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A Planning Guide for Aligning Career and Technical Education (CTE) and Apprenticeship Programs

A Planning Guide for Aligning Career and Technical Education (CTE) and Apprenticeship Programs

Prepared for the U.S. Department of Education
Office of Career, Technical, and Adult Education

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INTRODUCTION

OVERVIEW

High school career and technical education (CTE) and apprenticeship programs share a common goal. Both programs seek to equip students with the academic, technical, and employability skills necessary to succeed in high-demand careers. The goal of the *Potential Role of Secondary CTE Programs in Preparing Students for Apprenticeship Programs* initiative, launched by the Office of Career, Technical, and Adult Education, U.S. Department of Education, is to explore how CTE providers across the United States are working to connect secondary students with apprenticeship programs. This effort included site visits to eight programs that have aligned CTE instruction and provided students with articulation options to apprenticeship programs. Site visit profiles and a synthesis of results can be found in the study report, and are integrated throughout this guide to illustrate the different approaches programs can take to connect CTE with apprenticeships to expand high school students' career training options.

This planning guide is designed as an interactive tool for initiating or expanding the alignment between existing CTE and apprenticeship programs. It provides a blueprint for state, regional, and local administrators leading efforts to transform CTE and apprenticeship linkages across a state or community. Tools and templates are built to be customizable, allowing users to adjust each resource to fit their unique needs.

TARGET AUDIENCE

While the steps, tools, and resources in this guide would be valuable to anyone interested in strengthening the potential intersection between CTE and apprenticeship programs, this resource is targeted at two distinct groups of users. The first includes state leaders of education and workforce training systems seeking to improve the alignment of secondary CTE and apprenticeship programs. The second includes education and training providers who are interested in working with regional or local employers or industry groups to expand the role of CTE in preparing high school students for apprenticeships.

The content and resources for each audience are noted throughout the document with the state icon ⚓ representing a state focus and the school icon 🏫 designating a regional or local focus.[1]

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[1] Three audience-specific mini guides have been created to provide targeted information from this planning guide for state leaders, local and regional leaders, and employers. Each mini guide gives an overview of the understanding and benefits of CTE and apprenticeship alignment approaches, along with specific actions and examples tailored to each audience. The mini guides can be accessed from http://cte.ed.gov/initiatives/potential-of-apprenticeships-in-secondary-education.

Where to Start

This planning guide is designed as a conversation starter. Education leaders that have not yet moved to align secondary CTE and apprenticeship programs may follow the steps outlined below to examine the benefits that can result when high school CTE students are provided early and targeted access to apprenticeship programming. For states already moving in this direction, the examples and resources provided in this guide can be used to accelerate program expansion.

This planning guide translates common practices and strategies observed during the site visits into concrete steps for program alignment.

Tools and templates referenced in each action step can be found in Appendix A. Editable versions of tools and templates are available on the Perkins Collaborative Resource Network (PCRN). Audience specific mini-guides for state teams, local and regional teams, and employers can be found in Step 2: Design Your Approach.

Path to Expanding CTE-Apprenticeship Alignments

Pre-Work I:
Define the Value Proposition

Pre-Work II:
Determine Alignment Readiness

Step 1:
Build the Partnership

Step 2:
Design Your Approach

Step 3:
Considerations for Implementation
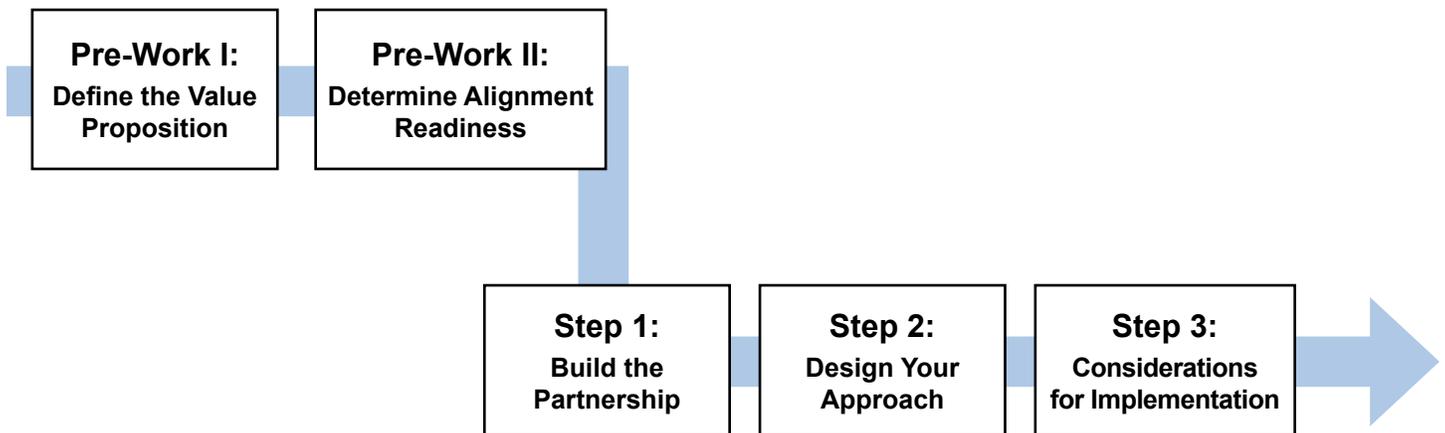
PRE-WORK I: DEFINE THE VALUE PROPOSITION

The path to alignment begins with an individual, or group of individuals that understand and support the potential impact, or value proposition, that a CTE and apprenticeship alignment will have for students, employers, and communities. More importantly, these state and local leaders share the vision and act as the convener to build stakeholder interest and inspire others to act.

> *"I didn't see much use for apprenticeships initially—I didn't see the value beyond what we were already doing with internships and externships. My 'aha moment' was when they introduced youth apprenticeships and their connection to high schools."*
>
> **Mike Saboe, Dean of Culinary Institute of Charleston, Trident Technical College**

Expanding CTE-apprenticeship connections requires leaders at the state, regional, and local levels that can articulate the value of and define how alignment fits within the state or local talent pipeline priorities and strategies.

To understand the value and be prepared to share it, leaders at all levels need to consider the benefits, identify the potential value, and craft a compelling message.

1. CONSIDER THE BENEFITS

CTE and apprenticeship programs share the common purpose of preparing learners for a successful career using career-focused technical skills training offered in an applied context. Given these commonalities, there are natural intersections between the two programs that support the formation of partnerships, which may benefit students and employers.

Based on their expressed interest in a career path and participation in technical training, CTE students are well positioned to enter and succeed within apprenticeship programs. Like apprentices, CTE students engage in technical training integrated with classroom academics often in combination with a work-based learning experience. Well-aligned programs allow CTE students to complete apprenticeships at a faster pace or younger age than their adult peers who are in apprenticeship-only programs. And when apprenticeship is aligned to fit within or be a natural extension of a CTE program, a larger number of students may choose to enter apprenticeship and persist once enrolled, building out the pipeline of workers entering a given profession.

Aligned programs can:

- **Increase the quality of CTE programs through expanded industry input**
  - » Alignment between CTE and apprenticeship led traditional CTE programs like the Green Academy at Salinas High School to revise curriculum to better align to industry expectations.

- **Expand post-program options for CTE program completers**
  - » From being able to enter an apprenticeship while completing high school at Apprenticeship Catawba to having preferred consideration into a Registered Apprenticeship after completion of Upper Valley Career Center's pre-apprenticeship program, alignments expand the options for secondary students continuing their education.

- **Improve the quality of apprenticeship programs through stronger education connections**
    - » In addition to providing a pathway for CTE students to enter apprenticeship, alignment expands the potential for educational attainment for apprentices. For students in the Charleston Youth Apprenticeship Program, and nearly all the sites profiled, the apprenticeship training contributes credits toward a high school diploma, a postsecondary certificate, and/or an associate's degree.

- **Increase the number of qualified apprentices for high-demand, high-wage, and high-skill careers**
    - » Since 2001, the Edward J. Malloy Initiative for Construction Skills has placed more than 1,800 graduating high school seniors into apprenticeship programs. Participating unions and employers see this valuable program as an important stream of diverse talent for New York's building trades.

Action Step:

Review the site profiles highlighted above to discover the benefits experienced by states and education institutions that have aligned their programs.

2. Explore the Value to Your Programs

The value of aligning CTE and apprenticeship programs will vary by stakeholder.

To students and parents, the value is the opportunity for students to engage in real-world, hands-on experience in the career path of their interest. An additional value is the opportunity to gain postsecondary credit or even degrees, which is not only a major benefit but also a cost savings for the students or parents.

To employers, connecting pre-apprenticeships and apprenticeships to secondary CTE students helps to broaden the talent pipeline and attract new talent that otherwise might have been overlooked or undervalued. A net value of many of these programs is the platform they provide for employers to become more involved in a school's or an institution's broader CTE program, thereby reaching and impacting far more students than those enrolled in the apprenticeship program.

To communities, the alignment of CTE and apprenticeship programs can be part of a broader economic development strategy and a way to address regional employment and economic development priorities.

Finally, **at the state level,** the alignment of CTE and apprenticeship programs fits well within the context of federal, state, and local efforts to build seamless career pathways that align and integrate education and workforce development programs.

Below are some examples of how a state and a technical college have defined the value of their CTE-apprenticeship program alignment.

