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Conceptual Advancement of Youth Apprenticeship Programs Using a Policy Delphi

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**CONCEPTUAL ADVANCEMENT OF YOUTH APPRENTICESHIP PROGRAMS
USING A POLICY DELPHI**

by

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ABSTRACT

CONCEPTUAL ADVANCEMENT OF YOUTH APPRENTICESHIP PROGRAMS USING A POLICY DELPHI

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Old Dominion University, 2022
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Youth apprenticeship programs are a means of bridging the middle skills gap and rebuilding the workforce while combating youth underemployment and unemployment. Previous attempts to advance these programs were unsuccessful. The study identified concepts to include or modify in draft legislation and policy statements to increase the possibility of enactment and implementation. Twenty-three youth apprenticeship advocates participated as panelists in a four-round online policy Delphi to garner opinions on posited recommendations and panelists' responses to open-ended prompts. A codifying committee of three educators/researchers was used to review, reduce, categorize, and code the qualitative data. The aggregated lists were used to develop a 5-point, 19-item Likert-type scale that was used to identify the level of importance of each concept. The panel approved or disapproved pre-positing concepts and provided responses to two-open ended prompts. The qualitative data were used to create a 19-item Likert-type scale to which the heterogeneous group of advocates rated the importance of the concepts presented by the codifying committee. The panel arrived at a strong agreement on 15 concepts for inclusion into draft legislation and policy statements. The findings provide advocates with information to share with legislators and other key stakeholders to boost the advancement of youth apprenticeship programs.

Keywords: middle-skills gap, workforce development, youth apprenticeship

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This dissertation is dedicated to the memory of my mother, Betty, who always believed in me. You are gone but your belief in me has made this journey possible. It is further dedicated to my friends and colleagues who encouraged me along the way, my former teachers and professors who prepared me over the decades, and my former and current students who inspire me.

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CHAPTER I

INTRODUCTION

The coronavirus pandemic wreaked havoc on the global economy. The need to rebuild the American workforce is greater now than after the Great Depression of the 1930s (Kiersz & Reinicke, 2020; Messing-Mathie, 2015; Miller & Davies, 2020). Companies in the United States are unable to compete and grow in a global economy mainly due to the inability to close the skills gap and keep pace with the changes in the labor market (Achieve, Inc., 2012; American Society for Training and Development [ASTD], 2012; Galagan, 2010; Kreamer & Zimmermann, 2017; Lerman, 2013a; Lerman, 2018; Miller & Davies, 2020; Stone, 2017; Symonds et al., 2011; U. S. Chamber of Commerce Foundation [USCCF], 2018; Woods, 2012; Zemsky, 1994). A need for a productive and skilled workforce exists with middle-skill workers being highest in demand (Achieve, Inc., 2012; ASTD, 2012; Kreamer & Zimmermann, 2017; Lerman, 2013b; Lerman, 2016; Shaw et al., 2019; Stone, 2017; Woods, 2012). Business entities and industry leaders seek alternative methods to attract, develop, and retain a talent workforce (Craig & Bewick, 2018). To bridge the skills gap, industry leaders, workforce developers, and educators must work together collaboratively because they are interwoven. (Davin et al., 2020).

Although employment opportunities are available, finding and retaining talent to fill critical gaps is becoming more difficult since the workforce is unprepared to meet the competencies and credentials needed to fill these in-demand jobs (Achieve, Inc., 2012; Bailey & Merritt, 1993; Davin et al., 2020; Miller & Davies, 2020; Shaw et al., 2019; Symonds et al., 2011; USCCF, 2018). The longer positions go unfilled, the higher the cost becomes for onboarding and training (USCCF, 2018). The Georgetown Center on Education and Workforce forecasted that two in three jobs in 2020 would require some form of post-secondary education

(Carnevale et al., 2013; Hanks, 2016; Symonds et al., 2011; USCCF, 2018). In 2015 and 2018, middle-skill jobs accounted for 53% of the labor market in the United States (Johnson & Spiker, 2018; National Skills Coalition [NSC], 2015). The causes of this increasing decades-long demand are retiring workers, economic recession, and an ill-prepared talent pool (Achieve, Inc., 2012; ASTD, 2012; Bailey & Merritt, 2015; Davin et al., 2020; Fuller et al., 2014; Galagan, 2010; Hanks, 2016; Holzer & Lerman, 2007; Symonds et al., 2011; Zemsky, 1994). A disparity exists between college administrators and industry leaders as the former consider graduates prepared to succeed in the workplace while their business counterparts find the same graduates lacking in soft skills and unable to perform basic technical tasks (McCarthy, 2014; Stone, 2017; Symonds et al., 2011).

Since the 1980s, there has been a push for all high school students to attend college and earn a degree (Ladika, 2016; Lerman, 2014; Lerman & Tyszko, 2016; Rosenbaum et al., 2010). This college for all rhetoric needs to change since middle-skill jobs require more education and training than a high school diploma but less than a four-year college degree (Achieve, Inc., 2012; ASTD, 2012; Holzer & Lerman, 2007; Scribner & Wakelyn, 1998; Symonds et al., 2011; Wyman, 2014). The industries with the largest skills gaps (manufacturing, construction, and healthcare) require the attainment of a post-secondary industry-recognized certification, making credentials a necessity in today's job market. (Achieve, Inc., 2012; ASTD, 2012; Holzer & Lerman, 2007; McCarthy, 2014; Sharp & Dvorkin, 2018). Apprenticeships are a proven method for learners to earn these industry certifications while participating in work-based experiences under the tutelage of supervising mentors (Lerman & Tyszko, 2016; Symonds et al., 2011; Wyman, 2014).

In the report, *Pathways to Prosperity: Meeting the Challenge of Preparing Young Americans for the 21st Century*, Symonds et al. (2011) compared the educational system of the United States to those of other countries where there is more emphasis on mainstream vocational education. Depending on the country, students may be tracked into an occupation as early as 11 years of age. Divided into upper and lower levels, secondary schools introduce lower-level students to broad vocations while upper-level students follow a specific career path. A considerable difference is that foreign vocational training graduates are comparable to U.S. community college graduates with a technical degree. In the United States, many consider youth apprenticeships to be an extension of the adult system while the European models are a major component of the educational system (Bailey & Merritt, 1993).

For this study, *youth apprenticeship program* is the term used to describe any compensated work-based learning experience that trains youth regardless of the physical location and active enrollment in high school or secondary institution. This distinction was necessary due to the different vernacular used by various states. The other terms encountered were high school-based apprenticeship program and pre-apprenticeship program. Pre-apprenticeship can also describe any program that prepares teenagers and/or adults to be successful in a partnering registered apprenticeship program (Strong Workforce Apprenticeship Group [SWAG], 2012; ; U. S. Department of Labor [USDOL], 2012).

