
- 6) The narrative and the POS are sent to the state for review and approval
  - a. State staff teams from DOE and State College Central Office review the entries, offer comments, and approve or offer pending until clarity is provided
  - b. Once the “master” (example that state is reviewing) is approved the consortium can review and approve other POS in that same pathway
- 7) In our geographical area in FY10 we began the maintenance phase in many school districts
  - a. We use the articulation meetings to share the programs of study from a particular discipline
  - b. We ask teachers to
    - i. look for changes and modifications

- ii. take these back and discuss with their guidance counselor
  - iii. send changes to our office or do them locally
  - iv. we incorporate discussion and review of POS with business/industry
- c. We also have developed several secondary/postsecondary advisory boards and will continue to improve these processes.

In this very personal account we learn much about the program development and the kind and nature of technical assistance provided at all the levels of involvement. In her later reports she describes, again in great detail, the many meetings she attends in a month working on: issues with business/industry representatives explaining how education supports their industry and receiving suggestions/comments on ways to improve instruction and collaboration; meeting with state and local representatives to align new clusters/pathways; working on the approval process with both secondary and adult POS teams to refine the system; working with data processing advisors/developers to create a cost-effective data system; participating in WebEx seminars on various topics (such as submission/approval process).

Her conclusion after reflecting on all the work: this is an enormous project. There are many things to do and many decisions that need to be made, but are not. Much time is spent researching and discussing, but there is a challenge in streamlining the process for the “local consortia.” This frustration and potential “distancing from the field” is a theme that has emerged in every state studied. So, one of serious challenges to the Program of Study initiative in State B is how to develop a state-wide system, yet work effectively with local districts and settings, ensuring that local voices are heard and local concerns are addressed.

It is interesting to also note in this description of the program that this State chooses to develop a Programs of Study system that is not intimately tied to labor market information. While many states develop systems around high wage, high demand, high priority connections to the labor market, this state takes more of a career education model, where the impetus for student choice is based on career interest and skill development, not simply what jobs are most in demand.

Additionally, State B chose to work more closely with counselors as an integral part of the Programs of Study process. This is consistent with the decision to focus the program on career education and career knowledge, so counselors become a key component of information sharing and guidance. Where one places an emphasis, career education or job training employment, affects the structure and content of the program and the people important to its implementation.

It is also clear from these reflections and comments that the strength of the technical assistance system is built upon the history of CTE in the state....that Tech Prep has been about much of what drives Programs of Study in the first place....creating articulations between secondary and postsecondary and attempting to align courses and curriculum across and between institutional barriers, working with counselors to share information about local offerings,

### ***Participatory Information***

Like in other states, information was obtained from individuals representing secondary, postsecondary, and business and industry. Because of timing issues and other conflicts we were

not able to connect with business/industry representatives, but were able to interview and receive information from secondary participants in both urban and rural settings. While the nature of the information gathering process was a bit different, these interactions revealed important information about the nature of the programs and the kind and quantity of technical assistance offered in these settings.

***Secondary Representative: Urban Setting:*** The individual who provided information from the urban perspective had vast experience with CTE. She had been involved in Perkins projects/programs for many years and worked as a coordinator for a secondary district, engaging as a consortium convener for 5 school districts and 2 community colleges. Her primary charge was developing POS efforts around issues of alignment of curriculum, engaging counselors in the academic/CTE process, identifying courses, and working with college faculty to ensure they were connected and engaged in the process. She commented that they had been doing “this since the 1990s, creating connections between academic and CTE courses, working on curriculum alignment, and developing relationships between secondary and postsecondary programs.”

The difference, this time, was that “counselors were on board.” The focus of program development in this urban district/consortia was that counselors were involved in the team effort and were expected to transmit the knowledge of courses and programs to students and parents so that information would flow to those who needed to know the program even existed. Given the strong emphasis today on all students going to college and showing some disdain for vocational/career programs, it was felt engaging counselors as spokespeople for the POS effort would be enormously important to helping the program succeed. Thus, we find an elevation of the role of counselor in the ultimate success of Programs of Study, something that was not as prominent in other Perkins initiatives.

What is of interest from the perspective of this individual is the fact that she retired in January 2010 and left her position at the secondary school district. Recognizing her knowledge and talent, she was brought out of retirement to assume a state-level coordination position, working for the state college unit responsible for secondary/postsecondary articulation and collaboration. Having been such a coordinator previously helped her enormously in completing the demands of the job.

In her role as state coordinator she focused on developing relationships between secondary and postsecondary people and institutions. Her goal was to improve the articulation process and to develop better technical skills assessment measures and systems. She attended many articulation meetings throughout the state performing professional development tasks helping teachers and faculty work together to create their collaborative courses and programs. Her experience suggested that college faculty were more receptive and that high school and college faculty could work together on actual curricular components. They developed core areas of study and approximate sequences of courses aligned with academic standards for various disciplines. This work seemed to separate POS from the Tech Prep efforts of the past, primarily because Tech Prep was perceived to be more of “just a paper process,” whereas Programs of Study is about real curricular reform through articulation and alignment of goals and learning outcomes consistent with academic standards. While this is the goal and expected outcomes, this is also part of the real challenge, according to this individual. She said “we are still doing Perkins I at

times and need to move into Perkins IV activities. In fact, one of her recommendations to make the technical assistance process more effective and efficient was to have more people like herself, who had backgrounds in classroom instruction and CTE convey the realities, challenges, and strategies necessary to make Programs of Study what it was intended to be.

She said that there were successes in the state. The program was developing “like a three legged stool—putting an identification of program with a process of connecting secondary and postsecondary, business/industry with education, and making them all work together. There was also success in developing technical skill attainment where the collaboration between business and industry and the educational sectors produced instructional content and outcomes that could be measured and assessed. Lastly, the development of Program Advisory Committees was helping to secure these collaborations and ensure that educational outcomes were aligned with industry standards and that more realistic employment attainment was a product of the joint efforts. The challenge was keeping business and industry representatives engaged and included in all the proceedings and involved in ensuring employment opportunities when education and training were effective.

Her comments about some of the challenges echoed issues we had heard before in other states. While everyone wanted a certain degree of uniformity, failure to develop statewide curriculum created problems of continuity and consistency. Local control was effective in many areas, but didn’t address the issues of uniformity if that was, indeed, part of the goal of the POS process. And because of lack of state-wide curriculum it was difficult developing standard measures of instruction and expected outcomes. This is the proverbial dilemma of top down/bottom up programs....they don’t always deliver the kind of product that allows for universal measurement.

Information shared from the rural secondary school participant indicated that the bulk of her work was spent coordinating all the various activities connected to POS development, including convening professional development meetings, reviewing Program of Study applications and submissions, working with counselors to understand and share POS information with parents and students, collaborating with high school principals and college administrators to ensure that Programs of Study are being implemented in highly effective manners, and ensuring that her Consortium is viable and sustainable. The Consortium is made up of 8 school districts in the northern part of her state and individuals are members of both the Carl Perkins Consortium and the Applied Learning Institute.

She is also involved in coordinating information sharing with her Business/Industry partners, helping secondary and postsecondary administrators to understand and support the POS initiative in the area. She suggested that getting “support from the high school principals has been key to moving the project forward.” They have been involved in working with secondary school administrators, secondary counselors, and postsecondary administrators to “create an awareness and understanding of POS and familiarize them with the state website.” She coordinated a meeting for professional development by the two state-wide technical assistance providers to share information about POS and then conducted meetings with secondary school counselors to continue the development of their” own high school and course framework.”

Her Consortia has completed 2 Programs of Study and they are working on completing 5 more. Another 52 are in program development, but reality suggests not all will be submitted and approved. The Consortia had committed to completing another 4 POS for this year and actually completed 5. Thus, a significant amount of her coordination time is spent planning, developing, and implementing Programs of Study requirements at all levels. Despite the fact she works from a school district, she helps coordinate work between all systems. This appears to be a common trait of all rural CTE coordinators; they are responsible for all levels of organization.

### ***Challenges/Concerns***

It is clear that State B is involved in POS from every conceivable vantage point. CTE coordinators from secondary and postsecondary seem to be driving the movement throughout the state, most of who have backgrounds in Tech Prep and other relevant CTE programs. While focusing on the “local” approach to training and technical assistance, there are important roles for state level folks to play. Clearly development of submission policies, forms, and practices has been a responsibility of the state DOE, but the actual implementation of the POS effort occurs mostly at the local level.

This local/state divide has created several issues and concerns. First, as mentioned above, failure to develop state-wide curriculum makes it difficult to develop standardized measures. Some programs did report they used NOCTI assessments and locally developed instruments for assessment of learning and for certification of programs, but there were other programs that did not lend themselves to such measurement.

The second concern was simply about the size of the task and the volume of work. Individuals at both the state and local level felt the amount of work required, especially that required of teachers and faculty to get their courses aligned and into the formats for articulation around content and standards, was too much. There was a need for greater funding for support work on the project and just expecting teachers to find the time to do this work was unrealistic. Without further support they felt the effort was “unsustainable.” Time, or lack thereof, was not sufficient to do all that was required, especially when being asked to create new courses and new ways of doing business.