Tech Ready Apprentices for Careers in Kentucky
Retrieved from
http://education.ky.gov/cte/cter/pages/track.aspx

Upper Valley Career Center Pre-Apprenticeship Program
Retrieved from
http://www.uppervalleycc.org/School-to-Apprenticeship.aspx

Trident Technical College Youth Apprenticeship Program
Retrieved from
http://www.tridenttech.edu/career/workforce/car_youth_apprenticeships.htm

Action Steps:

1. Watch the Expanding Opportunities: Aligning Career and Technical Education (CTE) and Apprenticeship video.

2. Review the program materials above to see the impact that connecting CTE and apprenticeship programs can have on students, employers, communities, and states.

3. Use the Consider the Benefits questions in the Tool 1. Defining Value Proposition Template to examine your current CTE data and identify where a CTE-apprenticeship alignment might have an impact on your program.

4. Use the Explore the Value to Your Program section of the Tool 1. Defining Value Proposition Template to consider the value of a CTE-apprenticeship alignment.

3. CRAFT A COMPELLING MESSAGE

Leaders at the state and local levels must be able to convey the benefits and value of CTE-apprenticeship connections if they are to succeed in attracting employers and students to the program.

In his 2009 Ted Talk, "How Great Leaders Inspire Action," Simon Sinek delivers a convincing argument that a leader's message must begin with the "why," or purpose and impact desired. Sinek uses examples, ranging from Apple to Martin Luther King Jr., to demonstrate that communication to inspire action centers on the why.[1]

Image retrieved from https://www.ted.com/talks/simon_sinek_how_great_leaders_inspire_action?language=en

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1 Ted Conferences. (Producer). (2009). How great leaders inspire action [Web Video]. Available from https://www.ted.com/talks/simon_sinek_how_great_leaders_inspire_action/transcript?language=en

Action Step:

Look for the why in the notes and value considerations that you noted on the Defining Value Proposition Template. Focus on those items and statements that reflect the larger purpose of "why" connecting CTE and apprenticeship makes sense. Examples of these types of statements have been included in the template. Use the Craft a Compelling Message section in the Tool 1. Defining Value Proposition Template to create and test your compelling message.

Compelling Message in Action

Tech Ready Apprentices for Careers in Kentucky (TRACK) – Dr. Schneider Automotive Systems, Kentucky

"Students are getting their careers on TRACK with apprenticeships," is the compelling message that is being jointly shared by CTE and apprenticeship leaders in Kentucky. From websites to local workforce board meetings, this message is generating interest in the Tech Ready Apprentices for Careers in Kentucky (TRACK) program throughout the state. This partnership has branded the initiative with the shared logo below and continues to add new pathways each year with the same message. Learn about the program at TRACK's website.

Retrieved from http://education.ky.gov/cte/cter/pages/track.aspx

PRE-WORK II: DETERMINE ALIGNMENT READINESS

For the compelling message to become reality, a plan of action is required. However, given the diversity of CTE and apprenticeship programs and the variety of local and state education priorities, there is no single plan that will yield guaranteed success in every situation. The plan must be tailored to the needs, resources, and readiness of state or local programs. Tailored plan development necessitates the need for the following:

> *"Too often, we get students ready for anything anywhere, but fail to provide meaningful futures. We are able to correct that with the youth apprenticeship program… So rarely do we get something completely right in terms of education, but this is one thing we have gotten completely right."*
>
> **Mary Thornley, President, Trident Technical College, South Carolina**

- **A review of stakeholder understanding and labeling of key CTE and apprenticeship structure and terms.** When stakeholders share the same vocabulary and understand the structural drivers for CTE and apprenticeship, they are able to align their programs.

- **A review of overall alignment readiness.** The readiness assessment will help identify areas of strength to leverage and gaps that will need to be filled in the early stages of implementation.

Conducting these reviews and capturing the results in a plan of action will prepare state and local leaders for the steps in the implementation process. The plan of action will also provide answers to questions that may arise as you lay the groundwork for alignment.

1. Review of Stakeholder Understanding of CTE and Apprenticeship

If you were to ask five people in your network of colleagues and friends, "What is CTE and how does it operate?", you will likely get a variety of answers. A similar diversity of responses would be found if the word "apprenticeship" were exchanged for "CTE."

Among the eight sites visited, different terminology was used to describe similar program components. Generally speaking, if people don't have a clear understanding of what each program is, its intended accomplishments, and the language used to describe it, then there is no basis for an exchange of ideas or foundation upon which to build. Sustainable programs grow out of a common language and shared understanding.

Assessing and enhancing readiness begins with identifying the key terms and definition variances used by stakeholders. Armed with that knowledge, state and local leaders can then develop a shared language and set of understandings about these topics.

The following descriptions and terms provide a starting point for developing a common language and definitions.

Career and Technical Education	Apprenticeship
General Description	
CTE programs are typically organized into 16 Career Clusters® that comprise groups of related industries and occupations, and may be found at the secondary and postsecondary learner levels. Within clusters, students may specialize in a career pathway that provides them with technical skills to prepare them to transition into postsecondary education and/or immediate employment. Programs usually consist of sequenced technical course-work that start with introductory, basic technical skills instruction that progresses over time to more advanced skill training.	**Apprenticeship** is a training program that can be sponsored by employers, unions, colleges, or community-based organizations and combines paid, on-the-job training with classroom instruction that culminates in the award of a portable, nationally recognized industry credential.
Key Terms	
A CTE Program of Study describes a specialized CTE program designed to smooth high school students' transitions into college and careers. These programs include technical and academic courses that span the secondary and postsecondary education levels, may offer options for students to earn college credit, and lead to an industry-recognized certificate or credential, or an associate or baccalaureate degree.	**Pre-apprenticeship** is a program or set of strategies designed to prepare individuals for entry into an apprenticeship or Registered Apprenticeship program. Instruction may include basic skills training, academic skills remediation, or an introduction to the industry. Completers may be accorded preferential consideration for entry into an apprenticeship program and/or apply time served or credits earned toward fulfilling program requirements. In some instances, state apprenticeship agencies have created a process to recognize pre-apprenticeship programs. At this time, there is no federal registration process for pre-apprenticeships, but the U.S. Department of Labor (DOL) has provided guidance on the quality components of pre-apprenticeship programs. (Quality Pre-Apprenticeship Guidance, TEN, 13-12) **Youth Apprenticeship** is a program designed specifically for individuals aged 16–18 that is registered with the DOL (or a federally recognized state apprenticeship agency). Youth Apprenticeship programs must also include and demonstrate the five components of a Registered Apprenticeship. **Registered Apprenticeship** is an on-the-job training program that typically has five components: **1)** employer involvement; **2)** on-the-job training; **3)** related technical instruction; **4)** paid work experience; and **5)** award of a nationally recognized industry credential. A *Registered Apprenticeship* program meets national industry standards and is registered with the DOL (or a federally recognized state apprenticeship agency). Programs must include and be able to demonstrate that they address the five components listed above.

Action Step:

1. Review the Tool 2. CTE-Apprenticeship Key Terms Template.

2. Add local and state terms, acronyms, and initiatives that will need to be understood by all partners.

3. Use the resources below to identify and add additional terms that will be important for your partnership team to understand.

4. Share the list of terms and definitions with the state CTE and apprenticeship offices for review and feedback.

5. Finalize your customized Tool 2. CTE-Apprenticeship Key Terms Template.

Use the Craft a Compelling Message section in the Defining Value Proposition Template to create and test your compelling message.

CTE and apprenticeship resources to assist with developing a common language and understanding.
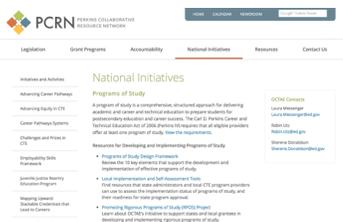
Resources for Developing and Implementing Programs of Study

Defining a Quality Pre-Apprenticeship Program and Related Tools and Resources

Advancing Apprenticeship as a Workforce Strategy: An Assessment and Planning Tool for the Public Workforce System

Apprenticeship USA

2. Assessing Readiness

Once a shared language has been established around the key terms and components of CTE and apprenticeship, state and local leaders will benefit from conducting a readiness assessment. During this analysis, they will identify strengths to leverage, limitations to mitigate, and gaps to fill while proceeding with implementation.

Included in this section are separate self-evaluations for state and local leaders. Each evaluation includes the following readiness indicators:

• Critical stakeholders (employers and education and training providers) have "bought in" to the value of CTE and apprenticeship program alignment.

• Potential program alignments are economically relevant.

• Employers are engaged and actively driving the process.

• Partnership is designed to meet the needs of the local programs and the students and employers they serve.

Stakeholder and employer engagement are discussed in greater detail in Step 1: Build the Partnership and Step 3: Considerations for Implementation. Designing the program to meet local need is clarified in Step 2: Design Your Approach. Recommendations for determining economic relevance are summarized below.

Determining Economic Relevance

The steps that follow provide a simplified approach to determining the economic relevance of a potential CTE and apprenticeship connection. A more detailed approach can be found in Element Two: Identify Industry Sectors and Engage Employers in the *Career Pathways Toolkit: A Guide for System Development.*

1. Scan of CTE-Apprenticeship Aligned Programs

It will be important to first identify if there are programs in your region or state that have already formed connections. Consider your local programs first. Look for strong industry and apprenticeship connections where apprenticeship is one of the articulation options for program completers. To get a wider perspective, contact your state CTE and apprenticeship offices to request a list of programs that have existing or are developing CTE and apprenticeship alignments.

2. High-Demand Career Pathway Identification

High-demand pathway identification begins with accessing your state's Bureau of Labor Statistic's Labor Market Information (LMI) system to identify large and growing occupations in your region. Look for occupations with a current and future demand for employees.