Career and technical education and youth apprenticeships are instructive programs that prepare high school students for future careers through the provision of classroom instruction coupled with hands-on skill development (Messing-Mathie, 2015; Pennsylvania Department of Education [PDE], 2017; Stone, 2017; USDOL, 2012). Housed either in a high school or business entity, these programs fall within a continuum that permits teens an early entry point into the

talent pipeline and a foothold on the career ladder (ASTD, 2012; Craig & Bewick, 2018; USDOL, 2019). Viewing this continuum as a career ladder can develop a student's sense of ownership over their career path (ASTD, 2012; Wyman, 2014). They tend to learn both job-specific and general employability skills that prepare them for future employment in a specific occupation (Brand , 2013; Lerman, 2014; Lerman, 2015; Lerman, 2016; Lerman, 2018; Lerman & Tyszko, 2016; Symonds et al., 2011; Zemsky, 1994). Students gain a greater understanding of their role in the workforce and the importance of soft skills while employers gain employees who are precisely trained and knowledgeable about the culture of the workplace (ASTD, 2012; USDOL, 2019). These skills, along with earned industry-recognized credentials, place students in the position of employability during and upon completion of the program (Advance CTE, 2019; Lerman, 2015; Messing-Mathie, 2015; Stone, 2017). It is imperative that the business community and industry take an active role in the career development of its current and future employees (Messing-Mathie, 2015; USCCF, 2016).

Due to alignment of the curriculum and skills training, youth apprenticeships prepare students to meet the entrance standards for employment or a post-secondary training program (Advance CTE, 2019; Browning & Sofer, 2017; Shenon, 1992; Symonds et al., 2011). A registered apprenticeship program is just such a program to nurture talent that is a no- to low-cost alternative to college that often leads to a successful career (Craig & Bewick, 2018; Fuller et al., 2014; Hanks, 2016; Johnson & Spiker, 2018; Kamen et al., 2019; Lerman, 2015; U. S. Department of Labor [USDOL], n.d.-a). Registered apprenticeships can also provide the continuous required training that a skilled worker needs to remain up-to-date and productive (Zemsky, 1994). Credentials are stacked; meaning as students master basic skills there is an introduction to advanced skills. (Kamen et al., 2019; McCarthy, 2014; Stone, 2017). An

agreement of expectation can be in either the format of a formal articulation agreement or a transactional memorandum of understanding (MOU) since they afford students the opportunity to gain work-based experience and master skills while bolstering a smooth transition from a secondary to a post-secondary program (Brand et al., 2012; Scribner & Wakelyn, 1998). These agreements are vital, especially in industries that do not hire anyone under the age of 18. Either one establishes a collaborative effort that is instrumental in creating a talent pool that meets current workforce needs and is beneficial to all parties involved (ASTD, 2012; USDOL, 2019). This effort changes the focus from technical skill acquisition to the overall nature of the work (ASTD, 2012). Both assist in the smooth transition and a clear hierarchy of progression from the secondary level program to the registered apprenticeship (Kamen et al., 2019; Turbin et al., 2014). State-wide articulation agreements between educational institutions are fundamental in facilitating smooth transitions (Anderson et al., 2006). The terms for movement from one institution to another are negotiated. The most common are between 2- and 4-year colleges but they can also exist between youth and registered apprenticeship programs (Anderson et al., 2006).

Apprenticeship programs are a solution to the workforce crisis. Increasing the number of existing youth apprenticeship programs will permit more teens earlier access to the talent pipeline. The U.S. government has launched initiatives based on the recognition that apprenticeships could close the gap by preparing a middle-skills workforce and help Americans to be more competitive in the global economy (Kreamer & Zimmermann, 2017; McCarthy, 2014; U. S. Department of Labor [USDOL], 2015). Although the extent to the implementation of these initiatives is unknown, an increase in the number of youths affected by these initiatives

could greatly encourage enrollment in career and technical education and youth apprenticeship programs.

Statement of the Problem

The purpose of this study was to determine how government policy statements and legislation advance the development and implementation of youth apprenticeship programs across multiple industries.

Research Question

The following question guided this study:

RQ1: What universal concepts should be included or modified in policy statements and draft legislation to advance youth apprenticeships that are inclusive of all industries and could increase the likelihood of enactment?

Background and Significance

The underemployment and unemployment of young people is a chronic and persistent problem (Messing-Mathie, 2015). According to Lerman (2014) and Messing-Mathie (2015), the causes of the vacillating interest in youth apprenticeships are the creeping unemployment rates of youth, the skills mismatch, and the diminishing number of high school and college graduates. This problem was exacerbated as youth were disproportionately unemployed or underemployed during the coronavirus pandemic (Advance CTE, 2020). Youth apprenticeships were identified as a solution to thwart the economic crisis faced by the United States and close the skills gap (Advance CTE, 2020; Lerman & Tyszko, 2016). In a 2020 research report, Advance CTE estimated that apprentices could fill positions in 74 different occupations, up from the 27 currently identified.

Advance CTE (2020) considers youth apprenticeships to be “an emerging strategy to bridge the world of education and work...” (p. 1) even though the first formalized federal government programs existed since 1978. Barriers to participation in youth apprenticeship programs include the stigma associated with apprenticeship programs and the separation of the Departments of Labor and Education (Stone & Lewis, 2012). Other barriers to advancing youth apprenticeships are lack of knowledge, misconceptions about union involvement, inconsistency in grants and loans to cover training costs, no clear definition and coherent framework, sparse data collection, and a small Office of Apprenticeship staff and budget (Messing-Mathie, 2015; Parton, 2017; Sharp & Dvorkin, 2018; Shenon, 1992). The advancement and expansion of youth apprenticeship programs is dependent upon all key stakeholders working together. The fragmentation and diversification of the current system under state oversight confirms the foundational need for collaboration and the creation of a national-level framework (Craig & Bewick, 2018; Messing-Mathie, 2015; Scribner & Wakelyn, 1998). Care needs to be taken to develop an all-encompassing and flexible system that does not hinder involvement (Lerman, 2013b; Messing-Mathie, 2015).

Outcome data on youth apprenticeship programs is sparse. Programs may register with the USDOL’s Office of Apprenticeship or a State Apprenticeship Agency (Workforce Data Quality Campaign [WDQC], n.d.). Because registration is not mandatory, data collection and accountability to receive funding is non-existent on both the state and federal level. The actual number of youth apprenticeship programs is questionable. This point alone supports the need for policy and legislation that mandates data reporting.

Key stakeholders are calling for bold action in the form of reformation of higher education and workforce policy (Symonds et al., 2011; USCCF, 2018). The development of a

national initiative to strengthen work-based learning pathways is in the works. As reported by McCarthy in 2014, the number of post-secondary career education programs grew exponentially over the prior decade due to policymakers' efforts and the demand for better paying jobs. Sub-baccalaureate certificates were deemed the fastest growing credential in higher education (McCarthy, 2014). The success of this initiative requires employers to take the lead and invest time and money. According to Bailey (1993), employer participation is hindered when mass youth apprenticeship programs involve too many employers that do not have open positions to hire apprentices upon program completion. Attrition of apprentices also occurs as program completers pursue education in lieu of employment.