There were other areas that posed challenges for the state. The reflections of one of the individuals interviewed and who completed reflective assessments claimed the following areas to be of concern:

#### ***Local Challenges:*** We have some local challenges:

- this project is very time and labor intensive – the consortia are having trouble finding the right balance of job duties for both secondary and postsecondary in order to concentrate on this initiative
- this project also need on-going changes and revisions so will need to become a permanent part of someone’s duties ... I am not sure we considered that when we developed this tool

- counselors often get assigned this duty along with so many other things in the school district and they are having trouble getting the work done
- small school districts are the most resistant because they generally have limited course selections and do not meet the purist criteria of POS – therefore they are worried about open enrollment when this information becomes public
- counselors suggest there are other tools i.e., ISEEK, Naviance that are doing or attempting to do similar things as this site so they are having trouble deciding what to concentrate on – where to put their energy

### *Solutions and Suggestions:*

- At this point consortia and the public are getting mixed messages:
  - State staff are talking about POS in the purest form
  - Local implementation is not that clean and simple
    - We need a middle ground – from the federal government down we need to have a conversation about why we are promoting Programs of Study
    - Then we need to talk about how to honor what all school districts are able to offer students and determine how POS work in all areas
    - We should develop a sliding scale (all good) with students to help them understand why they should care about a program of study i.e.
      - Academic Beginning = no CTE pathway specific courses
      - Career Introduction = one CTE pathway specific course
      - Career Exploration = two or more pathway specific course and some type of college credit available (appropriate student org or service is a bonus)
      - Model = generic state model available for review and comparison
    - The program of study has a counseling component – giving counselors and career centers information to share with students/parents about what information and direction the program of study can offer you in choosing courses and experiences in high school and when taking that next step ....
- We need support – information sharing – media blitz type of process
  - From the Federal level to the states
  - Share the concept
  - Share the value
  - Share the criteria
  - Share what the student can expect from having this information
    - Share some success stories
    - Share some challenges
  - Give people information and enthusiasm for this initiative
    - At this point it is a secret – we are doing this work in silence with no end date in mind
    - We are doing it so slowly that it is very hard to keep up the enthusiasm
    - We have no testimonials’ of success or excitement

These solutions and suggestions focus on some of the essential and cross-cutting issues in the POS field. They address the basic topics of developing a state-wide system that is responsive to national directives, yet made functional and relevant by local adaptation. Since the focus of POS development in this state is locally driven, there are real challenges in making the system responsive to national legislation and at the same time, operational at the local level. As heard in several other states, the issue of developing relationships is paramount. Here, as well as all the other states, relationships matter.

## **Appendix C: State C**

### ***Recent History of Programs of Study in the State***

This state's program of study (POS) initiative focuses on the development, implementation and evaluation of academic and career-technical programs from secondary to the postsecondary levels with the purpose of facilitating student transitions to college. In this state, over half of their high school students were enrolled in Career and Technical Education (CTE) coursework during the past year.

A framework for their programs of study was developed and shared throughout the state to guide POS development across the various units involved. To facilitate the POS development process across the state an extensive POS website was made available and includes areas such as POS guiding principles, POS working documents, online POS professional development, POS Self-Assessment tools, and archived POS planning and development documents. Guiding principles for implementing and evaluating POS in the state, as well as the POS framework to be used by everyone, was created through working groups in the fall of 2008. Working groups included members from education, policy, and business and industry. The recommendations from the working groups were shared with the state.

Included in the finalized POS implementation information were six specific phases or steps for the POS process, as well as information for facilitating collaborations with educators, school administrators, guidance counselors, and students.

A grant process was set up for individual units to receive additional monetary support for implementing programs of study in their localities. Continuation grants were also offered to support local POS implementation ongoing efforts. Units that are state funded have state wide meetings about every two to three months.

Much of the process was state led, but there was collaboration across the state throughout the process.

### ***Recent History with One of the Programs***

An orientation course for students considering various career clusters was mentioned during site visits in more than one state. Orientation courses were considered important for helping students gain foundational knowledge, and, understand the various career options in a field such as health sciences. At one of the sites in this state, some changes were made within the past two years to create a broad health science's orientation course for anyone going into one of the school's health sciences' POS offerings. It was remarked that, "It is not an orientation to nursing, or an orientation to respiration, or an orientation to pharmacy. It is all of the ologies that we can come up with. It is truly an orientation to the cluster." This participant mentioned that creating an orientation course like this can be challenging since not everyone accepts and understands that one orientation course can serve as an orientation for many careers. However, after identifying the common set of core skills needed in the industry, they were able to create a broad orientation course that would allow students to begin a program of study in the health sciences' area, gain

foundational knowledge in the health care services, and for some, discover that a health science POS is not the academic path that they want to take. Wanting all students to be considering a specific path, considering various pathway options, or to be actively working on a POS beginning at the secondary level was mentioned several times as an underlying aim by those working at the secondary level.

### ***The State's POS Template Sharing***

One member of the rural focus group remarked that as part of her unit's annual meetings and events, they often devote time to POS topics to help with the POS development process. This allows the groups involved time to go over recent templates and other POS updates, as well as to gain feedback and answer questions about the POS development process. Most systems have some type of individualized learning plan for the students to help direct their academics, and after showing the recent POS template for health sciences to the educators at one of these meetings, they were contacting her the next day asking where the other POS templates were because they wanted more programs available electronically that could that students could use for road maps for other POS areas. Focus group members commented that these POS templates/forms could be generic state models on a specific area or specific to certain consortium localities.

### ***Roles Mentioned for Developing POS Programs***

To aid others considering their own POS systems, considering the various roles that support POS development can be valuable in helping to deconstruct how the workload might be carried out. Roles mentioned by the administrators, educators, and business and industry people involved in this study for the state were/are:

- Developing and disseminating a statewide guide for local areas to utilize when working with various partnerships to address common definitions, themes of Perkins IV, secondary and postsecondary alignment, benefits of the career clusters framework, our guiding principles, and common acronyms associated with this process
- Developed a program's of study self-assessment for local areas to gauge their level of development in those programs that have been developed, and, to help them understand next steps in the process to engage further development
- Setting the groundwork, brainstorming, alignment, documentation, facilitation
- Working amongst ourselves to benchmark who is doing what, and what is working for them with POS development to consider and problem solve for issues I might be having at my high school.
- Redeveloping the POS website and CTE Manual to engage local areas not only with Perkins IV specific information but specific information as it pertains to statewide development and rollout of programs of study.
- Counseling students as needed who are in my POS area
- Grant writer, facilitator, budget person for the grant... support for the site in any way that I can, coordinator, and advocate
- Assisting with and managing grants for POS development for the various locations
- Identifying POS programs for local development in FY11

- Prepared presentation for annual state counselor workshop. Secondary counselors have been an audience in which additional outreach is needed in order for that population to understand the role they play in programs of study and the assistance they can provide to students. Developed a brief overview of programs of study and the benefits to counselors and students. Additional follow-up is needed in this core sector.

### *Strengths of POS Programs*

Many strengths were mentioned regarding POS development in the state. These strengths involved: being able to support the recent POS initiatives by building off of the existing CTE systems; stakeholders dedicated to what is going on and focused on high standards for POS development and maintenance; community building by using POS efforts to support students who will hopefully choose to stay and work in their local communities; and best practices at various sites to support their students' current and future academic and career interests.

A comment made during one of the site visits highlighted efforts being made to build POS development on what was already in place:

at this point we're not really trying to reinvent the wheel because we have so much in place that's good. We have good work that's already done and alignment that's already done but we're trying to bring all those people together to look at it rather than the separate thing. And so we're using the good that we have and just upgrading it to include the dual credits, the entry points, the rigorous academics, and including academic instructors in the discussion.

During the other site visit in this state, when asked about what was good about their POS development one participant remarked, "It takes passion. I don't know what else to call it. It takes passion and a vision to make successful innovative programs like this."

Part of the success of the program she worked with was attributed to the expectation of high quality for the POS programs from all of the people involved. She added, "High standards, this team would allow nothing less. They would throw this program out before they would lower their standards. They will only raise them. And this principal will settle for nothing less than eventually being a national site."

One focus group member at another site emphasized the positive aspects of what is being taught for helping to build an educated employee base. He stated that,

We are building our community with the people that will live here and bring their children back to us. And that makes a big difference on what kind of education we want to provide, what kind of job base. If you are opening a company you are going to research and see what's in that area. Will ask kind of employee base do I have? We are providing that employee base with what is taught in this curriculum.

Finally, for supporting their students' current and future academic and career interests several points were identified, such as career cluster orientations providing the foundation students need

to help make future career decisions. Also, they ensured that students completing certain POS programs have the opportunity to leave high school with certifications, proving they have the qualification to be employable. They also made sure their students were able to use certificates that they received in high school to gain access to potential jobs at supporting companies. Collaborations were highlighted for POS development success too. This aspect will be considered next.

### *Collaborations*

Collaborations were mentioned often as imperatives for supporting the POS development system. Supportive collaborations were talked about across secondary, postsecondary, business and industry, and the state. Again, while it was brought up early that much of what was driving POS development in the state was state led, collaborations with various stakeholders who were involved with POS development at local levels ensured that local needs and ideas were included in the POS development process. For example, one relationship highlighted revolved around a unit that received a state grant focused on their health occupation and 9<sup>th</sup> grade curriculum. As part of the project, the participant mentioned that there were expectations for their POS development coming top down from the state, but what she was doing was coming bottom up through the high schools and she fully expected the product to be good in the end.