Remember that data do not always tell the full story. Convene employer panels to get an accurate picture of the need for jobs in your region. Review and discuss the LMI data gathered, then ask: Which positions are the hardest to fill? Which positions have the highest turnover? What are your high demand positions? Programs with high alignment potential would be ones with both high-demand and strong industry partnerships.

3. Supply Gap Identification

Create a list of education and training programs in your region related to the high-demand occupation(s). Compare regional demand identified in Step 2 with education and training programs in the region. Identify gaps in existing education and training infrastructure.

4. Clarification of Competencies

Work with employers to form a skills panel made up of front-line employees. This panel will best be able to answer the question, "What do workers need to know and be able to do to succeed in the position?" A face-to-face meeting works best for reaching agreement about the knowledge and skills needed for the position. If needed to get the conversation started, sample skillsets, standards and competencies are available online. For example, visit the following websites:

a. O*NET Online

b. CareerOneStop Competency Model Clearinghouse

c. Advance CTE Common Career Technical Core

The readiness assessment is used for two purposes. It first is conducted by an individual, institution, or state that is considering whether to move forward with pursuing an alignment in order to determine if the return on investment is worthwhile. If the decision is made to pursue program alignment, preliminary readiness assessment results are shared with initial partners to solicit their input, begin to build relationships, and clarify roles and responsibilities.

Tool 3a. State Readiness Assessment

As noted above, the state readiness assessment differs from the local assessment. It includes indicators based on additional lessons learned from sites that evolved from or were established by state-led initiatives.

Tool 3b. Local Readiness Assessment

The local/regional readiness assessment serves as a productive conversation starter between education and training practitioners or providers, employers, and community leaders.

Action Steps:

Use the Craft a Compelling Message section in Tool 1. Defining Value Proposition to create and test your compelling message.

1. Complete readiness assessment.
   Tool 3A. State Readiness Assessment
   Tool 3B. Local Readiness Assessment

2. Decide if there is adequate readiness to proceed with partnership formation.

3. Discuss preliminary assessment results and action items with partners and obtain their input as the partnership team is forming.

4. Implement high-priority action items.

STEP 1: BUILD THE PARTNERSHIP

Partnerships are what allow CTE-apprenticeship alignment to start, grow, and sustain. Partnership team formation is the first step in new program development.

Strong partnerships between institutions, employers, and agencies are essential to the development of the program. Partners should work together to design the best approach for their situation, obtain resources, and recruit and support CTE students and apprentices.

> ▮ *"It needs to be a community decision that this is what we need, and this is what we want to happen."*
>
> **Dan Burns, Associate Superintendent, Salinas School District, California**

Building the partnership includes two phases: partner identification and partner engagement.

1. PARTNER IDENTIFICATION

As state and local leaders begin to engage partners for this work, it is helpful to consider the diverse types of organizations that can add value to the creation and growth of your program. Below are examples of the types of local- and state-level partners that can play a role in the formation of a CTE-apprenticeship alignment.

Employers—Identify and prioritize high-demand career pathways

Employers are the linchpin for aligning CTE and apprenticeship programs. At the state level, employers need to lead the identification of high-demand career pathways as well as employer supports and incentives. At the local level, in addition to identifying high-demand career pathways, employers will provide employment placements for apprentices and identify authentic knowledge and skills applicable to the workplace.

Education and Training Providers

Education partners at both the state and local level will need to include the full continuum of learning from secondary CTE programs to community colleges and four-year institutions. This will allow for programs to include stackable credentials for recognized skill attainment. Participation of education representatives from each level will also ensure accessibility and adequate student supports.

Workforce System

With its strong connection to employers, the workforce system at both the state and local levels needs to be integrated into any CTE and apprenticeship partnership team. The workforce system sets and supports the state and local workforce career pathway initiatives. State and

LOCAL PARTNERSHIP IN ACTION

Puget Sound Skills Center Construction Technology Program, Washington

The success of the Puget Sound Skills Center (PSSC) Construction Technology CTE program in achieving state approval as a recognized pre-apprenticeship program is rooted in strong local partners. The Pacific Northwest Regional Council of Carpenters, the Washington Carpenters Institute, local general contractors, and other employers instigated PSSC's pursuit of pre-apprenticeship designation and provided letters of support for the application. In addition, the Construction Center for Excellence, which is part of the state's sector strategy initiative, and helps lead statewide education curriculum and training efforts, served as an intermediary for PSSC and their industry partners to support and facilitate this collaboration.

Learn More

local workforce leaders also will guide state and local partnerships on understanding potential funding streams available through the *Workforce Innovation and Opportunity Act.*

State Apprenticeship Agency

It is critical for state partnerships to involve the state apprenticeship agency to provide guidance on apprenticeship development and approval processes. These leaders, often housed in a state's department of labor, will also be in the best position to support businesses and education institutions in the development of a strong alignment. Local partnerships should engage these apprenticeship experts in early meetings to help clarify terminology and identify promising practices.

State Education Agencies

Local and state CTE-apprenticeship partnerships will benefit from participation by state education agencies, specifically the "eligible agency" designated to administer the *Carl D. Perkins Career and Technical Education Act of 2006 (Perkins IV)* allocation. This agency can provide guidance on secondary and postsecondary CTE program development and approval processes. The state's secondary agency can also provide technical assistance on opportunities for innovation within state education rules and regulations. Higher education leadership can assist with strategies for improving articulation and supporting certificate and degree attainment.

Intermediaries

Industry associations, employer councils, chambers of commerce, nonprofit, and community-based organizations can be the catalyst for state and local partnerships. These intermediaries often initiate and support partner collaboration and promote business participation. They also serve as strong advocates for program alignment.

PARTNERSHIP TOOLS

National tools are available to assist with locating state and local CTE and apprenticeship leadership. Use the links below to find partners in your area. Capture potential partners and completed work from the action steps below in the appropriate planning tool (state or local).

Find an Apprenticeship Partner	**Find a CTE Partner**
Find Apprenticeship Partners in Your Area at "Apprenticeship USA Toolkit"	**State Profiles at PCRN for state CTE contacts**
Tool 4a. State Partner Planning Template	**Tool 4b. Local Partner Planning Template**

Action Steps:

Complete the following action steps to build a list of potential partners:

1. Review the directions of the appropriate planning tool (state or local).

2. Use the links to the partnership tools above to help identify local and state level CTE and apprenticeship partners.

3. Brainstorm names and contact information for each partner category in the planning tool.

4. Prioritize the potential partners within each partner category.

2. PARTNER ENGAGEMENT

With potential partners identified, the next step is engaging them in the process and securing their commitment to be a part of the partnership team. Characteristics to look for when securing partners include the following:

- **Employer Led**– While education, workforce systems, and intermediaries may be the conveners of the partnership, employers need to lead. An employer should be identified and invited to serve as the chair of the partnership team.

- **Balanced**– It is important to have a balanced representation of education and workforce leaders and employers.

- **Influence and Action**– Building a CTE-apprenticeship alignment requires significant amounts of vision, creativity, persistence, and advocacy. Seek potential partners that are both influential and action-oriented.

First Meeting
Sample Agenda

1. Include a welcome and introductions.

2. Review and clarify CTE-apprenticeship key terms.

3. Review and validate readiness assessment findings.

4. Review benefits and needs for each group.

5. Construct agreed-upon compelling messages to be shared across partners.

6. Confirm commitments to be active members of the team.

Action Steps:

Engaging partners goes beyond just asking individuals to participate. During the initial contact you must help them see what value they will receive from and provide to the partnership.

1. Using the appropriate planning tool (state or local), identify the primary value that you expect each partner to provide, and what value they would receive.

2. Via phone or email, use your compelling message to invite the partner to join the team. Share with them the value you anticipate they will provide and the value they will receive from participation.

3. Ask for potential open dates in the next three weeks for a first meeting.

4. Schedule the first meeting.

5. Customize the sample first meeting agenda below to prepare for the first meeting.

6. Prior to the meeting, email the initial draft of the CTE-apprenticeship Key Terms and Readiness Assessment to all participants for review and input.

STEP 2: DESIGN YOUR APPROACH

Once the team is formed, the next step in building a CTE-apprenticeship alignment is defining and designing the key components of the program. In this step, state and local teams will do the following:

- Review approaches taken by early adopters of alignment to identify design components that may be adapted to other scenarios.

- Consider lessons learned from prior CTE-apprenticeship alignments.

- Create an alignment development plan to guide the advancement of their customized CTE-apprenticeship alignment.

This process would be best accomplished over a series of partnership team meetings. Each action step provides work for team members to complete prior to each meeting. Action steps also include suggestions for facilitating the discussion on each concept during the meeting.

1. INTERACTIVE TAXONOMY: EXPLORE THE DIMENSIONS OF ALIGNMENT

> *"CTE is the farm league for apprenticeships."*
>
> **Patrick Reardon, Executive Administrator, Ohio State Apprenticeship Council**

There are many ways in which CTE and apprenticeship programs may be aligned. In general, alignment options can be considered on two dimensions: the degree to which secondary CTE students' instruction aligns with apprenticeship training and the extent to which CTE programmatic requirements articulate with apprenticeship requirements.

Understanding these approaches will be critical as state and local partnerships consider the approach that will work best for their students, businesses, and communities.

Instructional Alignment

The degree to which secondary CTE students' instruction aligns with apprenticeship training.

Full— There is no distinction between the content taught in a secondary CTE program and in the training offered to an apprentice. A fully aligned program provides students with focused skill instruction tailored to address the entry requirements of an apprenticeship. Coursework fulfills both the education requirements necessary for students' high school graduation and the performance expectations of entering an apprenticeship, as well as other educational and career opportunities.