Recent Legislative Initiatives

In the past two decades, two separate attempts to advance apprenticeship programs in the United States failed to meet the established goals. Even with bipartisan backing, presidential executive orders, and reauthorization of existing legislation, little progress resulted (Lerman, 2013b). Despite being co-sponsored by a republican and democrat, both the Leveraging and Energizing America's Apprenticeship Program (LEAP) Act of 2014 and Apprenticeship and Jobs Training Act of 2015 stalled in congress (Ladika, 2016). During the 116th congressional session, legislators introduced over 20 bills associated with the existence and creation of apprenticeship and workforce-development training programs. Policymakers recognized the need to shift from a focus on academics to teaching occupational skills (Lerman, 2018). One was to reauthorize the National Apprenticeship Act of 1937, to strengthen and expand apprenticeship programs nationwide, and to streamline the registration process. It was one of two bills that moved out of committee; however, the legislative session ended before the House of Representatives voted on the remaining two bills. The remaining bills failed to move out of

committee due to inaction. The number of similar bills and limited funding sources may have played a key role (U.S. Capitol Visitor Center, n.d.). Due to continued interest, several bills have been reintroduced at the start of the 117th congressional session.

The findings of this study may provide key federal, state, and local stakeholders with evidence on the barriers for employer involvement and the policies and procedures needed to advance youth apprenticeships. The results from this study may be useful to government officials to maximize investments, reduce inefficiencies, and eliminate redundancies to strengthen the talent pipeline for middle-skill jobs (Advance CTE, 2015). Additionally, evidence from this study may help key stakeholders to identify youth apprenticeships programs as an effective workforce strategy to close the middle-skills gap. Joint efforts between state Departments of Education and Labor will potentially strengthen youth apprenticeships and enhance data collection. The findings may be vital to business leaders interested in taking on an active role in supporting career and technical education, youth apprenticeship, and registered apprenticeship programs. Their involvement at each entry point into the talent pipeline will assist with the recruitment and retention of skilled workers.

Limitation

A limitation of this study was:

The potential deficiency of fully thought-out resolutions due to allotted time to complete rounds.

Assumptions

The following assumptions were:

1. The appropriate individuals were selected to provide input.
2. Participant anonymity amongst the panel was maintained throughout the study.

3. Enough panelists participated in each phase of the Delphi study with minimal attrition.
4. The panelists were familiar with and advocates for the previously introduced legislation.
5. Adequate time was allotted for each round of data collection and analysis.
6. Findings represent a synthesis opinion and consensus is reached.
7. Researcher bias was minimized because of the member check process was used.

Procedure

The policy Delphi research method was chosen for this study as it seeks opposing and alternative views on concepts for inclusion into policy statements and draft legislation to advance youth apprenticeship programs across multiple industries. Following problem identification and an understanding of the process, the next step involved the establishment of a panel of informed advocates or knowledgeable stakeholders to elicit opinions and comments on concepts (Franklin & Hart, 2007; Manley, 2013). Potential members included researchers, authors, workforce development specialists, career and technical education professionals, and others with a working knowledge of developing and implementing youth apprenticeships and other work-based learning experiences. An invitation email with a link to the first-round questionnaire was sent to potential participants along with a request to forward to others meeting the qualifications to contribute. A consecutive step was creating a codifying committee to assist in the analysis of the qualitative data, minimize researcher bias, and improve the internal validity of this study (Valentine & Kosloski, 2021). Past professors with a doctorate degree, extensive background in research, and a working knowledge of the Delphi research method were contacted. Following a

text discussion of their role and estimated time commitment, two agreed to serve on the committee.

This study consisted of four rounds of data collection and analysis using an electronic platform. A pre-populated questionnaire with posited recommendations found in the literature as potential solutions and open-ended prompts was used for Round 1 (Turoff, 1975). It involved the panelists commenting on the recommended concepts and brainstorming additional ones for inclusion in draft legislation or governmental policies. Using an iterative categorizing and coding process, the codifying committee reviewed the items for redundancy and similarities, and coded-recoded until the common themes were identified. During Round 2, a member check process had the participants review the aggregated and consolidated list of concepts and validate their responses. This process was consistent with that recommended by Franklin and Hart (2007). The panelists were afforded the opportunity to augment the list with overlooked items. As with Round 1, the data were analyzed and coded-recoded. Using the aggregated list from Round 2, a 5-point Likert-type scale was created so the panelists could rate the importance of each item. Data analysis included determining the means, standard deviation, and interquartile range (*IQR*). Items not meeting the threshold mean greater than or equal to 3.5 ($M \geq 3.5$) and an interquartile range less than or equal to 0.50 ($IQR \leq 0.50$) were eliminated. The fourth and final round involved the panelists validating the findings, comparing their responses to the group's responses, and changing their responses if desired. The mean, median, standard deviation, and interquartile range were recalculated for modified items. A coefficient of variance was calculated for each item to assess the level of group consensus.

Definition of Terms

Apprenticeship is “a formal, 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 portable, nationally recognized industry credential” (Kreamer & Zimmermann, 2017, p. vi).

Articulation agreement is any formal arrangement that furthers a student’s academic opportunity (Kamen et al., 2019).

Career and technical education is “a term applied to schools, institutions, and educational programs that specialize in the skilled trades, applied sciences, modern technologies, and career preparation” (Greater Schools Partnership, 2014, p. 1).

Heterogeneous Group is a panel of relevant stakeholders with a moderate to extreme level of familiarity with youth apprenticeship program.

High school-based apprenticeship programs (HSBAP) are apprenticeship programs housed within a secondary educational institution.

Memorandum of Understanding (MOU) is a transactional, short-form agreement between two or more organizations that outlines financial and resource obligations (Kamen et al., 2019).

Middle-skills are skills that require more than a high school diploma but less than a four-year college degree (Achieve, Inc., 2012; ASTD, 2012; Holzer & Lerman, 2007; Wyman, 2014).

Office of Apprenticeship (OA) is a branch of the U.S. Department of Labor which registers and oversees apprenticeship program (WDQC, n.d.).

Pre-apprenticeship program (PAP) is a “program or set of strategies designed to prepare individuals for entry into an apprenticeship program” (Kreamer & Zimmermann, 2017, p. vi). It prepares students to succeed in Registered Apprenticeship program and has a documented

partnership with at least one, if not more, Registered Apprenticeship programs (SWAG, 2017, USDOL, 2012).

Registered apprenticeship program (RAP) is “an employer-driven model that combines on-the-job training with job-related instruction, which progressively increases an apprentice’s skill level and wages” (USDOL, n.d.-a, p. 3). The U.S. Department of Labor or a State Apprenticeship Agency validates that these programs meet certain criteria and provide high-quality training (WDQC, n.d.).

Secondary apprenticeship program (SAP) – see *high school-based apprenticeship program*.

Skills gap is the difference between the skills required for a position and the skills employees possess.

State Apprenticeship Agencies (SSAs) oversee the administrative duties as delegated by the U.S. Department of Labor (WDQC, n.d.).

Youth apprenticeship program (YAP) is “a program that is designed specifically for individuals aged 16–18 and is connected to an adult apprenticeship. These may be registered with the DOL (or federally recognized state apprenticeship agencies), and often include and demonstrate the five components of a registered apprenticeship” (Kreamer & Zimmermann, 2017, p. vi).

Workforce needs is the number of workers with the appropriate skills that is currently needed by organization.