To foster collaborations across secondary and postsecondary levels, high school instructors from one program commented that they took the program courses at their local college that their students' POS program was aligned with. Because of this they had a better relationship with those involved with the POS at the postsecondary level, and firsthand knowledge of what their students would need to know as their students continued the POS into the college level.

Collaborations with business and industry were highlighted as being important for clarifying what students needed to know to enter specific career fields, what educators should not bother to teach anymore, what technologies were inherent within specific career fields for hands on work experiences or resources necessary to help make it happen, and as a POS feedback or evaluation system. It was also noted at one site that because of a strong collaboration one of the program instructors had with a local business, the program was able to receive program specific equipment at a very reduced rate. This really helped the students by having up-to-date equipment with which to work. Finally, for business, industry and POS collaborations, one participant emphasized that this collaboration should be carefully constructed, and advised that, "Education needs to listen very closely to business and industry because they are the consumers of our finished product."

These across unit collaborations throughout the state, even for the purpose of ensuring that all levels were being represented, were mentioned as being challenging, as well, in terms of the logistics for trying to get everyone involved in POS from various locations together at the same time. However, outside of a few voiced concerns regarding some stakeholders not participating in the meetings due to time conflicts, or some not understanding their need to be involved, collaborations were repeatedly emphasized as positive and an important aspect for developing POS programs throughout the state.

## *The POS Template and Other Guiding Frameworks*

To date, one POS template, in the health area, has been created for sharing with others. These templates are intended to be curriculum models showing both core and elective course choices students can take. These are targeted at students beginning in the ninth grade and show the course expectations through the 12<sup>th</sup> grade, and into postsecondary options, in the POS areas offered at their school. When the recent health template was shared with one group, the person showcasing the POS health template was contacted the next day with questions of where they could get more templates in other POS areas. So, according to one focus group member, because of feedback on the health template, she was able to share definite interest in speeding up the process to make more of these models available in other POS areas.

Comments frequently mentioned regarding POS templates focused on how these templates should to be used. This often led to discussions including the need to make sure these were available to all students, instructors, and even parents. There was also a definite need to ensure counselors had these to share with students.

POS templates were also mentioned as a helpful guiding tool for students who have not made a decision about any particular program after the 9<sup>th</sup> grade. This state uses the concept of "on-ramps" to highlight different starting points for entering specific academic or career areas. The POS templates can expose students to various opportunities at various entry points, including starting a POS in the 9<sup>th</sup> grade, but, also showcasing opportunities for students coming in later.

As mentioned in a written report on the state's POS development for this study, the state has recently released a "Programs of Study Expectations Tool" to local areas working with Perkins Title I and Title II. This tool is meant to help localities ensure they are meeting the federal POS guidelines, as well as the state's expectations for the development and implementation of a POS. One participant commented that the tool is organized around the six POS guiding principles adopted by the state (and cross-walked with the OVAE components), and that each page of the tool highlights a different guiding principle. Examples of acceptable supporting materials are included to help clarify certain expectations set forth by the federal government (compliance pieces) and to address quality pieces outlined by the state. As part of the grant initiative, localities are required to use the Programs of Study Expectations Tool to self-assess their progress thus far and whether any technical assistance or additional support may be needed in their ongoing local POS development efforts. The tool can also be used to verify that their POS work is completed for a specific program before submitting the program to the state.

In addition to the state providing this framework that localities can use to self-assess their POS development, an annual statewide conference provides professional development opportunities to those involved in the process.

Finally, for the pilot sites that have been engaged in recent POS initiatives and development grants throughout the state, it is hoped that these sites will serve as supports to others going through the POS development process in the near future. Technical assistance for POS program development in the state will briefly be considered next.

### ***Technical Assistance***

In terms of technical assistance, though it is obvious that serious efforts were and are being made to support anyone going through the POS development process in the state, it was also made clear that the state's people are committed to continuous improvements for the process. As such, what is going on is a work in progress.

One comment made by a state level support person regarding their technical assistance efforts for the localities was, "we could develop all the tools in the world to assist in the development and implementation of programs of study, but if those tools are not viable to the local areas, we have generated more work for them and ourselves in this process."

This point is worth noting for people in states who are currently making decisions about the future of their POS development. A few other concerns were mentioned for the future of POS programs and POS development.

### ***Challenges to Future POS Programs and POS Development in the State***

The lack of a stable funding stream for supporting POS initiatives, including ongoing and increasing budget cuts, has forced the state and local school districts to make difficult and significant cuts to projects and staff. One voiced concern in this state was, "As like other states, we continue to struggle with lower dollar funding amounts though expectations of activities produced and performed are increasing. Puts pressure on programs to meet necessary compliance and quality standards without sufficient funding to assist students."

This comment clearly echoes the concerns from a participant in a bordering state regarding meeting quality expectations for POS programs with increasingly less funding yet more mandated expectations.

Educators and administrators voiced frustrations with the access to programs for students being limited by program cuts, too. Deep funding cuts were also mentioned as drastically decreasing the ability of one program for taking his students on field trips to local businesses to learn more about job opportunities and expectations. He remarked, "But now next year our district cut it back to where we can take one field trip a year. So there goes that tool." Funding issues are impacting not only program access then, but options educators were using to try and help students learn more about career opportunities at various sites, and recognize the need for specific academics and skills as highlighted by employers.

### ***Suggestions for Others and for the Future of POS Development in the State***

Resources for supporting ongoing and future POS efforts were stressed throughout the focus groups and brief reports written for this study by various POS stakeholders in the state. While it was obvious that stakeholders involved were highlighting their interests in not only merely creating POS options for their students, but in creating quality POS options, their concerns regarding decreasing budgets and staff, as well as their concerns about increasing demands for producing POS programs was clear.

Innovation was suggested for helping keep everything moving along despite budget cuts. At the high school site visit where the educator was discussing field trip funding being cut, it was suggested that perhaps technology could assist since students are no longer able to go on field trips to multiple sites. It was proposed that perhaps using Skype to do virtual site tours with a business might allow business people to walk around with a computer to show different jobs on site, and to still be able to highlight opportunities and academic and skills needed.

Making classrooms and curriculum as paperless as possible, providing students online submission and other technology learning options, was mentioned as possible technology options at two sites.

As funding cuts decrease traditional classroom options in all education districts, suggestions such as these might be increasingly necessary.

## **Appendix D: State D**

### ***Recent History of Programs of Study in the State***

Perkin's recent mandating programs of study development for secondary and post-secondary institutions was mentioned as a reason this state began working on developing their Programs of Study (POS). Over 200,000 community college students are enrolled in occupational education. Of these students who were in occupational education, about 60% were enrolled in occupational programs.

In early 2009 efforts began to pilot a process for developing and implementing Programs of Study (POS) for this state's community colleges. The purpose of this was to support the sites, develop a program of study, to look at necessary prerequisite knowledge and skills needed for students (high school and adult) to enter a community college and be successful, and, to help ensure that educators and administrators who were developing programs of study throughout the state were satisfying the four program requirements outlined by the Perkin's Act. Initially ten community colleges were asked to lead the POS development process and assist with creating an implementation model. This implementation model could then be replicated across content areas for all of the state's community colleges. While the POS development process was led by the state at the beginning, input from the various colleges assisting with the POS pilot process was actively sought and included for the state's POS framework that is currently being used to guide the POS development process throughout the state.

One college's Accounting program was selected early in 2009 to help refine the initial POS process. As part of this it was possible at the site to: identify the gap between secondary and postsecondary Accounting program outcomes; create an Accounting Program of Study; review their POS process; and create a report of what they learned. Six months after beginning the project they shared their work with other community college Accounting program faculty. This POS development information was also widely shared with educators and administrators at conferences and meetings throughout the state.

Administrators who were facilitating, leading, and coordinating the POS development for the state also used monthly online progress meetings, conference calls, and site visits with representatives from the colleges involved in the POS process. These meetings and conference calls were helpful for sharing the POS initiatives, who should be involved in the POS process, progress made, challenges encountered, and for sharing specific POS program templates as these become available. The POS program templates could then be used by others to draft their POS reports. The regular online meetings provided an additional venue for answering questions and for asking what assistance each team needed for development purposes to ensure they were keeping on track with the POS development at their localities. These meetings were noted as being very helpful for revising and improving the development process for the next year.

As part of the recent history of POS development in this state some were able to build off of an existing sequence of courses that their community colleges had been using for years. Along with this they also reviewed the data regarding student success and student retention in their state to construct and guide their decisions and practices. It was emphasized that POS development is not

really new since many had been supporting or working on occupational programs and even helping with Tech Prep articulation for years. One focus group member remarked that the recent POS process has basically made the former articulation and alignment system they were already working with clearer, with more uniform POS templates, and broader, since POS programs are available for general education and occupational education.

### ***System for Working on POS Development***

While some mentioned using the 10 components of the *Programs of Study Design* framework, this state had a 10 step resource guide that each college needed to follow to assist with their local POS development process. These steps include: identifying what is needed to enter a program (assessments, academic, occupational, and-or technical knowledge, skills or standards), aligning the standards to college coursework, developing a program of study (including making sure that they have a non-duplicative sequence of courses), clarifying certifications that will be earned at program completion, sharing POS development information with other units, ongoing review of POS programs, and, considering any optional elements. Part of their monthly online progress/technical assistance meetings would address at least part of these steps.