Embedded— Apprenticeship skills training is integrated into a student's CTE program and may be applied towards fulfilling course credit and high school graduation requirements. Students also receive technical instruction that may go beyond the scope of the apprenticeship program and that is intended to prepare them for other educational and career opportunities.

Substituted— All related technical instruction for apprenticeship is delivered outside of the secondary school setting, typically by a postsecondary education partner or established program intermediary. To increase access to apprenticeship opportunities, secondary students may not be required to have taken relevant CTE courses prior to entry. Those who are enrolled in a CTE program may be eligible to receive some high school and/or early postsecondary credit within their CTE field of study for the apprenticeship's related technical instruction, with the degree of recognition varying by site.

External— Secondary students who may be recruited from secondary CTE programs and other sources, participate in an apprenticeship program, with all instruction delivered outside the secondary school setting (during or after the school day). Students participating in such programs receive no education credit, though they may apply some or all of the hours worked toward fulfilling the entry requirements of an employer- or union-sponsored apprenticeship or be positioned for preferred entry upon completion.

Program Articulation

The extent to which instruction articulates with apprenticeship to ease student entry into programs.

Full— There is no distinction between a CTE program and an apprenticeship program. Students are fully enrolled as apprentices or pre-apprentices while in high school and, upon their graduation, continue on as apprentices, with all credits and hours counting towards full program completion.

Preferred Entry— Students participate in programs that may prepare them for entry into an apprenticeship, though students are not enrolled as apprentices. Apprenticeship and pre-apprenticeship sponsors formally agree to offer preferred entry status into their programs to students who complete specific requirements, with the possibility of applying education credits or hours worked toward an apprenticeship.

Optional Entry— Students participate in programs that prepare them for entry into an apprenticeship, but are not formally enrolled as apprentices. Optional entry programs typically do not guarantee students a direct pathway to an apprenticeship program, but rather are designed to prepare students for multiple post-graduate options, including employment and/or postsecondary education and training. Students opting to continue on in an apprenticeship may receive advanced credit for their experiences on a case-by-case basis.

Exploratory— Students participate in programs that allow them to explore career options, which may prepare them for entry into a pre-apprenticeship or an apprenticeship program, but they receive no credit towards their program nor preferential consideration for entry.

DIMENSIONS OF ALIGNMENT

This chart places the eight programs along the alignment dimensions and describes their different approaches. Click on any site to begin.

Alignment Approaches at a Glance

Note: The digital version of this image includes interactive features. Content may be missing when printed.

Instructional Alignment

Sites seeking to connect CTE with high-quality apprenticeship programs took intentional steps to sequence and align instructional content, often with input from employer or labor sponsors. Four common approaches are: Full, Embedded, Substituted, and External.

Learn More.

| | Full | Embedded | Substituted | External | | Exploratory | Optional Entry | Preferred Entry | Full |
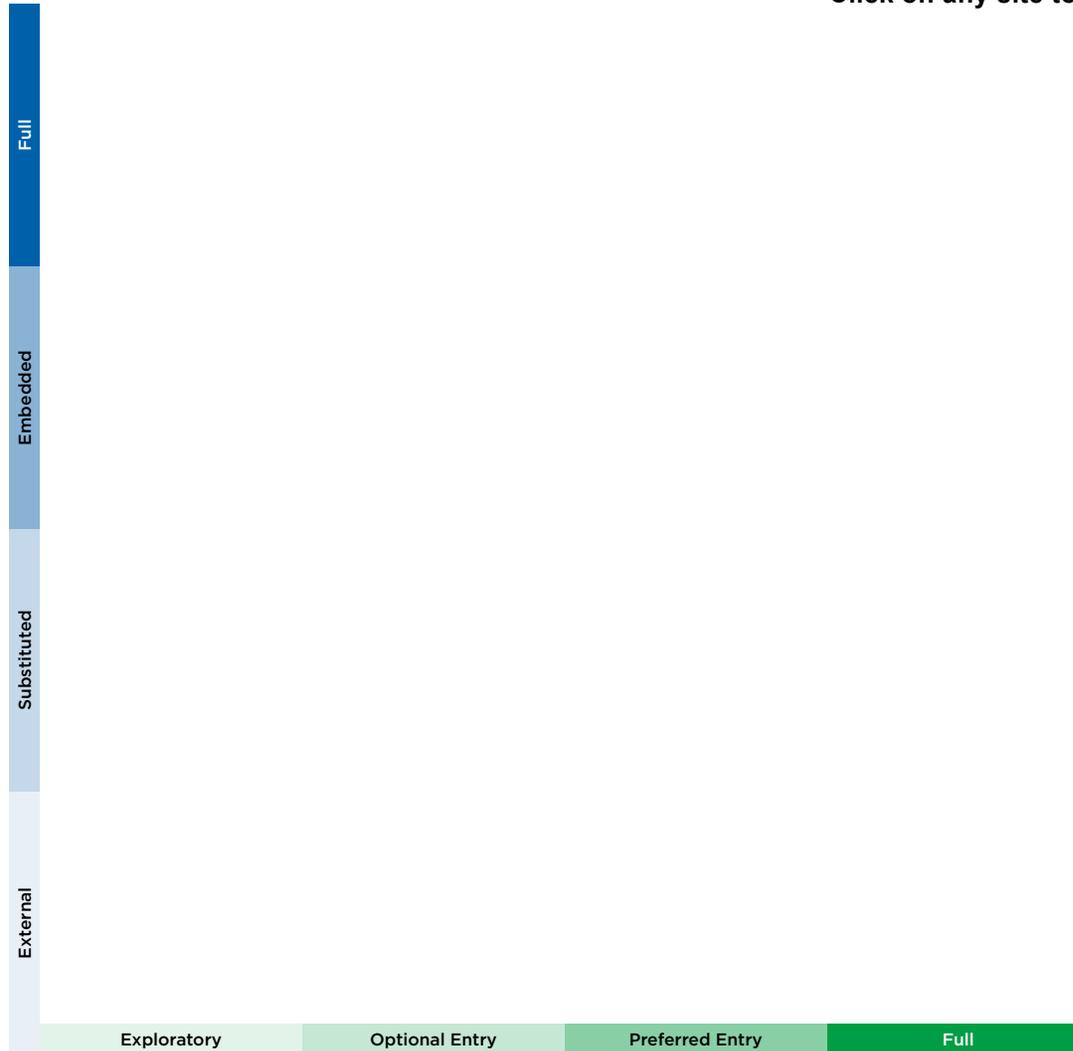
Program Articulation

The ease and seamlessness of the transition from secondary CTE to apprenticeship varied across the sites, driven by the programs' goals and designs. Four common degrees of articulation include: Full, Preferred Entry, Optional Entry and Exploratory. Learn More.

Details on each of the eight example sites are included in the site profile links below. Profiles describe the history, structure, impact, and partnerships of each program. These profiles will provide a local context as you explore the lessons learned and design considerations.

Program Name

- Apprenticeship Catawba
- Bayless Floor Layers Middle Apprenticeship Program
- Charleston Youth Apprenticeship
- Edward J. Malloy Initiative for Construction Skills
- Green Academy at Salinas High School
- Puget Sound Skills Center Construction Technology Program
- Tech Ready Apprentices for Careers in Kentucky (TRACK) – Dr. Schneider Automotive Systems
- Upper Valley Career Center School-to-Apprenticeship

Action Steps:

To assist the partnership team in comparing different approaches and identifying design attributes important to your alignment, take the following steps:

1. Distribute the appropriate mini-guide for a local, state, or an employer audience, which includes the Dimensions of Alignment interactive taxonomy and *Elements of CTE and Apprenticeship Alignment* video, prior to the next partnership team meeting.
   - *Mini-Guide for State Teams*
   - *Mini-Guide for Local and Regional Teams*
   - *Mini-Guide for Employers*
2. Team members will
   - watch the video;
   - use the taxonomy and site profiles (see links above) to explore alignment options;
   - select two sites that best exemplify the team's vision of alignment; and
   - review the two site profiles and write down key attributes for consideration and questions for discussion with the partnership team.
3. During the partnership team meeting, discuss the sites selected, key attributes identified, and questions raised.
4. Capture the key attributes for use in drafting a plan in Tool 5. Alignment Development Plan.

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2. Explore Lessons Learned and Design Considerations

The site profile report, *Opportunities for Connecting Secondary Career and Technical Education (CTE) Students and Apprenticeship Programs,* presents cross-site lessons learned and design considerations. Selected lessons learned have been included below. See individual site profiles for a complete set of lessons learned, by site.

Lessons Learned

There were a variety of lessons through site visits conducted as a part of the Potential Role of Secondary CTE Programs in Preparing Students for Apprenticeship Programs initiative to eight programs that have connected CTE and apprenticeship. The insights from implementers can guide state and local leaders in determining the right instructional alignment and program articulation approach or approaches. Lessons also included the following practical ideas and tips that would be worthy of consideration and discussion by the team.

1. Collaborating across state agencies leverages resources to create capacity and, most importantly, create opportunities for innovation.

2. Embedding the program into existing state infrastructures helps create efficiencies, reduces duplication of effort, and targets resources to accelerate replication of programs.

3. Creating a common statewide model allows employers to have flexibility, which helps create a win-win for employers, the state, and students.

4. Providing opportunities for students to learn beyond the traditional school day and setting can allow for increased learning time.

5. Collaborating across education and employment training programs to build a common set of competencies will enable student learning and future success.