Summary and Overview

The pandemic exacerbated the growing middle-kills gaps and the United States’ breakdown to compete in the global economy. The need to find a solution to better preparing individuals for the workforce capable of filling open and future positions is greater now than ever. The college for all mindset has led to higher student debts and lack of skilled talent

(Galagan, 2010). Apprenticeship programs, especially those for youth, appear to be the best option to attain knowledge, develop skills, and earn industry-recognized credentials while earning a paycheck (Galagan, 2010; Lerman, 2014). Youth apprenticeships reduce the number of unemployed or underemployed teenagers and set them on a career path with less debt and more opportunity to become productive citizens.

Several recommendations and ideas have surfaced over the years some of which were attempted but actualized. The Departments of Labor and Education could establish joint policies to govern youth apprenticeship programs which can then lead to the creation of standards that causes movement from intent to action. The issue at hand is what verbiage should be included to advance the youth apprenticeship program across all industries not just a select few as general terms and conditions will promote inclusion. The lack of agreement between policymakers, informed advocates, and workforce development specialists may be at fault for the failed attempts, hence the reason for this study (Craig & Bewick, 2018). If all perspectives could be viewed and alternate recommendations be made then advancement and expansion of youth apprenticeships are possible. The concepts identified during this study can be discussed with key stakeholders and offered for incorporation into draft legislation and government policy statements to advance youth apprenticeship programs as they are an essential component on the pathway for filling the middle-skills gap. The current study seeks to offer recommendations for future policies and legislation in broad enough terms that would benefit various industries.

This dissertation is organized into five chapters. This chapter included the introduction, statement of the problem, research questions, background information, an overview of research methods, limitations, assumptions, and definition of key terms. Chapter II presents a review of the literature related to the research questions. Chapter III offers a description of the research

design. It details the collection of data and the plan for analysis. The reporting of outcomes occurs in Chapter IV. In this chapter, data are dissected, and the results are explained. Chapter V includes a summarization of the study, a discussion of the findings, and provides recommendations for future studies.

CHAPTER II

REVIEW OF THE LITERATURE

The purpose of this study was to determine how government policy statements and legislation advance the development and implementation of youth apprenticeship programs across multiple industries. It is guided by the research question, “What universal concepts should be included or modified in policy statements and draft legislation to advance youth apprenticeships that are inclusive of all industries and could increase the likelihood of enactment?” Literature related to an overview, the U.S. history, and employment involvement in youth apprenticeship programs were examined. The limitations of existing studies were identified.

Overview of Youth Apprenticeship Programs

In the past, critics blasted youth apprenticeship programs for preparing students for a specific occupation and depriving them of the chance to reach their intellectual aptitude (Arthur-Mensah, 2020; McCarthy, 2014; Scribner & Wakelyn, 1998). In the early 1990s, a model of youth apprenticeships was proposed to educate students who are non-college bound, reintegrate alienated youth, and position the United States to dominate the global market (Bailey, 1993). The three problems identified by Bailey (1993) that prevented this workforce strategy from being successful were the enticement of employers to be involved, provision of quality work-based learning experiences, and elimination of inequity issues. European countries have been successful in scaling youth apprenticeship programs to address youth unemployment and the skills gap (Messing-Mathie, 2015; Symonds et al., 2011). Due to their continued success in other countries, youth apprenticeships are regaining popularity as a non-traditional pathway for career development and sustainable employment, in part, due to the Every Student Succeeds Act

(Advance CTE, 2019; Agovino, 2019; Arthur-Mensah, 2020; Bailey & Merritt, 2015; Curry, 2018; Parton, 2017; Wyman, 2014). This legislative effort redirected the focus away from college for all and toward certificate programs, post-secondary career and technical education, registered apprenticeships, and associate or two-year degrees (Curry, 2018; Lerman, 2014). The once college for all mindset is being replaced because the higher education system is riddled with “dead ends, trapdoors, and false promises” (McCarthy, 2014, p. 4). Bailey (1993) and Bailey and Merritt (1993) alluded to the fact that the college for all mentality neglects a sizable portion of the population, leaving them adrift and ill-prepared. They emphasized the need to move a component of formal education into the workplace.

Selection of an affordable program that results in a well-paying career is challenging (Agovino, 2019; McCarthy, 2014). State policymakers realize that the future is bleak for individuals with no post-secondary or industry-recognized credentials (Baddour & Hauge, 2020). Incurred student debt and no prospective jobs are more probable (McCarthy, 2014). McCarthy (2014) addressed this issue from the standpoint of a return on investment (ROI). In her report, she specified that the ROI of a college education is not what it was for previous generations. The cost and quality of the education received varied greatly from institution to institution. She found the current accreditation system to be culpable due to its focus on enrollment rather than graduation rates and other student outcomes. Accreditation is awarded to an institution rather than to a specific program, thereby allowing poor performing programs to remain. Parton (2017) indicated that there is a growing interest in career readiness in secondary schools and earlier due to the concerns over college affordability.

Apprenticeships and other work-based learning programs are effective training methods that lead to rewarding careers for participants and benefit companies needing middle-skilled

workers (H. Rep. No. 116-567, 2020; Lerman, 2013b; Lerman, 2016; Lerman, 2018; Messing-Mathie, 2015; Wyman, 2014). Data have shown that 94% of apprentices attain employment upon program completion with an average salary of \$70,000 (H. Rep. No. 116-567, 2020). Youth apprenticeship programs are learner-centered and business-driven, meaning that the skills taught in the program must align with the current skill needs of employers (Browning & Sofer, 2017; Parton, 2017; USDOL, 2019). The aspects of the training include modeling, scaffolding, fading, and coaching (Collins et al., 1991; Kirschner & Hendrick, 2020). The onsite supervisor demonstrates and/or models the skills to be performed. Through guided practice, the student performs the skill while receiving feedback. As proficiency develops, there is a gradual withdrawal of support and guidance so that student's independence and responsibility increase. The supervisor maintains a connection with the student and assists with analysis of encountered problems, offers feedback, and oversees additional learning (Collins et al., 1991; Kirschner & Hendrick, 2020). Work-based experiences teach students problem-solving, self-monitoring, and correction skills (Kirschner & Hendrick, 2020).

A strong connection to local labor markets and successful transition into jobs and careers are two important aspects of youth apprenticeship programs (McCarthy, 2014; Messing-Mathie, 2015). These programs provide students with the opportunity to earn a paycheck while learning critical skills and entry-level credentials while in high school (McCarthy, 2014). Youth apprenticeships serve as a guide for subsequent educational choices and a career pathway (McCarthy, 2014). Work-based experiences connect academic content to future careers (Lerman, 2018; McCarthy, 2014). Teaching career readiness in kindergarten through twelfth grade, coupled with college affordability, is drawing more attention to youth apprenticeship programs (Parton, 2017; Stone, 2017).