Also highlighted was that their POS development process is set up roughly as a three year process. Development in the first year, sharing results and doing additional research as needed in the second year, and then working on curriculum reform in the third year. The focus at the state level is to have the POS system consistent across the state, but to allow the products to be unique to the various colleges.

In this state, each college has a team facilitator to guide the POS development for their campus. The team facilitator at each locality also serves as the contact person to work with the state level POS support. It was remarked that much of the POS development work in this state is carried out at the postsecondary level. One focus group member remarked that, “although suggested, many of the college teams have not found it necessary to include secondary faculty at their meetings.” This can present challenges when there is a need for both levels to be involved to ensure the high school students are meeting the expectations of their program’s college. As in other states, there were many comments made regarding the ongoing learning and need for adjustments to improve the efficiency and effectiveness of the POS development process. Adjustments for the POS process in this state were handled by administrators providing the POS technical assistance at the state level.

### ***Technical Assistance***

As mentioned, information on POS development is being collected and shared between the state and the various colleges working on developing POS programs across the state. An extensive Programs of Study website has been set up and includes POS online training, the POS Resource Guide, POS working documents, archived information on POS development efforts, and grant information. Also, online meetings and webinars, conference calls, visits to the various sites, and statewide conferences are used as venues to provide additional updates and support on POS efforts and POS Federal mandates. POS templates for specific program areas such as accounting or health sciences are made available for anyone in the state involved with POS efforts as these

are developed at the various sites. These templates can be copied and modified as needed for specific colleges and programs.

One program administrator in a health sciences program mentioned that having the Resource Guide has been extremely helpful since the steps in the resource guide offered direction for her team to address what was needed. It was also emphasized that having a state POS support person to facilitate the POS process was helpful since the state person provided them constant communications back and forth, a template to follow as a guide, as well as lots of resources that they could choose to use or not use. One reported that the online POS meetings were helpful even to just sit and listen to. Another focus group member commented that there was not a lot of technical support for tech prep efforts in the past beyond an annual or semiannual conference or update. So, the new system is very good in comparison since through the pilot process they have had very good support, monthly training, and ongoing meetings with the state support people to develop their POS programs.

Concerns regarding technical assistance were mentioned in terms of losing the institutional research support person several years ago and that it is difficult to get at specific education data without a good research support person.

### ***Issues and Concerns with Developing POS Programs***

The need to address gaps was highlighted more than once as an ongoing issue when developing POS programs. An example of one of these gaps was one of the program finding out that their Accounting program requires an 18 ACT score for students wanting to come in to the program of study, and, at least a 23 ACT score for students wanting to transfer into the program. Clarifying then what is minimally needed for anyone interested in going in to a program is part of the POS alignment process.

Other logistical issues for programs of study development commented on in this state are POS Perkins mandates requiring programs to have a secondary partner, and, seemingly conflicting health and labor laws. For instance, one focus group remarked that for their Radiography program Perkins is requiring a secondary program that can feed into it. However, by law, if you are younger than 18 years old, you cannot be exposed to radiation. So developing an x-ray program in the high schools in this case would not allow the students to gain workplace experiences necessary for this type of program. There is a similar issue with regard to their interests in building a food science program. Company and state labor laws prevent students from gaining the hands on experiences needed for this type of a program at the local food manufacturing organizations before they are 18 years old. So, even with the colleges, and the health and other local organizations interests in helping students seamlessly transition into these specific areas from the secondary level, they will have to find other ways to support matriculation into these program areas.

Interestingly, it was not only the postsecondary trying to align program options with the secondary education levels that was a concern. One focus group also remarked on the need for his high school programs to have a postsecondary partner to work with that had the same program options. In this case, their high school offered auto mechanics as a program, but their

local community college did not have an auto mechanics program. He emphasized, “One of my biggest frustrations is that I can’t do articulated dual enrollment program of study with our community college partner because they don’t offer the course.”

It was clear that they wanted to offer their students options and since they were near a state border they actively sought and created program agreements with nearby colleges across the state line that had a program their students could matriculate in to. Since these program agreements are not between secondary and postsecondary institutions within the state ,however, the program is not considered articulated.

Finally, a focus member voiced concerns about the time spent on POS development and the need to ensure that whatever they produced should be useful for the students. He suggested, “If the need is just for compliance to the state, then maybe we should not put so many resources into it.” Similar concerns regarding the work and time spent on POS development were voiced in other states.

### ***Roles Mentioned for Developing POS Programs***

To aid others considering their own POS systems, considering the various roles that support POS development can be valuable in helping to deconstruct how the workload might be carried out. Roles mentioned by the administrators, educators, and business and industry people involved in this study for the state were/are:

- Preparing for progress/update meetings by creating a PowerPoint presentation that focuses on particular steps within our POS development system
- Conducting monthly progress/update meetings
- Finalizing and sharing the POS final report template that colleges can use to draft their report findings
- Outlining what year two will look like
- Review documents and provide technical assistance as needed for the various teams
- Designed the program of study process evaluation tool to be distributed to each team when our development work is complete in June
- To connect with the secondary people that understand what is going on in the secondary programs and see how that relates to us at the postsecondary level and with our programs
- looking at what the gaps are and looking at the number of requirements for the steps along the way

Many of these roles involve collaborating to help get the POS development work done in the various programs. Collaborations have been emphasized by participants throughout these state reports as essential for development success.

### ***What Worked Throughout the Recent POS Development Process***

***Collaborations.*** As emphasized by one focus group member, “I think you have heard today that a key element of success is getting faculty to talk together at different levels.” A point for why having faculty at different levels working together is vital was also highlighted at the meeting, “It

is just really important to connect the two worlds because we are educating the same kids.” Along these same lines, comments were made about collaborations helping with understanding other departments, programs and coursework better so it would be easier to facilitate the POS development process. One mentioned that these collaborations have created a much more intensive articulation and alignment process.

Because many had worked with CTE programs for years, they often already had local connections in place and former documents to build on for developing and working on the new POS program templates. They also often had a familiarity with aligning and articulating coursework and programs for CTE. This prior time spent on helping to develop CTE programs was highlighted as a strength for working on the current POS initiatives in the state. One focus group member reflected on an experience from ten years ago when there was an extreme shortage of technologists and the hospitals wanted them to expand the program. Since they already were close partners with business and industry (the hospital) they were able to fairly quickly co-create a team clinical coordination system that allowed them to both expand the program and address the critical local health care need for technologists.

Other comments were made on good business and industry collaborations. One highlighted that business and industry is helpful for their POS development for defining the end point in each of the programs. Another mentioned that in their program the employer actually participated in the education process on site at the hospital so business and industry automatically had a lot of involvement in what students learned. This program also used practitioners from the health sciences areas as adjunct faculty for the program. This is considered beneficial since these part-time faculty were working in the field day to day and offered real insights into what skills were needed, what should be taught, and as importantly, what students may not need to know so faculty did not spend too much time on outdated information. However, it was also stressed that in the health sciences’ program that the focus group member worked with, they needed to focus on developing the skills that their field’s national accrediting agencies said the students needed to have. When the latest national curriculum standards came out for the radiography program in 2006, the program took this as an opportunity to work on curriculum updates. Many stakeholders were involved and the radiography program was waiting for national exam results to come in to verify that the changes they had made to the POS over the past couple of years were effective.

***Formalizing and uniformity.*** It was mentioned that the state recently came up with a standard curriculum in the high schools which makes it easier to know what students will be getting in their high school. Since this required that everybody in the state teaches the same core subjects with the same content expectations in the core subjects, people working on POS development can better set up programs of study now. This is creating some formalization and uniformity of the POS programs across the state.

Along these lines, one focus group member remarked that having one person overseeing the POS operation has improved the process since everyone has a similar POS development process. She commented that it helped during meetings that everyone was already doing similar work.

***Progress.*** There seemed to be a fairly positive outlook regarding progress made for developing POS programs to date. Regular progress meetings were cited as helping to keep the teams on

track and moving forward. One of the state level supports for POS development observed earlier this year that, “In the past two weeks, I didn’t have any questions sent. I believe this is due to the training session we conducted for each program lead facilitator and college teams, and the resource documents we have available on our POS website. The teams seem very comfortable with the process and any concerns brought forward we’ve been able to address during the progress meetings.”

In addition to this, good progress was attributed to having, “A very very strong partnership to help make these things get done.”

## **Appendix E: State E**

### ***Background on College Tech Prep in the State***

College Tech Prep (CTP) is managed by the state's Department of Education and the Office of Career-Technical Education. It is carried out through secondary, postsecondary, and business and industry consortia partnerships in the state. These academic and workplace collaborations are intended to help create seamless pathways for their students through high school to college and to careers. When the pathways are followed, students can more easily matriculate to postsecondary education through several advanced credit and articulated credit options. In 1993 the state began enrolling high school juniors into CTP programs.

In the first decade, the number of high school students attending CTP grew from a few hundred students to approximately 13,000. Over 800 CTP programs are offered throughout the state. Postsecondary Tech Prep (PTP) enrollment has increased significantly during this time as well from under 100 students in the beginning, to almost 7,000 students by 2005.