6. Providing state support can help local programs advance and evolve, particularly with innovative pilot projects.

7. Leveraging sector partnerships, or groups of employers within an industry, is a strategic way of recruiting smaller companies to participate in a youth apprenticeship program.

8. Building and leveraging existing relationships between secondary and postsecondary education helps in developing and scaling the youth apprenticeship program.

9. Securing institutional administrative support allows the program to proactively tackle issues such as scheduling, advisement, financial support, and insurance coverage for students.

10. Using intermediaries increases connections to schools, students, and employers and makes their involvement with the programs as smooth as possible.

DESIGN CONSIDERATIONS

As noted in the site visit report, there is no inherently "right" or "wrong" approach to aligning CTE and apprenticeship programs. Study sites were in communities with differing geographic, socioeconomic, and resource characteristics as well as differing state administrative or legislative policies, all of which affected program structure. Interviews with program leaders and partners highlighted the need for:

- **Critical stakeholders (employers and education and training providers) buy-in**
  - » Educators and employers must collaborate to identify an alignment strategy that meets the needs of all parties. All stakeholders—teachers, employers, parents, and students—must see the value of their participation if the program is to persist over time.

- **Program alignments that are economically relevant**
  - » Alignment efforts must take into account state, regional, and local employment opportunities and address high-demand fields for which there are sufficient employment opportunities.

- **Employers that are actively engaged**
  - » While the initial impetus for program formation may come from state, regional, or local administrators, employers and/or labor associations with a need to build out their pipeline of workers must have the initiative, commitment, and resources to create and maintain programs.

- **Sustained partnerships that meet the needs of the employers, students, and programs, they serve**
  - » Each partnership must reflect the unique characteristics and needs of local employers, students, and programs. Design priorities will vary with the industries served, apprenticeship placements available, and education institution requirements.

Action Steps:

To assist the partnership team in studying and applying the lessons learned and design considerations:

1. Direct team members to the Action Items to Consider and Examples in Action sections of the appropriate mini-guide (state, local or employer) two weeks prior to the next partnership team meeting.

2. Team members will
   - review the relevant Action Items to Consider and Examples in Action, and
   - create a top-five list of items for consideration.

3. During the partnership team meeting, discuss and prioritize the results of each team member's list.

4. Use the prioritized list to draft the Tool 5. Alignment Development Plan.

STEP 3: CONSIDERATIONS FOR IMPLEMENTATION

Due to the complexity involved in connecting CTE and apprenticeship programs, designing the alignment of CTE and apprenticeship programs can be challenging. These programs do not typically fit within traditional methods of delivering CTE and apprenticeship training and, therefore, may require different strategies than exist to support historically deployed education and training programs.

In this step, state and local leaders and their partnership teams will need to consider how to best implement this type of program within their unique constraints. Review each section, reflect on the discussion questions, and combine thinking across the team to further inform your alignment development plan.

1. PROMOTING EFFECTIVENESS

Both qualitative and quantitative measures need to be considered to assess the success of a program's efforts to align CTE and apprenticeships. For example, student outcomes might include enrollment, completion, and placement rates; but these measures do not necessarily tell the full story of students' preparation for the workforce and/or the value of such programs to employers. State and local leaders should consider the following lessons from the sites visited.

- **Create both short- and long-term metrics.**
  - » In addition to tracking short-term measures like graduation and postsecondary persistence rates, the Edward J. Malloy Initiative for Construction Skills also tracks long-term measures using a Salesforce database system. Through this system they know that more than 1,300 of the 1,800 placements made since 2001 remain actively employed by the unionized construction industry, and of those, 700 are journey-level workers. Learn More

- **Establish appropriate measures of effectiveness.**
  - » Programs' ability to scale up enrollment often had less to do with student interest or success once enrolled and more to do with the number of placements that employers are able to support. Alternative measures of effectiveness might include the number of businesses employing students, employer satisfaction with apprentices, and the effect of the program on supply and demand of qualified workers by industry.

- **Collect and share data.**
  - » CTE and apprenticeship programs commonly lack a single reporting infrastructure. They also face challenges in accessing information from employers. To mitigate these issues, consider cross-agency data sharing agreements. Shared data will enable the development of new metrics and effectiveness indicators. Data sharing also allows for the development of cross-agency measures that can drive shared accountability.

Discussion Questions:

- What would be one short-term and one long-term quantitative measure of CTE-apprenticeship program effectiveness?

- What would be one short-term and one long-term qualitative measure of CTE-apprenticeship program effectiveness?

- What steps need to be taken to share performance data between CTE and apprenticeship data systems?

2. Promoting Student and Parent Engagement and Communications

To be successful, programs must engage key audiences to support CTE-apprenticeship alignment efforts. These key audiences include those that are crucial to program design, such as state and local CTE and apprenticeship administrators and business, and labor representatives, as well as teachers, school counselors, postsecondary education partners, and students and parents. Program leaders should have a communications plan that includes the following:

- **Educate parents and students on participation benefits.**
  - » The perception that CTE and apprenticeships are not rigorous or offer limited future opportunities can be a challenge in terms of student recruitment and gaining support from other school-based or community-based individuals. Active messaging highlighting the rigor and opportunity for advancement will need to be a central component of any alignment development plan. Activities like the Youth Apprenticeship Signing Day, highlighted on this page, provide an excellent opportunity to dispel myths and replace them with the various pathway opportunities CTE-apprenticeship alignments can offer students.

- **Market postsecondary opportunities.**
  - » The opportunity to continue education and training within or beyond an apprenticeship is an important value to students and parents. It may have an impact on their decision to enroll in this type of program. From construction to culinary programs, examples exist of CTE and apprenticeship programs that provide equal pathways to employment and to higher education including a bachelor of applied science. Building pathways that include the potential for earning advanced degrees should be an important design consideration, and would add an important value for students and parents.

- **Attract students to new fields/innovative programs.**
  - » According to the U.S. Department of Labor's Office of Apprenticeship's frequently asked questions, Registered Apprenticeship programs offer access to 1,000 career areas[1]. Work with your state apprenticeship office to identify new high-demand apprenticeship pathways that would benefit from connection to high school CTE students.

Communication in Action

Charleston Youth Apprenticeship Program, South Carolina

Trident Technical College, program leaders, and the local chamber of commerce host an annual "signing day" to celebrate the newest youth apprentices across all industry sectors. The ceremony brings together students, employers, parents, and even the media to create a sense of accomplishment and excitement around the event.

Many of those interviewed during site visits—including college faculty, students, parents, and employers—said the signing day was a special event that helped bolster pride and prestige in the youth apprenticeship program. For the college and its employer partners, the signing day also serves as one of its most successful recruitment activities. The visibility of these signing days not only helps efforts to recruit students, but also attracts the attention of other employers, some of whom have become involved in the program.

View Video: Youth Apprenticeship Signing Day 2015

Discussion Questions:

- What tools and resources need to be created to dispel myths and generate interest in the program for students and parents?

- What new or innovative career fields need to be considered for a CTE-apprenticeship alignment?

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1   U.S. Department of Labor. (n.d.). Frequently asked questions. Retrieved November 29, 2016 from https://www.dol.gov/featured/apprenticeship/faqs

3. Securing and Sustaining Financial Support

Securing stable resources is critical to maintaining program operations. Aligning CTE programs with apprenticeships entails leveraging education funding as well as funding provided by employer sponsors and other partners. Ideally, all sides should realize some benefit from program involvement, though returns on investment will not necessarily be quantifiable in the short term. To ensure sustainability, state and local leaders will need to:

- **Leverage educational resources where possible**
  - » Study sites found different strategies for funding programs often as a function of program alignment. Financing came from local contributions, state education finance formulas, state funding for dual enrollment and federal *Carl D. Perkins Career and Technical Education Act of 2006* resources.

- **Offer financial incentives to students**
  - » At some sites, particularly where students participated in apprenticeships and in some pre-apprenticeships, employers paid students for the time spent working, often more than the minimum wage. This allowed students to earn wages while completing their schooling. In other cases, students earned postsecondary credit that could be applied to further study. The value of this credit varied by site. Students in the Dr. Schneider Automotive apprenticeship in Lake Cumberland, Kentucky could receive an employer sponsored associate degree valued at nearly $10,000.

- **Offer financial incentives to employers**
  - » While tax credits may not sway a larger company to participate, tax credits and other financial incentives like matching funds for student salaries were a successful way to convince management in smaller businesses that participation would be, at a minimum, cost neutral.

Employer Incentives in Action

Upper Valley Career Center, Piqua, Ohio

The state of Ohio has employed tax credits to persuade companies to take on interns and pre-apprentices. While tax credits may not sway a larger company to participate, state leaders interviewed said it has been an effective way to encourage smaller businesses to participate. In 2014, lawmakers passed the Career Exploration Internship program, which directed $1 million of state money to pay for half of the wages for a student's work-based learning experience such as an internship or pre-apprenticeship. The law covers up to three high school students per employer in a calendar year.

Learn More at Ohio Career Exploration Internship Program Website

Discussion Questions:

- What funding streams are available to support the development and sustain the new program?
- How might employer participation best be incentivized?
- How might student participation be incentivized?

4. Assuring Equity and Access

All eight sites visited as a part of the Potential Role of Secondary CTE Programs in Preparing Students for Apprenticeship Programs initiative experienced challenges around recruiting and providing access for students. Partnerships will need to take active steps to address common access barriers. They include the following:

- **Ensure access to transportation**
  - » Because work hours for apprenticeships can be asynchronous and at varying locations, transportation will need to be factored into the alignment development plan. While some students may be able to provide their own transportation, others will need transportation assistance in order to participate in the program.