History of Youth Apprenticeship Programs in the United States

The shape of the current model for youth apprenticeship programs developed over the decades by legislative initiatives and workforce development activities. Apprenticeships date back to colonial times when some of our founding fathers learned to be surveyors, printers, silversmiths, carpenters, masons, and shipwrights to name a few (Ladika, 2016; U.S. Department of Labor [USDOL], n.d.-b). The first state to create an apprenticeship program was Wisconsin in 1911 in response to the School-to-Work Movement (Ladika, 2016; Parton, 2017; USDOL, n.d.-a). Labor unions, industry leaders, government officials, and educators established a standardized national apprenticeship system in the 1920s. In 1934, the Federal Committee on Apprenticeship was formed to create policy recommendations (Clark, 1992; Ladika, 2016). Congress enacted the Fitzgerald Act, also known as the National Apprenticeship Act (NAA) in 1937, that created an Office of Apprenticeship within the USDOL (Ladika, 2016). Since its inception, the NAA has provided a career pathway for millions of Americans (H. Rep. No. 116-567, 2020). Successful lobbying by union leadership placed the responsibility of enforcement under the direction of the USDOL instead of the USDOE (Clark, 1992). They were concerned that apprenticeship programs would train future strikebreakers (Clark, 1992). This legislation contributed to the nationwide establishment of over 6,200 registered apprenticeship programs and trained some five million individuals in manufacturing, construction, and utilities (Clark, 1992; USDOL, n.d.-b). An upsurge in apprenticeship programs occurred during World War II in response to the skills needed (Ladika, 2016). Apprenticeships expanded into the training of first responders and other health and safety workers following World War II (USDOL, n.d.-b).

President Kennedy's administration passed the Manpower Development and Training Act (MDTA) of 1962. It assessed workforce demands and authorized retraining of workers.

Expansion in 1963 included a provision for the funding of union apprenticeships (Clark, 1992). The Vocational Education Act of 1963 and the Economic Opportunity Act of 1964 were enacted during Johnson's presidency (Clark, 1993). The Vocational Education Act emphasized training of hard-to-employ youth while the Economic Opportunity Act created the Job Corps program to employ disadvantaged youth (Clark, 1992). In addition to these initiatives, Johnson also supported amendments to the MDTA that expanded job-training efforts federally (Clark, 1992). These initiatives resulted in a doubling of the number of apprentices between 1960 and 1970.

After a long-fought battle, President Nixon's administration succeeded in putting states in charge of operating the federal jobs program (Clark, 1992). The creation of public-sector jobs in industries experiencing high unemployment occurred with the passage of the Comprehensive Employment and Training Act (CETA) of 1973 (Clark, 1992). In 1977, the Youth Employment Demonstration Project Act provided funds to city- and state-based youth apprenticeship programs (Clark, 1992). The first semblance of the current model of youth apprenticeships appeared in 1978 (Clark, 1992). The purpose of the American Youth Policy Forum, established in 1993, was to improve the lives and outcomes of underserved youth by educating, engaging, and informing policymakers and practitioners about education and workforce policies (Deeds & DePaoli, 2017).

During President Reagan's presidency, the Job Training Partnership Act of 1982 replaced CETA. This legislation emphasized the structuring of partnerships with business entities in depressed areas to create jobs (Clark, 1992). This period witnessed the cutting of funds and positions within the U.S. Employment Service and the Federal Bureau of Apprenticeship and Training in part due to the disinterest of maintaining the programs (Clark, 1992). These actions led to a major decline with the number of apprentices cut in half (Ladika, 2016).

The Clinton administration considered setting forth an initiative to establish a national youth apprenticeship modeled after Germany's system (Scribner & Wakelyn, 1998; Zemsky, 1994). However, in August 1993, the bill presented to Congress only supported a greater coordination between existing funded initiatives with a focus on youth employment and school-to-work transitions. It put more onus on states to establish planning committees subsidized by grants (Zemsky, 1994). The goal of these planning committees was to work to strengthen the links between schools and the workplace (Zemsky, 1994). As inconsequential as the bill appeared, organized labor opposed the measure (Zemsky, 1994). The result was a call for education reform (Zemsky, 1994). Congress passed the Workforce Investment Act (WIA) in 1998 that replaced the Job Training Partnership Act. This law streamlined and strengthened the job-training system through the creation of a one-stop delivery system. This system permitted job seekers access to employment services, training, and education programs. These efforts caused a rebound in apprenticeship participation until the 2008 recession (Ladika, 2016).

Beginning in 2011, the Obama administration expanded federal support and reformation of apprenticeship programs (Craig & Bewick; 2018; Ladika, 2016; Lerman, 2016; Symonds et al., 2011). In his 2014 State of the Union address, President Obama spoke about the expansion of apprenticeship programs and increased funding to support them (Agovino, 2019). Following his lead, President Trump vowed in 2017 to increase funding by 4.5 million over five years (Agovino, 2019; Sharp & Dvorkin, 2018). He issued an executive order, *Expanding Apprenticeship in America*, which established a task force to investigate approaches to create industry-registered apprenticeships (Agovino, 2019; Lerman, 2018). The Secretaries of Labor, Education, and Commerce co-chaired the task force (Lerman, 2018).

During the 116th congressional session, January 3, 2019 - January 3, 2021, legislators introduced over 20 bills associated with the existence and creation of apprenticeship and workforce-development training programs. Table 1 lists the bills, provides a brief description, and identifies the action taken. Very little progress was made even with a good mixture of single party and bipartisan sponsorship, yet due to continued interest, several bills have been reintroduced at the start of the 117th congressional session (Lerman, 2018). Table 2 lists the bills introduced to date for the current congressional session, provides a brief description, and identifies the action taken. It appears a similar pattern is afoot with little to no committee action.

Employer Involvement in Youth Apprenticeship Programs

In the 1980s, there was a push to develop a strategy to bridge the middle-skills gap and several options were offered that included:

- tech prep courses – a sequence of courses that align career-oriented and academic instruction over two or more years of secondary school with two plus years of post-secondary education (Bailey & Merritt, 1993; Berryman et al., 1992; Rojewski, 2002).
- CTE programs – a segment of the educational system that teaches skills-based careers to middle school, secondary, and post-secondary students (Bailey & Merritt, 1993; Berryman et al., 1992; Rojewski, 2002).
- career academies – career-themed schools within a high school that structure curriculum around the vocation (Bailey & Merritt, 1993; Berryman et al., 1992; Rojewski, 2002).
- youth apprenticeship programs – training programs that combine work-based learning with classroom instruction (Bailey & Merritt, 1993; Berryman et al., 1992; Rojewski, 2002).