The state offers a variety of CTP programs including: engineering, teaching (science and math), computer programming, biotechnology, computer networking, marketing, business, health, criminal science, construction, horticulture, and auto technology. Their curriculum emphasizes Science, Technology, Engineering and Math (STEM) careers. To support these efforts, educators and administrators from the secondary and postsecondary schools work closely with business and industry to make the education academically rigorous and career relevant by focusing on problems and needs defined by local business and industry.

### ***Programs of Study Recent History***

Three years ago the state started driving a Programs of Study (POS) initiative for ninth through 14 grades, due in part to the Perkin's requirement that all career tech programs have approved programs of study on file by 2013. It was also required that every five years those programs of studies, as well as the career tech programs, would go through a revision or be updated. To try and meet compliance deadlines, the over 20 tech prep consortia districts were required by the state to produce one program of study within this past year, and, to progressively add more over the next couple of years until all programs have a program of study. While this may make the state's POS development appear mainly top down, many comments were made by the various stakeholders in the state who participated in our brief POS study suggested more of a mix of top down and bottom up POS development approaches have been used and are being used.

Before commenting on where the state is currently with their POS efforts for all of their programs in the state, some general comments on program pathways and POS system development will briefly be considered. A POS can be considered a few ways based on a POS focus group and POS reporting comments from the various stakeholders in the state who participated in our study. A POS is represented simply as a document that clarifies the coursework pathway a student needs to follow from as low as the eighth grade, to as high as a baccalaureate degree. A POS is also discussed in terms of content standards and all that goes along with the needed content standards for the programs. Programs of Study are organized by

the state's 16 career fields, and most often have corresponding two year associate degrees. Depending on the district and the postsecondary options, some programs have pathways that can continue on to baccalaureate programs.

Members of both the rural and urban focus groups stressed that creating pathways for helping to move their students from secondary education into two year programs is not new. They also mentioned that for all but the newest Tech Prep programs, they already had articulation agreements. Many mentioned that they had been working with tech prep in the state for a decade or longer. So, when asked about the recent background of POS in the state, it was remarked at both the rural and the urban focus group that their tech prep program pathway agreements that they had been working on for years in the various districts simply morphed into the Programs of Study, and replaced the original agreements.

It was also noted several times that general education, or core course expectations for students wanting to graduate from high school and college, are mostly standard for all students across the state. So, in terms of changes from what the various schools were doing in the past for setting up pathways for their students, to the current POS documents, only a few comments were made. For instance, several highlighted what the current program of study really did was to put all of the legislated and formal general education expectations into one document. It was suggested, too, that since the state had a template that everyone needed to follow to create their program of study document, they now had consistency and uniformity across the state for the programs of study. As one member of the urban site visit in the state mentioned about the POS system currently, "So this kind of turned into a formalized approval process by the state that that would be how we would get our programs approved."

As far as the POS document structure goes, the template that the state provides auto fills in the formal general education requirements once the degree name is selected. It is up to the secondary school's support person (people) to work on the nine through twelve grades for the various programs of study requirements that are beyond general education requirements. Their district's Tech Prep consortium person (people) can then work on the postsecondary pieces that are beyond general education requirements. Finally, the program of study is ready for the necessary signatures. It was clear from comments throughout the research study that the POS document and content standard process is not linear. Many were discussing needs and alignment back and forth with their teachers and administrators, and, across the secondary, postsecondary, and business and industry areas as needed to get the work done. Before continuing on with the state's current POS system, the POS document will be briefly discussed.

### ***The State's POS Template Development***

As mentioned, several of the people participating in the POS study from this state highlighted that setting up program pathways for their students is not new, so various forms and connections with other schools and business and industry partners were already in place. To try and facilitate the expectation for all programs having formalized programs of study documents and pathways, the state's department of education organized meetings for the implementation of programs of studies. It was mentioned that as part of these, the state was looking for ideas and reviewing documents, to consider what kind of information needed to be in the programs of study, and how

to make it work. One focus group member remarked about the POS form, “The form was actually modeled after the CCTI recommendations. There was a Federal grant given to the League for Innovation and they created the first template that we could copy... But a form is a form and you’re going to have to have some form. The form has a secondary piece and a postsecondary piece.” Several mentioned that the template creation was a collaborative process, and that though the current template for creating a program of study has been available for about two years, it is still a work in progress. It was mentioned a few times during the site visits, when discussing the POS development process, that the state’s department of education was open to suggestions and feedback for improving the template, and that the department of education was responsive. For instance, one focus group member commented, “I remember when I sent in the first program of study I got a response shortly after saying we’ve received a report, your program of study looks good and is on time. And about a month or two later I had a follow-up phone call from a gentleman and they told me that I just needed to make one little change. That was it! The support from the department of education was good.”

### ***Roles Mentioned for Developing POS Programs***

To aid others considering their own POS systems, considering the various roles that support POS development can be valuable in helping to deconstruct how the workload might be carried out. Roles mentioned by the administrators, educators, and business and industry people involved in this study for the state were/are:

- Providing input and feedback about the programs of study process
- Putting the program of study document together
- Most of our time is spent on the secondary piece, and we hand that to the tech consortium person and she takes care of the postsecondary piece
- Filling out the form
- Learning what the high schools are up to (block scheduling or not, course offerings, curriculum)
- Connecting with business and industry partners to discuss what skill sets are needed for helping set up aligned curriculum
- Aligning secondary classes with the postsecondary
- Getting all of the signatures, and checking that everything is correct before sending it off to the state for approval
- I have been working on career tech development for years, and I have been doing this process all along
- Working with the consortium
- Going between schools and the college faculty to make sure that there is an articulation in place, and making sure we are all on the same page. Updating articulation agreements when needed. Collecting signatures, finalizing the program of study form and submitting it to the state.

Some commented that they had various people assigned in their district to work on their Program of Study development. One mentioned being assigned because, “I don’t have any support people that have that role.” Many mentioned that they basically took their instructions, and did what they were told for getting their first POS required program in each district completed. As mentioned previously, some had commented that working on the POS form was not hard.

However, several commented that getting everything into place to finalize the POS form so it would comply with the state's requirements could be very time consuming. What worked throughout the POS development process, and issues encountered, will be highlighted next.

### ***What Worked Throughout the Recent POS Development Process, and Issues Encountered***

***Staffing.*** Staffing was mentioned as both a positive and a negative issue. Many who helped out with the research project had commented that they had taught or worked with CTP for years. This was a plus for supporting the recent need to create one program of study for each consortia district since many already had the school-business and industry connections, and had been working on creating student pathways to college within their local systems. Of course the negative side of this was trying to work on formalizing the process to comply with the newer uniform forms with people new to CTE, pathways, and even to education. As one participant mentioned, "A wide funnel of opportunity exists and we have had to work with our postsecondary partners and listen to industry to begin with the end in mind. The other challenge is the newness of the programs at all levels."

Though time was still a factor, working through the POS process and toward the needed end point of a completed POS seemed to be much smoother when working with staff and partners who were already familiar with POS and-or pathway process.

To continue with the theme of staffing and getting the work done, concerns were mentioned throughout regarding staffing resources and recent and ongoing budget cuts diminishing the number of people and time available to work on POS development. One voiced serious concerns regarding the need for everyone to recognize that, "it takes resources and people to do what the 10 POS Components call for, and, without the resources to do a POS right (curriculum alignment, articulation, tracking student success, etc.) all you have are a bunch of forms, which are properly filled out, but of no educational value."

Quality, in terms of high standards for POS development, as well as what the purpose of POS should be, were recurring themes in the conversations and written POS reports for the study.

***Collaborations.*** An ongoing positive theme highlighted by most for making Programs of Study work was good collaborations. Having good working relationships between educators, education administrators, and business and industry people really increases resources available for programs. Quality was a factor mentioned many times throughout the discussions on collaborations. In this case, quality was highlighted a couple of ways. It was the expected standard that the educators at various levels were trying to clarify and align in terms of what was needed to prepare students to certain minimal levels for continuing on to the next education levels, and, quality was alluded to in terms of what the final expected outcome at any particular milestone might be. For example, quality could include a student's knowledge and skills, competency in a particular area that allowed her or him to advance seamlessly to the next education level, or her or his ability to successfully pass an industry's exam at the end of her or his high school or postsecondary experience. Helping students successfully navigate these education pathways was the overarching ideal and collaborating across education levels and with business and industry partners was highlighted as key supports.

Collaborations that were mentioned included educators actively seeking out business and industry feedback for a program's curriculum and direction, business site visits for students, creating job shadowing and mentorship opportunities for students with business and industry partners, and in some cases, business and industry partners were able to donate equipment or supplies for related academic programs. Regarding a recent POS that one consortia member had been working on, he remarked that, "The partnerships have been essential to the success and we have found that the abundance of resources allows us to have many choices for direction."

Other important collaborations mentioned were those among the different education levels from middle school through postsecondary for aligning curriculum, and for setting up articulation agreements. In terms of having agreements with more than one postsecondary partner, this was definitely a plus for one consortium. One woman, working mainly on the postsecondary pieces for various programs, remarked that when one college she worked with decided to offer a scholarship for all students successfully completing their POS program pathways, another college decided to offer the same experience. This essentially meant that students in certain pathways in the area had extremely low, if any, tuition costs for their college piece. In this case, working across various units can really benefit students. Finally, collaborations were considered important in terms of those involved with simply feeling at ease with contacting each other and the department of education through phone or email when they had questions about filling out the forms, or working on various steps throughout the POS development process.