- **Mitigate concerns about youth labor laws and/or liability issues**
  - » Education will need to be provided to employers about the possibilities of youth employment. State and local leaders can ease employer concerns by communicating labor laws accurately, by extending liability coverage for participating students, and/or by leveraging existing employer partners as ambassadors.

Equity and Access in Action

Tech Ready Apprentices for Careers in Kentucky (TRACK)

In addition to providing information sheets dispelling myths about youth labor laws, Kentucky has leveraged its existing relationship with Adecco, a national staffing agency, to address employer concerns about insurance and liability issues for employees under 18. Under the state's Youth Employment Solutions (YES) program, Adecco manages the administrative and legal elements of work-based learning, including TRACK. According to the state, the YES program has helped remove barriers for some employers, and as a result, they have agreed to participate in TRACK. Adecco also helps recruit employers and prepare students with the professional skills they will need to be successful in the workplace.

Retrieved from
http://education.ky.gov/CTE/cter/Pages/Students_U18.aspx

Learn More at Tech Ready Apprentices for Careers in Kentucky (TRACK) Website

Discussion Questions:

- What are possible solutions to ensure transportation will not be a barrier for students wishing to participate in the program?
- What resources and methods will be needed to allay employer concerns regarding labor laws and liability coverage?

5. Maintaining Implementation Efforts

While each of the prior items in this step are critical in building a sustainable program, there are additional actions that can be taken to ensure long-term viability. They include:

- Establish Memoranda of Understanding (MOUs) among agencies, institutions and organizations to codify commitment, roles, and responsibilities.

- Set consistent monthly or quarterly partnership meeting dates to monitor and adjust implementation as needed.

- Create an annual report on outcomes to highlight partner contributions and student success.

- Conduct an annual evaluation and planning meeting to foster continuous improvement.

- Prepare for onboarding new partnership team members.

Discussion Questions:

- What steps will be taken to ensure the long-term viability of the partnership?

- How will vacancies in partnership team members be filled and new members trained?

6. Refining the Alignment Development Plan

At this point in the process, it is important to capture the CTE and apprenticeship alignment attributes and design considerations into your alignment and development plan.

Action Steps:

1. Review the Alignment Development Plan directions.

2. Collaborate with the employer chair of the partnership team to collect notes captured during the approach review and lessons learned discussions to write plan statements as directed.

3. Share the draft of your alignment development plan with the partnership team for validation and iteration.

4. Use your alignment development plan to guide program planning and development.

NEXT STEPS

In completing the pre-work and steps in this guide you will have done the following:

1. Created a compelling message to promote CTE and apprenticeship alignment.

2. Clarified CTE and apprenticeship terminology used in your program and/or state.

3. Assessed program readiness for CTE-apprenticeship alignment.

4. Built a partnership team to lead alignment efforts.

5. Identified design components to guide program planning and development.

Now the work of program alignment begins. While this work is heavily nuanced by industry and education environment, there are common milestones that must be achieved during implementation. Schedule time during partnership meetings to address and advance the work of each item below.

- **Instructional Alignment**
  - » Employers, CTE educators, and apprenticeship leaders must collaborate to define the aligned program competencies and map which instructional components are best provided by the CTE or apprenticeship program.

- **Program Articulation**
  - » Apprenticeship and education leaders will need to define articulation options offered to students. This will include both the advanced apprenticeship standing and postsecondary credits, certificates or degrees that can be earned by program completers.

- **Co-ownership**
  - » The partnership team will work towards full co-ownership on the part of employers and educators.

- **Student Engagement**
  - » The partnership team must coordinate with education providers to communicate the value of the program to students and parents.

- **Program Staffing**
  - » Program partners need to plan for sustainable program leadership and management.

- **Local and State Policy Review and Refinement**
  - » As implementation progresses, policies must be reviewed and refined to accommodate and support program success.

APPENDIX A: TOOLS AND TEMPLATES

TOOL 1. DEFINING VALUE PROPOSITION TEMPLATE

Need

Defining the value proposition or potential impact of a CTE and apprenticeship alignment is foundational to the success of any subsequent steps. Local or state leaders must be able to articulate clearly and succinctly the value of program alignment in order to inspire stakeholders to become involved and for change to occur.

Use

This template is designed to capture state or local leaders' initial notes on CTE-apprenticeship alignment's potential benefits and value. This initial thinking will be transformed into a compelling message or "why" statement that is tested and iterated until it achieves the desired effect. The task culminates in the development of a dissemination plan to share the message with target audiences.

Aligning Career and Technical Education and Apprenticeship Programs

Defining Value Proposition Template

1. CONSIDER THE BENEFITS

Examine your current CTE data to identify the following:

1. The number of students entering employment immediately after high school to assess the scope of an alignment opportunity

2. The persistence rate of CTE completers entering employment and postsecondary education to assess whether the current program is achieving its intended purpose(s)

3. The fields in which CTE completers are entering employment or pursuing postsecondary education to determine where alignment may be appropriate

4. The number of CTE completers (and non-CTE students) entering apprenticeship and their persistence rate to determine need

5. The rate of non-traditional student participation and persistence in CTE to apprenticeship pathways

Key Findings:

_____

_____

_____

_____

2. Explore the Value to Your Program

Consider the following questions to clarify the value and target audience of a CTE-apprenticeship alignment for your institution or program.

1. What performance measures (placement, academic attainment, etc.) might be positively impacted by a greater program alignment between CTE and apprenticeship?

   _____

   _____

   _____

2. What is the value of better alignment to students?

   _____

   _____

   _____

3. Which employer or workforce needs might this type of alignment meet?

   _____

   _____

   _____

4. How will your local economy benefit and to whom will advantages accrue?

   _____

   _____

   _____

5. How might a CTE-apprenticeship alignment impact program effectiveness and efficiency?

   _____

   _____

   _____

   _____

   _____

   _____

3. Craft a Compelling Message

A. Review the ideas captured above.

B. Consider the following example "why" statements adapted from states and institutions that have already made connections between their CTE and apprenticeship programs.

Tech Ready Apprentices for Kentucky (TRACK), Kentucky

- The world of work is more competitive than ever. The skills learned through a CTE program aligned with a Registered Apprenticeship gives a student much more of an advantage. It also gives employers a much more knowledgeable and valuable new employee.

- Aligned CTE and apprenticeship programs allow students to earn while they learn and, once completed, lead to high-demand, high-wage job skills that will follow them wherever they may go.

Trident Technical College, South Carolina

- A CTE and apprenticeship partnership represents a community-wide, collaborative approach to creating a seamless pathway for students from secondary to post-secondary education into the skilled workforce.

- CTE and apprenticeship partnerships will secure our future workforce today!

Upper Valley Career Center, Ohio

High school students can begin their career pathway, earn college credits and start to work in their desired field — all while remaining active in sports and other activities at their home school.

The apprenticeship program is an opportunity for students to get a jump start in their career, receive on-the-job training, and gain exposure to real work environments. Students who work as apprentices can perform tasks and gain experience that their peers cannot.

C. Draft your compelling message, evaluate it, and revise it. As you are writing, remember Simon Sinek's Ted Talk advice, "People don't buy what you do; they buy why you do it."[1]

Draft Compelling Message I:

_____

_____

_____

_____

_____

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1 Ted Conferences. (Producer). (2010). How great leaders inspire action [Web Video]. Available from https://www.ted.com/talks/simon_sinek_how_great_leaders_inspire_action/transcript?language=en

Evaluate

i. Does the compelling message articulate why the potential CTE-apprenticeship alignment is important? If it sounds like an action step, rewrite and focus on the "why."

ii. Is your statement concise and to the point? Statements should be one to three sentences and less than 30 words. If your statement is longer, simplify it.

Draft Compelling Message II:

_____

_____

_____

_____

_____

D. Test the revised compelling message with a sample set of colleagues, students, instructors, and employers. Incorporate feedback to hone the message to deliver the desired impact of eliciting change.

Draft Compelling Message III:

_____

_____

_____

_____

_____

E. Brainstorm target audiences and delivery methods to disseminate your compelling message .

Target Audiences	Delivery Methods
Think through the target audiences that you will need to engage to support your initial efforts.	Capture upcoming distribution channels that can be used to start sharing the message of the potential of CTE-apprenticeship alignments. These may include regularly scheduled update emails, annual or monthly education reports, and training meetings and special events. Use social media tools to create buzz.

TOOL 2. CTE-APPRENTICESHIP KEY TERMS TEMPLATE

Need

State, regional, and local leaders will need to establish a common understanding of key terms and components to ensure the collaboration necessary to successfully align programs. Common terms will increase the efficiency and effectiveness of team discussions and planning.

Use

This template is designed to assist a local or state leader in gaining consensus on the CTE-apprenticeship language that will be used to advance the alignment.

Directions

1. Review the CTE-apprenticeship key terms and modify the general language to meet your specific state or local situation.

2. Add local and state terms, acronyms, and initiatives that will need to be clear for all partners.

3. Use the resources below to identify and add other terms that will be important for your partnership team to understand.