Table 1*Apprenticeship Related Legislation – 116th Legislative Session*

Bill #	Title, Description, and Action	Date Introduced	Party Affiliation
H.R. 398	21st Century Energy Workforce Act Description: requires the Secretary of Energy to establish a pilot competitive grant program for the development of a skilled energy workforce, and for other purposes Action: no action since referred to the House Committee on Education and Labor in January 2019	9 Jan 2019	Republican
H.R. 399	PATH Act Description: pre-apprenticeship programs for underrepresented populations in the building and construction trades Action: no action since referred to the House Committee on Education and Labor in January 2019	9 Jan 2019	Bipartisan
H.R. 653	Expanding Access to the Workforce Through Dual Enrollment Act Description: directs USDOE to provide grants to establish, expand, or support dual or concurrent enrollment programs in CTE) Action: no action since referred to the House Committee on Education and Labor in January 2019	17 Jan 2019	Democratic
H.R. 989	PARTNERS Act Description: establishes a grant program to promote RAPs and other work-based learning opportunities for small and medium-sized business within in-demand sectors Action: initially referred to the House Committee on Education and Labor and Judiciary who then referred to Subcommittee on Immigration and Citizenship. There has been no action since the referral to the subcommittee in March 2019	22 Mar 2019	Bipartisan
H.R. 1168	Worker Act Description: addresses workforce development in STEM education; requires USDOE to award grants for the implementation of formal and informal engineering program in elementary and secondary school and to further development hands-on learning approaches in certain CTE programs; also directed USDOL to promote apprenticeship programs and to establish a voluntary Registered Apprenticeship-College Collaborative Action: referred to several House Committees and their subcommittees – there has been no action since February 2019	13 Feb 2019	Democratic
H.R. 1197	Youth Access to American Jobs Act of 2019	13 Feb 2019	Democratic

	<p>Description: directs the USDOE to award grants to ten entities that enroll students in STEM or STEM-focused CTE programs and youth apprenticeship programs</p> <p>Action: no action since referral to House Committee on Education and Labor in February 2019</p>		
H.R. 1634	<p>Youth Corps Act of 2019</p> <p>Description: authorizes USDOL to provide grants to agencies and organization to carry out Youth Corps programs for low-income youth</p> <p>Action: no action since referral to House Committee on Education and Labor</p>	7 Mar 2019	Democratic
H.R. 1733	<p>CHANCE in TECH Act</p> <p>Description: requires the USDOL to establish contracts with industry intermediaries to promote the development of and access to apprenticeships in the technology sector</p> <p>Action: no action since referral to House Committee on Education and Labor in March 2019</p>	13 Mar 2019	Bipartisan
H.R. 1782	<p>American Apprenticeship Act</p> <p>Description: directs the USDOL to make grants to assist states in carrying out projects that defray the cost of instruction associated with pre-apprenticeship and qualified apprenticeship programs</p> <p>Action: no action since referral to the House Committee on Education and Labor in March 2019</p>	14 Mar 2019	Democratic
H.R. 1995	<p>Apprenticeship Hubs Across America Act of 2019</p> <p>Description: requires the USDOL to implement a program to award grants to workforce intermediaries for the support, development, and implementation of RAPs</p> <p>Action: no action since referral to House Committee on Education and Labor in March 2019</p>	29 Mar 2019	Bipartisan
H.R. 2721	<p>Cyber Ready Workforce Act</p> <p>Description: directs the USDOL to award grants to workforce intermediaries to support the establishment, implementation, and expansion of cybersecurity program</p> <p>Action: no action since referral to the House Committee on Education and Labor in May 2019</p>	14 May 2019	Bipartisan
H.R. 2844	<p>Creating Pathways for Youth Employment Act</p> <p>Description: authorizes the USDOL to subsidize summer and year-round employment opportunities for youth</p> <p>Action: no action since referral to House Committee on Education and Labor in May 2019</p>	20 May 2019	Democratic
H.R. 3068	<p>Offshore Wind Jobs and Opportunity Act</p> <p>Description: authorizes the US Department of the Interior to award offshore and career training grants for employment in the offshore wind industry</p> <p>Action: referred to both the Committee on Natural Resources and Education and Labor – the subcommittee on Energy and Mineral Resources recommended amendments and discharged in January 2020 – The Committee on Natural Resources reported out with amendments and discharged in</p>	15 Jan 2020	Democratic

December 2020 – the Committee on Education and Labor discharged with no action in December 2020
– placed on Union Calendar in December 2020

H.R. 4965	LEARNs Act Description: promotes effective RAPs Action: no action since referral to House Committee on Education and Labor in October 2019	31 Oct 2019	Democratic
H.R. 8302	STANDARDS Act Description: to further promote standards to safeguard the welfare of apprentices Action: no action since referral to House Committee on Education and Labor in September 2020	17 Sep 2020	Democratic
H.R. 8317	No title To encourage employer participation in the national apprenticeship system Action: no action since referral to House Committee on Education and Labor in September 2020	18 Sep 2020	Democratic
H.R. 8328	Apprenticeship to College Act Description: to support the establishment of an apprenticeship college consortium Action: no action since referral to House Committee on Education and Labor in September 2020	21 Sep 2020	Democratic
H.R. 8339	Expanding Opportunity through Pre-Apprenticeship Act Description: to expand the opportunities for pre-apprenticeship programs Action: no action since referral to House Committee on Education and Labor in September 2020	22 Sep 2020	Democratic
H.R. 8391	Strengthening Apprenticeships for Justice-Impacted Communities Act Description: to support pre-apprenticeships and apprenticeship programs for the justice-impacted population Action: no action since referral to House Committee on Education and Labor in September 2020	24 Sep 2020	Democratic
H.R. 8414	Strengthening Youth Apprenticeships Act of 2020 Description: to direct the USDOL to award grants to expand YAPs Action: no action since referral to House Committee on Education and Labor in September 2020	29 Sep 2020	Bipartisan

Note. The information was obtained through a search of the legislation for the 116th Congress on congress.gov

Table 2*Apprenticeship Related Legislation – 117th Legislative Session*

Bill #	Title, Description, and Action	Date Introduced	Party Affiliation
H. Res. 85	No title Description: amends H. R. 447 to expands the national apprenticeship system to include apprenticeships, youth apprenticeships, and pre-apprenticeships; safeguards the welfare of apprentices; sets forth appropriate budgetary levels for fiscal years 2022 to 2030 Action: passed/agreed to in the House on 2 Feb 2021	2 Feb 2021	Democrat
H. R. 447	National Apprenticeship Act of 2021 Description: amends the National Apprenticeship Act of 1937 Action: passed/agreed to in the House on 5 Feb 2021; referred to the Senate Committee on Health, Education, Labor, and Pensions on 25 Feb 2021	25 Jan 2021	Bipartisan
H. R. 518	Strengthening Youth Apprenticeships Act of 2021 Description: directs the Secretary of Labor to award grants to carry out and expand youth apprenticeship programs Action: referred to the House Committee on Education and Labor	28 Jan 2021	Democrat
H. R. 578	Apprenticeship Hubs Across America Act of 2021 Description: To promote registered apprenticeships and support workforce intermediaries Actions: referred to the House Committee on Education and Labor	28 Jan 2021	Bipartisan
H. R. 585	Apprenticeship Program National Scorecard Act Description: to direct the Secretary of Labor to provide for data collection and dissemination of information regarding programs under the national apprenticeship system Action: referred to House Committee on Education and Labor on 28 Jan 2021; sponsor introductory remarks on 5 Feb 2021	28 Jan 2021	Democrat

H. R. 683	Apprenticeship Access for All Act of 2021 Description: to promote diversity in the national apprenticeship system Action: referred to the House Committee on Education and Labor	2 Feb 2021	Democrat
H. R. 703	Apprenticeship Futures for All Act Description: to ensure access for underrepresented groups, eliminate barriers, and ensure completion; invest in successful intermediaries Action: referred to the House Committee on Education and Labor	2 Feb 2021	Democrat
H. R. 854	Youth Corps Act of 2021 Description: to amend WIOA to establish Youth Corps programs and provide wider dissemination of the model Action: referred to the House Committee on Education and Labor	4 Feb 2021	Democrat
S. 396	Apprenticeship Hubs Across America Act of 2021 Description: To promote registered apprenticeships and support workforce intermediaries Action: referred to the Committee on Health, Education, Labor, and Pensions	23 Feb 2021	Bipartisan
S. 1026	American Apprenticeship Act Description: to defray the cost of pre-apprenticeship or related instruction associated with qualified apprenticeship programs Action: Referred to the Senate Committee on Health, Education, Labor, and Pensions	25 Mar 2021	Bipartisan