When considering the recent POS development in a particular district, one participant commented, "It is a little early to tell if we have made progress that will have long-lasting impact, but any time we have the opportunity to talk with others in education or industry I believe we are making progress because we are learning."

***The POS template.*** The POS template that was developed for creating uniform POS forms throughout the state received mostly positive reviews. Many said that they appreciated having a template with pull down menus and auto-fill functions to help ensure accuracy of pieces of the forms. Negative comments made mainly focused on changes or updates the department of education made for the POS system in the state that necessitated that some of the people in the various districts would have to spend additional time redoing existing POS forms.

***Time and POS development.*** One issue that was highlighted several times was the amount of time needed to set up programs of study. While the POS template was not particularly time consuming, establishing connections, working on the content standards, alignments, and articulations, and ensuring the necessary signatures were on the form from the various education levels prior to submitting the completed POS form to the state, was mentioned as being particularly time consuming. To gain a sense of the time factor, one focus group member remarked, "In terms of time, it depends on if it's a new program and has no articulation, or if we have partnered before with the program. It can take a long time to facilitate for a program that you've never had an articulation with before. It can be a very laborious process. It is building the relationship and structure with postsecondary and secondary that takes the most time."

Another comment regarding time that was made by a participant actively working on creating one of the newer programs of study in the state suggested that progress can speed up as everyone involved becomes more familiar with the process, “We have made great progress over the past three months. The initial phase of the project required a great deal of educating for those involved. As our knowledge base increases and we immerse ourselves in the process we continue to gain understanding and are able to put pen to paper in the planning of the POS.”

### ***Technical Assistance***

As mentioned, several people commented that assistance with working through the POS development process has been quite good for the most part. Several mentioned that there were development opportunities through various meetings, and even webinars on particular topic areas. Several highlighted the value of the information available on the web sites for the programs of study and how this was a valuable resource for the people involved with setting up the programs of study, for high school students, and for career centers. One mentioned that she appreciated the leadership with the website for answering questions.

### ***It Is for the Students!***

One point that was brought up many times is that all of the efforts made for POS development were to try and help students get on some sort of pathway in either middle school or high school that might help them successfully complete high school and continue on for postsecondary work. Ideally, the pathway helps the students successfully navigate the secondary education system and continue on to postsecondary work, and, seamlessly on to their career choices.

As part of this piece there were many comments made regarding how the POS forms should be used. For example, several suggested that unless POS forms are used as they were intended to be used, they will not have value. It was stressed often that there was a need to get the point across that once a student goes down a particular POS pathway, if she or he wants to get the full benefit, they need to stay on that pathway and not veer away from it. It was also suggested that a benefit of POS pathways is that these might provide students a reason to stay in school since pathways help clarify why particular coursework is needed for particular jobs in the future. It was also stated more than once that there is data to support that students going through the state’s pathways are testing better and have higher completion rates.

One mentioned too, that an additional benefit for students is that, “once it’s in place, once it’s negotiated, it’s easy to maintain. So I think it’s really assisted our students in figuring out their pathways from high school to college with fewer barriers in acquiring articulated credits. I think it is given our students more chances to have articulated credits than the students in the past ever had.”

As part of the fewer barriers for students one focus group member mentioned that, “Counselors can’t sit with every student and help every student, but with the program of study, if they follow it then they will have easier transitions from high school to college, and getting done with their program should be seamless.”

### *Suggestions for Others and for the Future of POS Development in the State*

Many commented during the site visits that there was still much that could be done with the POS forms. Mainly, advertising these as widely as possible and making sure they are put into the hands of counselors, parents, educators, and of course, their students. As part of this effort, some mentioned that perhaps they should be pushing these down further in terms of availability for younger students to help them start learning pathways earlier. Several mentioned this was a great direction for the POS forms but they were not quite there yet with getting the word out advertising the program..

Additional training and development for POS was highlighted a couple of times to try and help bring everyone up to speed for meeting the 2013 target for all programs having formalized programs of study in place.

Possibly including a piece in the program of study that talks about what career opportunities there will be.

Requests to not change codes or expectations for the POS system requiring additional modifications of the existing programs that could interfere with POS development, and at the same time, not altering the ongoing work to get all programs of study formalized before 2013 was mentioned several times. An alternative for any changes in the forms could have the computer system automatically updating existing programs with any coding changes so these updates are not having to be carried out by local districts.

When the state required all districts to produce one program of study within a year, a couple of secondary schools decided to work on the same program in their own districts. They were then able to work through content specific issues together and this helped out their postsecondary partner since she would only need to do one postsecondary piece for their programs.

In terms of top down support, one participant mentioned that, "It has helped, too, with the collaboration that the governor, and the chancellor, and the board of regents have gotten together on programs of study."

Collaborations were really stressed throughout for supporting the POS development system. A willingness to work with others fostered good relationships, and has helped keep the process moving along in this state. A final suggestion from one of the participants in the study regarding collaborations was, "In developing the model, patience is necessary because so many entities are involved."

## **Appendix F: State F**

As indicated in the introduction, State F is located in the eastern part of the United States. It, like all the other states, has a long history of CTE work, having been involved in all phases of Perkins legislation. The implementation of Programs of Study in State F is planned in Phases. They, again like other states, have an active website for their Programs of Study initiative and describe and list all of the relevant information about program development. The website begins with a definition of the Perkins Act and describes how POS are developed. In the website listing are occupations identified, the CIP number, a set of task lists, connections to academic courses, and identification of secondary schools and postsecondary institutions that have the programs. This summary is omitted here because it includes the actual copy from the website and would identify the state, which is beyond the scope of this study. Suffice to say the focus on the first two phases is on development of full secondary/ postsecondary partnerships, with special emphasis on the articulations and alignments required to make them integrally connected systems.

There are opportunities to use the website to locate secondary schools that have POS programs, as well as an additional link to a privately produced website that performs a similar function for postsecondary courses/programs. The purpose of the linked sites is to help students/parents identify courses available through the postsecondary institutions that are aligned with secondary level courses so the student wouldn't have to "retake" the course when they reach the postsecondary institution. It also helps them find the aligned courses so the student can receive college credit for the course while still in high school. This helps the state to achieve one of the primary goals of Perkins/POS programs: to connect and align secondary and postsecondary courses so as to avoid duplicative efforts and streamline the education/training process.

### ***Statewide Committee***

As indicated in its website, State F has a state-wide committee, convened by the Coordinator of the Bureau of Career and Technical Education, who helps direct the on-going efforts in the state to produce effective POS. The committee convened people from around the state to develop state level policies and plans for the overall implementation of POS. There were 7 POS classifications developed in the first year and currently there are 35 state developed POS with over 400 approved POS at the secondary level. There are also 74 Postsecondary Statewide Articulation Agreements that have been signed with 28 postsecondary institutions and with six Career and Technical Education Centers offering Practical Nursing Adult Programs. As postsecondary faculty continue to make alignments, the transfer and articulation information for DOE/BCTE Programs of Study are listed on the state's college transfer website, and if credits are aligned to a Community College partner, the information can also be found at the state Articulation and Transfer Center.

There is a numerical expectation planned for each successive year. The ultimate goal is to have at least one POS in every school system in the state, with a focus on high wage, high demand occupations driving the program development.

### ***Research Description***

Data for this state were collected through several sources. As with the overall study design, information came from two places: a) participatory reflections/journals from individuals representing secondary, postsecondary, and business/industry perspectives. These representatives responded to a series of questions/retrospectives over a period of time during the final months of the year.

A second source of data came from actual site visits to an urban/semi rural and rural program. Both sites in this state were actual career/technical education centers. During the site visits the researcher had the opportunity to observe students in classes, interview executive directors and administrative staff, and also interview various teachers in the programs. One site visit lasted a day, the second occurred over a two day period. The second site also provided an opportunity to interview members of the advisory council.

### ***Technical Assistance***

Technical assistance for this state was provided by members of the State Bureau and by selected members of the educational community who had long time experience with CTE and expertise in a variety of areas connected to POS. All three of the individuals who provided written information had from five to twenty five years experience in the field, and the executive directors interviewed similarly had between one and two decades of exposure to CTE programs. Unlike some of the other states, none of the “leaders” had come out of retirement to conduct their work; yet all had considerable experience with development of CTE programs. The professional development/technical assistance provided in this state included more references to Tech Prep and Career Pathways, so the Programs of Study efforts were clearly tied to the Tech Prep experiences of prior and current years.

As a more “top down” state, the committee helped to establish goals and program guidelines and objectives. Working with state level consultants, the state developed a strong connection between courses and curriculum, producing an impressive list/folder of materials that covered courses offered, curriculum matches with state academic standards, and clear descriptions of actual course content and assessment measures.

The backgrounds of the technical assistance providers interviewed were quite varied and impressive. One executive director/ consultant had extensive background with the U.S. military and had directed large programs in Europe. His management skills and knowledge were exemplary and he worked with his school and staff to develop models of curriculum and articulation between secondary and postsecondary programs. He was hired by the State to lead workshops and programs to engage others in development of curriculum alignment that connected to state standards. At his own school he had every course aligned with standards, with all the content/curriculum on-line. He was considered a national leader in this area of curriculum development and in CTE program management.