4. Share the list of terms and definitions with the state CTE and apprenticeship offices for review and feedback.

5. Distribute and discuss CTE-apprenticeship key terms at the first partnership team meeting.

CTE and apprenticeship resources to assist with defining a common language and understanding.
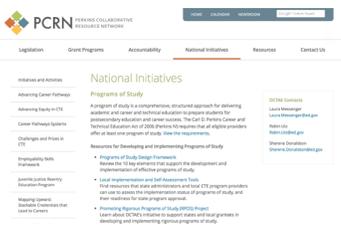
Resources for Developing and Implementing Programs of Study

Defining a Quality Pre-Apprenticeship Program and Related Tools and Resources

Advancing Apprenticeship as a Workforce Strategy: An Assessment and Planning Tool for the Public Workforce System

Apprenticeship USA

Aligning Career and Technical Education (CTE) and Apprenticeship Programs
CTE-apprenticeship Key Terms Template

Career and Technical Education

General Description	Local Definition	State Definition	Partner Definition
CTE programs are typically organized into 16 Career Clusters® that comprise groups of related industries and occupations, and may be found at the secondary and postsecondary learner level. Within clusters, students may specialize in a career pathway that provides them with technical skills to prepare them to transition into postsecondary education and/or immediate employment. Programs usually consist of sequenced technical coursework that start with introductory, basic technical skills instruction that progresses over time to more advanced skill training.			
Key Terms	**Local Definition**	**State Definition**	**Partner Definition**
A CTE Program of Study describes a specialized CTE program designed to smooth high school students' transition into college and careers. These programs include technical and academic courses that span the secondary and postsecondary education levels; may offer options for students to earn college credit; and lead to an industry-recognized certificate or credential, or an associate or baccalaureate degree.			

Apprenticeship

General Description	Local Definition	State Definition	Partner Definition
Apprenticeship is a training program that can be sponsored by employers, unions, colleges, or community-based organizations and combines paid, on-the-job training with classroom instruction that culminates in the award of a portable, nationally recognized industry credential.			

Key Terms	Local Definition	State Definition	Partner Definition
Pre-apprenticeship is a program or set of strategies designed to prepare individuals for entry into an apprenticeship or Registered Apprenticeship program. Instruction may include basic skills training, academic skills remediation, or an introduction to the industry. Completers may be accorded preferential consideration for entry into an apprenticeship program and/or apply time served or credits earned toward fulfilling program requirements. In some instances, state apprenticeship agencies have created a process to recognize pre-apprenticeship programs. At this time, there is no federal registration process for pre-apprenticeships, but the U.S. Department of Labor (DOL) has provided guidance on the quality components of pre-apprenticeship programs. (Quality Pre-Apprenticeship Guidance, TEN, 13-12)			

Apprenticeship

Key Terms	Local Definition	State Definition	Partner Definition
Youth Apprenticeship is a program that is designed specifically for individuals aged 16-18 that is registered with the DOL (or a federally recognized state apprenticeship agency). Youth Apprenticeship programs must also include and demonstrate the five components of a Registered Apprenticeship.			
Registered Apprenticeship is an on-the-job training program that typically has five components: 1) employer involvement; 2) on-the-job training; 3) related technical instruction; 4) paid work experience; and 5) award of a nationally recognized industry credential. A *Registered Apprenticeship* program meets national industry standards and is registered with the DOL (or a federally recognized state apprenticeship agency). Programs must include and be able to demonstrate that they address the five components listed above. (https://www.doleta.gov/OA/apprenticeship.cfm)			

Discussion Questions:

1. Where are the differences in these various definitions?

2. For which definitions, do you need additional information?

3. How can you word the definitions to make them sensible to your partners?

State or Local Specific Terms, Acronyms, and Initiatives

Add state or locally defined terms (e.g., Completer, Pathway, Education, Training, etc.):____

_____

_____

_____

TOOL 3A. STATE ALIGNMENT READINESS ASSESSMENT TOOL

Need

When preparing for a CTE-apprenticeship alignment, state and local leaders will benefit from conducting a readiness assessment. During this analysis, they will identify strengths to leverage, limitations to mitigate, and gaps to fill while proceeding with the implementation steps. The assessment will assist leaders in establishing the foundational structure and supports necessary for initial success and sustainability.

Use

The readiness assessment is used for two purposes. It first is conducted by an individual, institution, or state considering whether to move forward with pursuing an alignment to determine if the return on investment is worthwhile. If the decision is made to pursue program alignment, preliminary readiness assessment results are shared with initial partners to solicit their input, begin to build relationships, and clarify roles and responsibilities.

The levels of readiness are defined as follows:

1. **Learning:** The individual or team is gathering information on the indicator but has not moved forward with planning or development.
2. **Building:** The individual or team is actively planning or moving forward on decisions related to the indicator.
3. **Implementing:** The indicator is fully functional and ready for evaluation and iteration.

The levels of priority are defined as follows:

1. **High:** Critical area for development to occur soon
2. **Medium:** Important area for development when time is available
3. **Low:** No current action needed in this area

Process

1. Review each indicator and determine the level of readiness and priority.
2. Use the notes section to capture reasoning and note any special considerations.
3. For all high-priority indicators define one to three actions items to advance readiness.
4. Implement action items.
5. Discuss and validate the assessment and action plan during the first partnership team meeting.

Aligning Career and Technical Education (CTE) and Apprenticeship Programs State Readiness Assessment Tool

	Readiness Level (Learning, Building, or Implementing)	Priority for Action (High, Medium, or Low)	Notes	Action Items
Critical stakeholders (employers and education and training providers) have "bought-in" to the value of CTE and apprenticeship program alignment				
1. A compelling vision has been crafted and can be articulated by each partner.				
2. CTE and apprenticeship terms have been clarified and jointly agreed upon (formalized) by state partners.				
3. Key partners have identified and agreed upon an alignment strategy that meets the needs of all parties.				
4. Key partners at the state level are aware and actively involved in advocating for and initiating new CTE-apprenticeship alignments.				
Potential program alignments are economically relevant				
1. A scan of existing CTE-apprenticeship aligned programs has been completed.				
2. Labor market information has been reviewed and high-demand career pathways have been identified as priorities for alignment.				
3. Employers have verified high-demand career pathways and are committed to providing apprenticeship training opportunities.				
4. Supply gaps have been identified in the state and regional education and training system.				
5. There is collaboration across education and employment systems to build a common set of competencies that will enable student learning and future success.				

	Readiness Level (Learning, Building, or Implementing)	Priority for Action (High, Medium, or Low)	Notes	Action Items
Employers are engaged and actively driving the process				
1. Employers are engaged with clearly defined roles and leadership responsibilities.				
2. Employers are committed to creating and sustaining programs by providing apprenticeship opportunities.				
3. Employer incentives have been developed to drive implementation and sustainability.				
Partnership is designed to meet the needs of the local programs and the students and employers they serve				
1. There is collaboration across state agencies to leverage resources, create capacity, and create opportunities for innovation.				
2. The aligned program is embedded into existing state infrastructures to help create efficiencies and reduce duplication of effort.				
3. Education system incentives have been developed to drive implementation and sustainability.				
4. Supports are in place mitigating employer youth employment concerns.				
5. Metrics have been established to measure both the qualitative and quantitative effectiveness of programs.				
6. Data sharing agreements have been established				

TOOL 3B. LOCAL READINESS ASSESSMENT TOOL

Need

When preparing for a CTE-apprenticeship alignment, state and local leaders will benefit from conducting an alignment readiness assessment. During this analysis, they will identify strengths to leverage, limitations to mitigate, and gaps to fill while proceeding with the implementation steps. The assessment will assist leaders in establishing the foundational structure and supports necessary for initial success and sustainability.

Use

The readiness assessment is used for two purposes. It first is conducted by an individual, institution, or state considering whether to move forward with pursuing an alignment to determine if the return on investment is worthwhile. If the decision is made to pursue program alignment, preliminary readiness assessment results are shared with initial partners to solicit their input, begin to build relationships, and clarify roles and responsibilities.

The levels of readiness are defined as follows:

1. **Learning:** The individual or team is gathering information on the indicator but has not moved forward with planning or development.
2. **Building:** The individual or team is actively planning or moving forward on decisions related to the indicator.
3. **Implementing:** The indicator is fully functional and ready for evaluation and iteration.

The levels of priority are defined as follows:

1. **High:** Critical area for development to occur soon
2. **Medium:** Important area for development when time is available
3. **Low:** No current action needed in this area

Process

1. Review each indicator and determine the level of readiness and priority.
2. Use the notes section to capture reasoning and to note any special considerations.
3. For all high-priority indicators define one- to three actions items to advance readiness.
4. Implement action items.
5. Discuss and validate the assessment and action plan during the first partnership team meeting.

Aligning Career and Technical Education (CTE) and Apprenticeship Programs Local Readiness Assessment Tool

	Readiness Level (Learning, Building, or Implementing)	Priority for Action (High, Medium, or Low)	Notes	Action Items
Critical stakeholders (employers and education and training providers) have "bought-in" to the value of CTE and apprenticeship program alignment.				
1. Key partners at the local level are aware and actively involved in advocating for and initiating new CTE-apprenticeship alignments.				
2. CTE and apprenticeship terms have been clarified and jointly agreed upon (formalized) by local partners.				
3. Key partners have identified and agreed upon an alignment strategy that meets the needs of all parties.				
4. A compelling vision has been crafted and can be articulated by each partner.				
Potential program alignments are economically relevant.				
1. A scan of existing CTE-apprenticeship aligned programs and relationships has been completed and opportunities for growth have been identified.				
2. Labor market information has been reviewed and high-demand career pathways have been identified as priorities for alignment.				
3. Employers have verified high-demand career pathways and are committed to providing apprenticeship training opportunities.				
4. Supply gaps have been identified in the local and regional education and training system.				
5. There is collaboration between CTE and apprenticeship programs to build a common set of competencies that will enable student learning and future success.				