Note. The information was obtained through a search of the legislation for the 117th Congress on congress.gov

Bailey and Merritt (1993), Berryman et al. (1992), and Rojewski (2002) focused their research on the various learning arrangements. They found that too many options were available leading to inefficiency and underusage. For the workforce system to be effective, they recommended elimination of some of the previous options. The most reasonable arrangement was a career-oriented educational approach with work-based experiences. This method puts more onus on employers to educate apprentices, many of which are incapable and/or unwilling to assume the responsibility (Bauman & Christensen, 2018). This claim was backed by Browning and Sofer (2017) as they corroborated the need for employers to adapt program components to meet the needs of the apprentices. According to the U.S. Chamber of Commerce Foundation (2018), employers were exploring new models to develop talent. Many were collaborating with educational institutions and other training facilities to address their workforce needs (Wyman, 2014). This collaborative relationship allowed for collection of information on workforce demands and the skills required to fill open positions. This information could be used to revise the training curricula to meet these needs (Berryman et al., 1992; Sharp & Dvorkin, 2018). Browning and Sofer (2017) agreed that collaboration between educators and business partners is essential to the success of any apprenticeship program. Employers should be involved from the start and include input on curriculum and program design as a lack of collaboration will likely result in failure (Berryman et al., 1992).

Industry leaders involved in youth and registered apprenticeship programs play a significant role in designing and tailoring the curriculum to their needs and identifying the skills to be taught and practiced during working-based learning experiences (McCarthy, 2014, Messing-Mathie, 2015). The industry-recognized credentials earned are determined through input provided by employer and based upon a conducted needs assessment (McCarthy, 2014;

Messing-Mathie; 2015). The structured training curriculum of a youth apprenticeship program permits industry leaders to know what skills are being learned and be confident that apprentices can meet workforce demands (Cai, 2018; Lerman, 2015). Due to active involvement, employers can track the progress of each apprentice and consider retention as a skilled worker before the completion of the program (Cai, 2018). A strong and open relationship must exist between content-instructors and workplace supervisors so that students receive consistent training and support (Kirschner & Hendrick, 2020).

The benefits of employer involvement in youth apprenticeships are numerous. Employers gain a highly skilled diverse workforce that meets the organization's specific needs. Retained apprentices tend to be more engaged, productive, and less likely to leave for another position (Herzenberg & Polson, 2016; ILO, n.d.; Ladika, 2016). Business entities that participate with youth apprenticeships have a stronger impact on the local community and are eligible for tax credits. Financially, youth apprenticeship programs are a more cost-effective method of acquiring talent (Fuller et al., 2014; Hanks, 2016; Johnson & Spiker, 2018; Kamen et al., 2019; Symonds et al., 2011; USDOL, n.d.-a).

Limitations of Existing Studies

The literature review revealed the predominance of perspectives and recommendations on what concepts to consider for policy development and draft legislation to be efficacious. Some went further to identify actions that would increase the likelihood of acceptance.

The first limitation of existing studies is the lack of a clear and concise definition of youth apprenticeship programs and a coherent program framework. Twenty states have a significantly different definition. Some states have one that is more specific and measurable while others are embedded into the definition of work-based learning (Advance CTE, 2019).

Some reference the definition offered by USDOL (Advance CTE, 2019). Adoption of a clear and concise definition that is measurable and rigorous, and a coherent program framework are essential (Advance CTE, 2019; Craig & Bewick, 2018; Parton, 2017). In addition to a collaborative effort between the Departments of Labor and Education, organized labor, public, and private sector industry leaders need to provide input (Zemsky, 1994). The inclusion of union leadership is important due to their role in past failure to support youth apprenticeships (Shenon, 1992; Zemsky, 1994).

The middle-skills gap has caught the attention of state and federal policymakers (Bauman & Christensen, 2018; Sharp & Dvorkin, 2018). Their intent was to expand job-training opportunities; however, recent attempts failed to support individuals in leveraging the workforce system or making use of available funds to cover training costs (Bauman & Christensen, 2018). Bauman and Christensen (2018) recommended educating the public on the basic elements of the system, the services offered, and available funding sources. The advancement of workforce readiness is dependent upon how policymakers comprehend the future of work (Kanfer & Blivin, 2019). This comprehension needs to transcend the tasks individuals will perform and the roles they will play. Beyond automation and technology, the workforce needs to possess high socio-emotional competencies. Reformation of the system should open lines of communication to increase enrollment and improve accessible services to create a healthier marketplace (Bauman & Christensen, 2018). Discussion related to educational reform needs to center around youth apprenticeships (Bailey & Merritt, 1993; Zemsky, 1994). A good starting point would be CTE programs as this may be a good segue between the USDOL and USDOE. Because youth apprenticeships are currently underused, Lerman (2013c & 2015) recommended merging CTE and youth apprenticeship programs or creating apprenticeship charter schools as a means of

boosting the system. Since students' career paths and future success rely heavily on early work-based learning experiences, incorporating career readiness programs in grade or middle schools with an emphasis on employability skills is crucial (Messing-Mathie, 2015; Stone, 2017; Symonds, et al., 2011; Zemsky 1994).

Policymakers must realize that more funds are spent on social services for unemployed and underemployed youth than career readiness programs (Baddour & Hauge, 2020). Equality and underserved populations, such as at-risk youth, need to be addressed in policies and legislation (Browning & Sofer, 2017) Investing in youth apprenticeship programs permits teens to begin a career path earlier while simultaneously meeting workforce demands (Baddour & Hauge, 2020). These programs must be accessible to all interested individuals whether in private or public sectors. Specifically related to youth apprenticeships, Zemsky (1994) iterated the need to review current child labor laws to increase work-based experiences related to youths' career interests. Legislation should protect apprentices regardless of age (Dembicki, 2020). Additionally, any legislation or a policy should permit reciprocity with other states (Bauman & Christensen, 2018).

Baddour and Hauge (2006) believed that the states are the ones that need to implement policies that support youth apprenticeships and implored governors to create and expand these programs. Anderson et al. (2006) found that compulsory policies on the state level alone do not produce the desired outcomes. Craig and Bewick (2018) suggested that apprenticeships be built at the industry level countering the current approach of building and expanding programs one employer at a time. Lerman (2013c) reinforced the focus on industry levels as he reported that employers are concerned about the poaching of their apprentices upon completion of the program. A multi-dimensional approach is required to increase student success and the

probability of transfer to an institution of higher learning. A smooth transition between secondary school and work or post-secondary education is a crucial factor (Scribner & Wakelyn, 1998; Zemsky, 1994). Requiring articulation agreements and MOUs between educational institutions and training centers will assist with this transition and better align the programs (Dembicki, 2020).