Another consultant from the postsecondary area had 25 years experience working at a highly regarded technical college and was instrumental in helping individuals understand the

relationship between all the educational initiatives that connected with CTE: Perkins legislation, Elementary and Secondary Education Act, and the Individuals with Disabilities Education Act. Her goal was to place CTE and Programs of Study in a larger context that focused on student achievement and its relationship to engaged educational settings.

The secondary education participant had many years of experience with CTE and extensive background in developing aligned curriculum and industry/school relationships. She participated in both state and local trainings and was well schooled in her understanding of her specific occupational area and how it connected with both academic curriculum and business/industry requirements.

Unlike some states where there were Regional CTE coordinators, State F did most of their technical assistance through state sponsored workshops and programs. According to one of the people interviewed, technical assistance often occurred at the local level through Tech Prep personnel. They had the background and experience to understand the requirement of POS and were able to provide the support necessary for expanding the state system. Even some of the state level technical assistance occurred at Tech Prep meetings.

Technical assistance covered a variety of topics. At the state level workshops were conducted (usually by consultant hired by the state who were “champions” at some of their best programs) that dealt with basic Perkins requirements, specific elements of POS, secondary/postsecondary articulation agreements, and alignment of curriculum with state standards. They also focused on the CIP system of connecting POS with high priority occupations (HPOs). At the local level technical assistance was directed at helping administrators in secondary and postsecondary institutions understand Perkins requirements, dual enrollment, inter-institutional articulation, and continuous interactions with business and industry representatives in developing curriculum and programs that connected to local employment needs and opportunities.

### ***Participatory Information***

The secondary education participant wrote a lot about her work in developing local programs, working with teachers to align curriculum, reviewing budgets, assisting with developing agreements with postsecondary institutions, working with counselors to help them understand the POS efforts and all other areas affecting POS development. She participated in state level meetings where they discussed uses of certification of POS programs and the overall needs of developing good articulation and communication between secondary and postsecondary systems.

She described, in great detail, the kind of technical assistance provided to teachers in her school and area. These included weekly meetings with the Literacy Study Group which met to discuss literacy and math integration, nine meetings to develop a math pilot program to integrate more math into CTE, a Moodle group that met eight times to develop on-line components of CTE and academic courses using Moodle software, and even the establishment of two Professional Learning Communities (English Health and Wellness/Social Studies departments are in one group and Math and Science departments are in another). Suffice to say she engaged in technical assistance in almost every conceivable area related to the development of strong CTE efforts that touched on every important topic connected to excellent instruction and program development.

She felt the results of the POS development showed progress in the following areas:

- Partnerships: we have written agreements with postsecondary institutions, we attend local WIB meetings to find out about economic development and important workforce trends
- Professional development: we focused a great deal of attention on integration, innovative teaching strategies, and the alignment of curriculum
- Guidance Counseling and Academic Achievement: this has been a consortium effort and has been addressed in many ways.

She focused a lot on working between her institution and the community colleges (2) to create the alignment and course sequencing necessary to make POS viable and operational. She saw much of her work as being a motivator and connector of people and institutions in order to develop a “sophisticated system that allows for student progress seamlessly from secondary to post secondary with many options and opportunities.” Her ultimate goal was to have all 22 programs in her school gain approval for POS status.

The postsecondary participant wrote about the strengths and challenges of developing POS efforts in her institution and in the state. She focused a lot of her work on educating administrators, counselors, and teachers about the goals and requirements of POS at the postsecondary level. Her list of tasks included:

- Coordinated recruitment of postsecondary faculty to serve on POS task list development committees to define content of high school programs in the state
- Trained college administrators in requirements of articulation
- Worked with Admissions to understand how to accept/process POS students with articulated credit into the college and how to record them into the college system
- Identified list of college programs required to participate in statewide articulation...(number is a moving target, but appears to be around 12-14)
- Trained deans,, assistant deans, and faculty (as requested) to understand POS and requirements for statewide articulation
- Assisted in improving data collection system specifically collecting the number of postsecondary students gaining industry certifications (college does a good job of collecting data required for Perkins)
- Coordinated bringing DOE staff to the College to provide professional development
- Identified and training other on how articulated credit, technical concurrent enrollment (dual enrollment) and statewide articulation credit work for the student, at the college and on the student’s transcript
- Through Tech Prep work, provided leadership in the development of the list of student learning outcomes that will be used to develop the end of program assessments for postsecondary programs in two career areas
- As Tech Prep director, provided professional development on POS for school boards, career and technical education directors and teachers

This list illustrates the extensive work that is/can be done at the postsecondary level in providing technical assistance for the many audiences and program/project areas that need to be addressed.

This particular individual has extensive background and history with CTE....many in postsecondary education could not provide this kind of comprehensive service.

The business/industry person in this state who was involved in the participatory portion of the research had a decade of experience in career related work representing an industry she had worked in for the past five years. She, like the postsecondary individual, has a variety of experiences that allow her to advise the school and its industry related teachers in a many areas and topics. She actually runs an educational center at the Career and Technical Center and works closely with the teachers to “map out the weekly themes” the students will use during the school year. She administers the NOCTI test at the end of the year for the program and is an outside resource for the development of new curriculum.

She also attends the Occupational Advisory meetings that are held twice each year...in spring and fall. There are approximately 20 members of the committee and routinely half attend the meetings. At the fall meeting they discussed ways to improve student testing and set dates for NOCTI testing. They discussed available industry certifications and participation in CTE membership organizations. Curriculum for programs was reviewed and “all three teachers working as a team on the CIP tasks are half-way completed.” They developed and reviewed equipment plans and new resource materials and textbooks were approved for purchase.

In spring they met again to discuss increased community awareness of programs. They also reevaluated their equipment list for the next three years. In addition, they reviewed occupational task lists and approved any changes recommended. They also discussed NOCTI test scores and ways they could be improved. Student participation in Skills USA and FCCLA organizations were discussed, as well as completion dates for involvement in various programs. Participants also discussed industry and teacher certifications, clarifying program requirements. One of the outcomes was that Career and Technical Center students can now work towards their CDA certification.

As one can see from these descriptions, industry representatives in this state are very active in all aspects of POS development, from providing industry perspectives to actually assisting in development of classroom practices and secondary/postsecondary collaborations. In fact, these three participants were extremely engaged in all aspects of program planning and implementation and represent exemplary practice of providing technical assistance to meet the needs of the local efforts, as well as providing input for the state-wide initiative. While not unique, they represent the range and scope of engagement for outstanding efforts to make Perkins legislation and Programs of Study the best models possible.

### *Site Visits*

The researcher visited two school programs during the latter part of the year in March and May 2010. One visit was to a semi-urban/rural secondary career and technical center and the other was to a truly rural secondary career and technical center. One visit was for a half day interviewing the executive director and administrative staff (with much follow up with faculty and staff). The other was for two days, interviewing the director, administrative staff, teachers and students.

The first school was a very large Career and Technical Center. It had 78 teachers, 39 assistant teachers, and approximately 2900 students. It provided a multitude of education and training in more than 50 career/technical areas, was located next to a community college, and had extraordinarily effective interactions with business and community groups through advisory committees and industry representatives. The Executive Director of the Center had a strong history with CTE and was considered one of the real leaders in the state. He had developed, along with his staff, a model school that integrated CTE with academic programs and had academic teachers in English, math and other academic areas. The school was part of a consortium of nine (9) school districts, with students sent to the school from the districts from partial to complete day programs.

The strength of the school was in its well defined curriculum, where every class had been aligned with state academic standards and curriculum was available in notebook form, as well as on-line. The curriculum addressed 96 academic standards and were integrated with 6000 CTE competencies. Programs ranged from health occupations and machinery to avionics and commercial truck driving. It also had a strong student organization program, with 7 offerings, from Future Farmers of American to Health Occupations Students of America. There were opportunities for students to compete locally and nationally through Skills USA.

The student population came from various sources. More than half were interested specifically in vocational training programs. Another 25% were from special needs populations, and approximately 13% were from “alternative education” programs. So the student population was not quite the same as a regular comprehensive high school.

Articulation with the community colleges in the area was well developed. Staff worked with postsecondary administrators and faculty to align courses and programs through a Program of Study format. All programs were reviewed by industry advisory teams and assessment was developed both through NOCTI measures, as well as other industry specific systems.

The Executive Director met regularly with the consortia superintendents from the cooperating school district to develop programs that aligned with their needs and their motivation to be part of the CTE system. Resources (human and financial) were shared with various organizations and agencies to develop new career areas and to improve and increase the quality of existing efforts. Perhaps most unusual about this program and its Director and administrative staff was its entrepreneurial success, raising more than \$250,0000 of outside money from business and industry to continue and develop training and education efforts. Particular businesses actually sought out the Center to provide training and technical assistance for their staff and other potential students.

The quality of the institution and program was also unique. The Executive Director worked with his teachers and staff to ensure they had the highest standards of both industry and educational background. Teachers were expected to perform at incredibly high standards for instruction and business/industry related content. If teachers didn't meet the standards of the school, they were let go. Thus, the operating principles of CTE were carried out at the highest levels....instruction always had to be connected to business and industry needs and standards and academic subjects

had to be integrated into the instructional presentations of the courses and programs. Most of the CTE teachers came from business and industry with strong backgrounds, and specific industries supported this work by providing their own money to ensure the continuation of many education and training programs. For example, a large electronics company provided funds to support a vocational training program related to their labor needs and helped develop the assessment system to ensure that graduates met their expected outcomes.