	Readiness Level (Learning, Building, or Implementing)	Priority for Action (High, Medium, or Low)	Notes	Action Items
Employers are engaged and actively driving the process.				
1. Employers are engaged with clearly defined roles and leadership responsibilities.				
2. Employers are committed to creating and sustaining programs by providing apprenticeship opportunities.				
A partnership is designed to meet the needs of the local programs and the students and employers they serve.				
1. There is collaboration across local partners to leverage resources, create capacity, and create opportunities for innovation.				
2. The aligned program is embedded into existing institutional infrastructures to help create efficiencies and reduce duplication of effort.				
3. Student access is supported by an adequate transportation plan.				
4. Supports are in place mitigating employer youth employment concerns.				
5. Metrics have been established to measure both the qualitative and quantitative effectiveness of programs.				
6. Data sharing agreements have been established.				

TOOL 4A. STATE PARTNER PLANNING TOOL

Need

Partnerships between institutions, employers, and agencies are essential to starting, growing, and sustaining aligned CTE and apprenticeship programs. Partnership team formation is the first step in alignment development.

Use

As state leaders begin to engage partners for this work, it will be helpful to consider the diverse types of organizations that can add value to the creation and growth of programs. Use this tool to ensure that your CTE-apprenticeship alignment partnership team has the right combination of expertise and influence to build a successful program.

At the state level, this process may need to be repeated for different industry sectors to build partnerships specific to each career pathway.

Process

1. Review the suggested local partner types and roles.

2. Review the partnership tools included below for local CTE and apprenticeship partners.

3. Brainstorm names and contact information for each partner category.

4. Capture the names in the "Prioritized Potential Partners" column.

5. Within each partner type, organize the potential partners in priority order.

6. For the highest priority partner in each partner type, capture

    •   the most important value you believe they will contribute to the partnership in the "Contribution" column, and

    •   the anticipated value the partner will receive from joining the partnership in the "Motivation" column.

7. Via phone or email, use your compelling message to invite the partner to join the team. Share with them the value you anticipate the potential partner will provide and the value they will receive.

8. Determine open dates within the next three weeks. Capture these dates in the "Available Dates" column.

9. Set the meeting date for launch of the partnership.

Aligning Career and Technical Education (CTE) and Apprenticeship Programs
State Partner Planning Tool

Type	Value/Role	Prioritized Potential Partners (Name, Organization, Contact Information)	Contribution	Motivation	Available Dates
Employers	• Identify and prioritize high-demand career pathways. • Identify employer barriers to participation. • Promote business participation. • Advocate for system alignment.				
Workforce System (Workforce Board, Department of Labor, one-stop centers)	• Connection to statewide workforce career path-way initiatives. • System supports for par-ticipating employers. • Determine incentives for participating employers. • Guide partnerships on potential *Workforce Innovation and Opportunity Act* funding streams.				
Secondary Education Agency (including secondary CTE leadership)	• Integrate alignments into the state's career path-ways strategy. • Align state rules and regulations to support alignment. • Ensure accessibility and student support.				

Type	Value/Role	Prioritized Potential Partners (Name, Organization, Contact Information)	Contribution	Motivation	Available Dates
Postsecondary Education Agency (including postsecondary CTE programs, community colleges, and four-year colleges)	• Integrate alignments into the state's career pathways strategy. • Plan for stackable credentials throughout the system for recognized skill attainment. • Align state rules and regulations to support alignment. • Ensure accessibility and student support.				
State Apprenticeship Agency	• Provide guidance on youth, pre- and full-apprenticeship development and approval process. • Provide example competencies for workplace skill development. • Support business engagement. • Connect businesses with training providers. • Guide partnerships on potential funding streams for apprenticeship.				
Intermediaries (industry associations, labor, and community-based organizations)	• Initiate and support partner collaboration. • Initiate partnerships. • Identify and prioritize high-demand career pathways • Promote business participation. • Advocate for system alignment.				

TOOL 4B. LOCAL PARTNER PLANNING TOOL

Need

Partnerships between institutions, employers, and agencies are essential to starting, growing, and sustaining aligned CTE and apprenticeship programs. Partnership team formation is the first step in alignment development.

Use

As state and local leaders begin to engage partners for this work, it will be helpful to consider the diverse types of organizations that can add value to the creation and growth of programs. Use this tool to ensure that your CTE-apprenticeship alignment partnership team has the right combination of expertise and influence to build a successful program.

At the local or regional level, this process may need to be repeated for different industry sectors to build partnerships specific to each program.

Process

1. Review the suggested local partner types and roles.

2. Review the partnership tools included below for local CTE and apprenticeship partners.

3. Brainstorm names and contact information for each partner category.

4. Capture the names in the "Prioritized Potential Partners" column.

5. Within each partner type, organize the potential partners in priority order.

6. For the highest priority partner in each partner type, capture

    •   the most important value you believe they will contribute to the partnership in the "Contribution" column, and

    •   the anticipated value the partner will receive from joining the partnership in the "Motivation" column.

7. Via phone or email, use your compelling message to invite the partner to join the team. Share with them the value you anticipate the potential partner will provide and the value they will receive.

8. Determine open dates within the next three weeks. Capture these dates in the "Available Dates" column.

9. Set the meeting date for launch of the partnership.

Aligning Career and Technical Education (CTE) and Apprenticeship Programs
Local Partner Planning Tool

Type	Value/Role	Prioritized Potential Partners (Name, Organization, Contact Information)	Contribution	Motivation	Available Dates
Employers	• Identify authentic knowledge and skills applicable to the workplace. • Identify high-demand occupations. • Employ students as apprentices. • Organize workplace instruction. • Supervise apprentices in the workplace using experienced mentors.				
Local Workforce Board and one-stop center	• Connect to employers. • Provide support services for participating employers. • Provide support services for participating students.				
State Education Agency	• Provide guidance on secondary and postsecondary CTE program development and approval process. • Support ways to innovate while complying with education rules and regulations. • Support postsecondary articulation.				

Type	Value/Role	Prioritized Potential Partners (Name, Organization, Contact Information)	Contribution	Motivation	Available Dates
Secondary CTE program, community colleges, and four-year college	• Provide academic and technical skill instruction. • Issue credentials for recognized skill attainment. • Ensure accessibility and student support. • Lead student recruitment efforts.				
State Apprenticeship Agency and Local Apprenticeship Sponsors and Training Providers	• Provide guidance on youth, pre- and full-apprenticeship development and approval process. • Provide sample competencies for workplace skill development. • Support business engagement in the process. • Ensure the articulation of pre-apprenticeship experience to full apprenticeship.				
Intermediaries	• Initiate and support partnerships and collaboration. • Identify and prioritize high-demand career pathways. • Promote business participation.				

TOOL 5. ALIGNMENT DEVELOPMENT PLAN

Need

Early adopters of CTE-apprenticeship alignments took a variety of approaches in connecting the two programs. Once a partnership team is formed, work will need to begin to define the approach that fits best for the partnership's unique needs.

Use

This template is designed to capture ideas on approaches and design considerations based on a review of existing partnerships. The task culminates in an alignment development plan that will set design priorities and provide direction for next steps with implementation.

Aligning Career and Technical Education (CTE) and Apprenticeship Programs

Alignment Development Plan

1. Interactive Taxonomy: Explore the Dimensions of Alignment

During a partnership team meeting, discuss the research conducted by team members on the Interactive Taxonomy and site profiles. Capture key attributes identified as being relevant to your program and partnership here.

Key attributes:

_____

_____

_____

_____

2. Explore Lessons Learned and Design Considerations

During a partnership team meeting, discuss and prioritize the results of each team member's research on the state or local lessons learned and design considerations. Capture the prioritized list below.

Prioritized list of important lessons learned and design considerations:

_____

_____

_____

_____

3. Considerations for Implementation

During a partnership team meeting, discuss, capture, and prioritize team member responses to the discussion questions in the following areas:

Discussion Areas	Responses
1. Promoting Effectiveness	
Notes:	

Discussion Areas	Responses
2. Promoting Student and Parent Engagement and Communications	
Notes:	

Discussion Areas	Responses
3. Securing and Sustaining Financial Support	
Notes:	

Discussion Areas	Responses
4. Assuring Equity and Access	
Notes:	

Discussion Areas	Responses
5. Maintaining Implementation Efforts	
Notes:	

4. Develop Plan

1. Review the notes captured during the dimensions of alignment, lessons learned, and managing the environment team discussions.

2. Create a draft of the alignment development plan using the template below.

3. Share the draft plan with the employer chair of the partnership team and revise as necessary.

4. Share the draft plan with the partnership team for validation and iteration.

5. Use the Alignment Development Plan in program planning and development.

Aligning Career and Technical Education (CTE) and Apprenticeship Programs

Alignment Development Plan Template

A. Dimensional Alignment Approach

Targeted level of Instructional Alignment (Full, Embedded, Substituted, or External):

_____

Targeted level of Program Articulation (Full, Preferred Entry, Optional Entry, and Exploratory):

_____

Notes:

_____

_____

_____

_____

_____

B. Dimensional Alignment Approach

This CTE-apprenticeship alignment will include:

• *Add attribute here.*

_____

_____

_____

_____

C. Targeted Outcomes

• *Add quantitative and qualitative measures of success here.*

_____

_____

_____

_____

D. Strategies for Student and Parent Engagement

• *Add strategies and methods here.*

_____

_____

_____

_____

E. Strategies for Implementing Financial Supports

• *Add incentive and funding stream strategies here.*

_____

_____

_____

F. Strategies for Assuring Equity and Access

- *Add strategies for ensuring equity and access here.*

G. Strategies for Maintaining Implementation Efforts

- *Add strategies for sustaining the partnership here.*