The program was considered one of the models for the state, integrating teacher preparation programs with nationally known universities, providing a breadth of offerings unmatched in most states. There were active business advisory boards in many occupational areas, and those boards provided feedback and credibility to the courses and programs in the school. These weren't passive boards that met a few times a year to "rubber stamp" programs and curriculum. Rather, they were active participants in the development of courses and content and provided important information to assist with hiring and placement of students in real jobs.

The second institution visited was also a career and technical center located in a rural area. Although its proximity was only 30 minutes from a large urban area, it was surrounded by farming and agricultural communities. Like its counterpart in the semi-urban area, it was built around a consortium of nine (9) school districts. Participation at the school was similar...students came for a small portion of their day to approximately half their school day. There were 16 CTE teachers, 3 academic teachers, and approximately 450 students. The percentage of participation from the sponsoring school districts ranged from 4 to 15 percent, with the average approximating 7 to 8 percent.

This school, like the other visited, was led by a visionary director. He had 15 years experience with CTE and Perkins legislation and an uncanny understanding of the issues connected to CTE and Programs of Study. He was considered one of the leaders in his state and participated in some of the state-level trainings and advisory committees for the CTE Bureau.

His teachers were all well grounded in CTE backgrounds, having many years of business and industry experience. Two of the three academic teachers were based in academic areas, English and Social Studies (with a third in Applied Physics), and interviews with those teachers indicated that they made strong efforts to integrate academic instruction into the CTE courses offered at the school. They worked with many topics, from resume writing to the role of business and industry in economic development. They would sometimes take their academic classes to work with the career/vocational teachers to do activities that were directly related to the career topics. They did suggest that the No Child Left Behind legislation made it harder to spend as much time on career/vocational topics and placed them under more pressure to ensure that students did well on their narrowly defined academic tests. This meant that they had to spend more time in English, for example, teaching general literature than they had done before in their efforts to connect Language Arts programs to career and technical topics.

One of the examples of exemplary leadership and practice was the requirement of the director for all teachers to take a common math class at the beginning of the school day. This was done for at least three reasons: develop the skills and knowledge of CTE teachers in math knowledge to improve both their skill and confidence in teaching math connected to CTE instruction, create a

learning community that focused on improving the culture of math instruction in the school as a whole, and provide support to newer CTE teachers who had to pass the same math proficiency tests as regular math teachers in the teacher certification process. According to both teachers and administrators, the common experience was achieving success: everyone felt more connected as a faculty and everyone felt their knowledge and understanding of math was improved.

Teachers in the school shared details of their teaching that built on the basic concepts of POS. The architecture/drafting teacher had students design an expensive home...from developing the drawings to producing a cost analysis of the construction. Through this experience he taught basic principles of percent, unit cost, and geometry. Observing students work their computer programs on the designs demonstrated their clear understanding of the connection between career knowledge, vocational skill development, and academic content.

The same was true of the metalworking instructor. He shared curriculum and project activities that required students to master various machining skills, and at the same time, use of specific principles of math. He used NOCTI testing to measure outcomes of some work, but also used industry developed models to assess the quality of instruction. His preferred method was to use measures developed within the industry itself, as represented by instruments produced by the National Institute for Metalworking Skills (NIMS). Thus, this example demonstrates how teachers in this school used their backgrounds and direct connections to industry-based systems to ensure that the instruction met quality standards for both education and business.

Interviews with teachers in English and social studies revealed how academic content areas were woven into the school curriculum. They explained how they often worked with CTE teachers to connect content in their subject area, such as resume writing for example, with the work students did in their shop/applied settings. Sometimes the work was done directly in the academic class; other times the English teacher would take her students to the actual shop setting to have them work on writing activities that were germane to the activities in the other class.

Availability of the academic teachers/courses at the CTC made it possible for more students to avail themselves of the opportunities offered through CTE instruction. Students, because of NCLB and district standards, had to complete requirements for English, math, social studies, science, etc., and offering these courses at the CTC allowed them the flexibility of taking both academic and CTE courses simultaneously. It allowed the content of the academic courses to be more integrated into an applied setting and thus, according to the students interviewed, made the learning of academic subjects more interesting and easier to understand.

Interviews were also conducted with members of the CTC Advisory Committee. One represented an employment/training unit in the community and the other was a field staff member for a local state representative's office. They discussed how the leadership of the CTC was intimately involved in community efforts with a variety of industry and regional planning groups and how this connection helped with discussion about regional efforts to conduct effective job training to meet the needs of the community. The state representative's staff discussed the problems inherent in government's connection with business and industry to invest in appropriate educational programs to ensure the community was ready and capable of developing suitable training programs. This community was actually dealing with new

opportunities for development of several new industries and considerations were made about whether they could develop the programs to meet the needs of business from scratch, or whether they would simply import workers with expertise from other parts of the country. License plates observed at local hotels (and comments from the interviews with staff) indicated there were many people from other regions of the US who were coming to the area because of the new opportunities.

They discussed the role of the CTC in the larger picture of education, employment, and training in the region. It became clear that the leadership at this school, and the involvement of the staff and administration, created a different kind of program, one they thought was effective and exemplary. Paraphrasing their comments, they explained why the program was a success.

We're building the projects together here. Dr. X and his staff are always available. They work to make the collaborations and develop the relationships that keep us connected and ensure that everyone knows what is going on. We feel we are all helping to make a better program for students and the community. - *Community Advisory Board Member*

Thus, part of the technical assistance provided through the CTC system is connected to the relationships developed between the community partners and their elected officials. In this program all worked together "to serve the students." This phrase was repeated throughout the visit from teachers, from administration, and from community advisory staff: all were committed to developing programs and connections that would make life better for "the students." They leveraged their relationships with business and industry, with state elected officials, and with community groups that were invested in education, training, and preparation for employment. These relationships, according to the two advisory members, helped to make the program a success.

## Appendix G: Protocols/Questions

The following question protocol will serve as a guide for individuals in each state who record personal information about their involvement in the development of the state advisory panel plans for development of POS efforts. All data submitted will be kept confidential and reports submitted will not identify any specific person by name.

### Question Protocol for Individuals Involved in Developing a State Level Plan for Programs of Study

The purpose of this study, being conducted by the University of Minnesota Institute for Community Integration, is to record the personal reflections of actual participants who are responsible for developing plans for their state in support of Programs of Study legislation. Your reflections will be kept confidential, housed in a secured server on the Minneapolis campus, and will only be reviewed by the researcher/evaluators connected to the project. There is little/no risk associated with your participation in the study and you may withdraw at any time.

By signing this form, you agree to participate in the research conducted in your state to try to learn more about the process of how state plans are actually developed.

Signature \_\_\_\_\_ Date \_\_\_\_\_

Name Please Print): \_\_\_\_\_

Sector Represented (please circle): Secondary Education      Postsecondary Education      Business/Industry

Name:

Date:

Sector: Secondary      Postsecondary      Business/IndustryOther

### Questions for Consideration

Please write a response to the following questions **every two weeks** as you work with your state-level and/or local advisory group. Write as much as you wish...there is no length requirement. Please make sure you tell us what your perceptions are of the process, the program, and the outcomes.

Thank you so much for your participation. Your contribution will help us to better understand the process states go through in order to develop high quality Programs of Study.

Question 1: What did you actually do in the last 2 weeks as part of your involvement on the project?

Question 2: Did your involvement lead to progress/regression on areas/topics related to your specific sector?

Question 3: Are there any specific outcomes or indicators of progress that address any standards or components of the Programs of Study framework? What was achieved during this time period?

Question 4: Who on your team has been the most helpful in addressing the concerns of your sector and how have they helped (please identify their role/function on the committee)?

Question 5: What goals/actions do you hope to accomplish in the next few weeks? How will you know that you are making progress on those goals?

### **Retrospective**

Since our information gathering activities actually begin well into the school year, it would be helpful if you could provide a brief summary of your involvement in the Programs of Study efforts in your state from the beginning of the year. Don't make it too long, but try to cover the most salient/important activities that you have taken part in to develop a state and/or local plan. Explain what you did and what resulted from your efforts. Please complete this during the first time period for your other writings.

Please feel free to address other issues/questions that are important to you and that you think should be shared with others to help them better understand the state-level

Please send your responses to Robert Shumer at [rshumer@umn.edu](mailto:rshumer@umn.edu). They will be kept in a secure server and only be reviewed by the active research staff working on this project.

### **Focus Group/Interview Questions for State Meetings**

1. What were the major activities conducted in your program that led to the development of your POS design?
2. What role did the state-level advisory group members play in helping develop your state plans?
3. Who were the people most responsible for the actual development of your plan? What key roles/activities did they perform to make the plan effective?
4. How did you use the 10 Components of the POS framework for guidance in your planning?
5. What were the major challenges/barriers in developing a state-wide POS plan and how did you use technical assistance sources to address these issues?

### **Focus Group/Interview Questions for Individual Programs in States**

Question 1: How did your plan develop for the POS initiative in your school/system?

Question 2: What role did you plan in the development of the plan? Are you satisfied that the plan is reflective of high quality standards and that the planning process worked effectively? Why/why not?

Question 3: What are the greatest strengths of your eventual POS plan?

Question 4: What are the greatest barriers/challenges that still must be faced?

Question 5: What role did technical assistance from all sources play in helping you formulate a high quality POS effort?



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