Educating employers about the contribution that apprentices make to the economy, as well as involving them in the screening process, are likely to increase participation (Ladika, 2016; Zemsky, 1994). Zemsky (1994) reported findings of a survey that explained businesses, especially small ones, were suspicious of any policy initiative designed to boost the hiring and training of youth. Most are reluctant to participate in apprenticeship programs due to the prohibitive cost and the risk shouldered (Ladika, 2016). Inclusion of cost-, resource-, and risk-sharing by all parties, as well as the offering of financial incentives to employers, need thoughtful consideration (Ladika, 2016; Lerman, 2015; Messing-Mathie, 2015; Scribner & Wakelyn, 1998; Zemsky, 1994). Bureaucratic procedures and strict policy requirements hinder the effectiveness of apprentice training (Bauman & Christensen, 2006). These procedures and policies are not clearly communicated to key stakeholders which inhibits success (Bauman & Christensen, 2006). Government subsidization of wages needs consideration when developing legislation and policies. Bailey (1993) found the reluctance of employers to participate due to the belief that training costs would supersede production. Upskilling of seasonal workers is lacking; therefore, employers rarely hire youth for career-ladder positions. Bauman and Christensen (2018) suggested enhancing coordination between training center financial officers and Workforce Innovation and Opportunity Act (WIOA) caseworkers. This initiative will positively affect registered apprenticeship programs.

A sustainable source of financing for apprenticeship programs is needed (Dembicki, 2020; Ladika, 2016; Parton, 2017). Five major federal programs support career education (McCarthy, 2014). The first and most prominent, yet the smallest, is the Strengthening Career and Technical Education for the 21st Century Act, herein referred to as Perkins V (Cushing et al., 2019). Administered by the USDOL, the Workforce Innovation and Opportunity Act (WIOA) and the Trade Adjustment Assistance Act provide unemployed adults services associated with job training but with limited financial support (Lerman 2014; McCarthy, 2014). The Post-9/11 GI Bill, administered by the Department of Veterans Affairs, permits veterans to participate in career education programs (Lerman, 2014, 2016; McCarthy, 2014). The last and largest is the Higher Education Act of 1965 which funds federal student aid programs (McCarthy, 2014). Overseen by USDOE, approximately one-third of the funds are awarded to individuals seeking associate degrees or undergraduate certificates (McCarthy, 2014). Awarded as Pell Grants, the funds cannot be used to cover the cost of prior learning assessments to evaluate the student's life learning for college credit meaning that they need to either personally pay the assessment fee or take a course (Lerman, 2014; McCarthy, 2014). Since the use of Pell Grants for training programs shorter than one academic year is prohibited, combining Department of Labor funding with Pell and Perkins grants has been suggested (Bauman & Christensen, 2018; Lerman, 2015, 2016; McCarthy, 2014). For the workforce development system to be successful, coordination between the Departments of Labor and Education must exist.

The current system of higher education puts onus on students than the institution (McCarthy, 2014). Student aid is awarded upon enrollment rather than student outcomes, leaving institutions with zero accountability. Upon recognition of this fact, the Obama administration initiated a regulatory process holding institutions accountable for the economic outcomes of their

graduates. This initiative set the bar extremely low, and enforcement is minimal. To increase the quality of education, secondary schools and institutions of higher learning need to engage in partnerships with local business entities and conduct market research to properly prepare students to be successful members of society. Alignment to the needs of the workforce and the workplace strengthens the partnership between the stakeholders (Strong Workforce Apprenticeship Group [SWAG], n.d.). The creation of third-party intermediaries are necessary to support, finance, and manage program partnerships between industry and education (Craig & Bewick, 2018; Dembicki, 2020; Parton, 2017). These agencies would serve as liaisons between the business entity, the educational institution, and the government to coordinate training (Bailey, 1993; Messing-Mathie, 2015). The use of an intermediary permits the operation of a more comprehensive program and cost sharing as staff specialists coordinate services for multiple business sponsors (Browning & Sofer, 2017).

According to Advance CTE (2019), data collection on youth apprenticeship programs is sparse. The current landscape of youth apprenticeships and their effectiveness is not visible due to the lack of data. The compounding challenges with data collection include the novelty of programs with a focus on participation and completion rates rather than on outcomes, the multi-tiered alignments across educational entities with no clear designation of responsibility, and inconsistencies on a definition, description, and delivery of the program. A method of validating data is also necessary as quality data determines what is working and what needs improving (Advance CTE, 2019). Bauman and Christensen (2018) advocated for the reduction or modification of the reporting process of outcomes. A standardized data collection tool and a central repository will streamline the process and permit collection of valuable data (Dembicki, 2020). The ability to participate and receive funding needs to be predicated on the receipt of

accurate student-level data, at least on those that receive federal funding. This is to hold the training center accountable to the taxpayers. In addition to WIOA funds, apprentices should be able to access Pell and Perkins grants (Lerman, 2014, 2015, 2016b)

Parton (2017) made a convincing argument for youth apprenticeships to be clearly under the governance of the states. The current system is fragmented and disjointed as states legislate and oversee policies on education, workforce, and economic development (Lerman, 2016; Scribner & Wakelyn, 1998). Messing-Mathie (2015) agreed that the system is highly decentralized, and each state's structure of apprenticeship programs is diverse. Cohesiveness will permit portability of skills and credentials within the industry. Bauman and Christensen (2018) concluded from their research that the employing sector would not support a national-based education system. They believed that a scaled system would focus on the interests of employers rather than the education of apprentices.

To encourage the hiring of young or disadvantaged people, the U.S. federal government offers tax credits to business entities. Enacted in 1978, the Targeted Jobs Tax Credit was one specific effort to help a targeted segment of the population find employment (U.S. Department of Labor Office of Inspector General [USDOL OIG], 1994). During an audit of the program, it was found that employers would have hired individuals regardless of the subsidy (USDOL OIG, 1994). Due to this finding, the program was discontinued in December of 1994. To increase the hiring of disadvantaged members of the population, the Work Opportunity Tax Credit (WOTC) was created in 1996 (Lower-Basch, 2011). According to Lower-Basch, the exorbitant annual cost and the negligible effect on hiring choices and worker retention led to the expiration of WOTC in December 2020. Bailey (1993) expressed concern about the sustainment of a system without

oversight and enforcement. Career Academies, CTE programs, and tech prep courses can be the starting point for building a system.

In her report, *Beyond the Skills Gap*, McCarthy (2014) suggested updating government policies to reflect the present-day economic conditions, identify gaps in educational policies, and recommend potential reformations. She considered the gap between educational policies and the career needs of students more of a threat to the economy than the middle-skills gap. To validate her opinion, McCarthy stated that “policies have not caught up with how technology and globalization are transforming jobs and the way in which students acquire skills and employers use credentials” (2014, p. 6) In contrast, Parton (2017) insisted that state policymakers need to establish youth apprenticeship program requirements that clearly delineate the roles and responsibilities of industry leaders, educational representatives, and apprentices. An important aspect is the inclusion of which stakeholder should finance what part of the program. He believed youth apprenticeships should be registered with the state and supported the flexible use of federal and state funds to form and build these programs.

Summary

Youth apprenticeships have been touted as a solution to bridging the middle skills gap by preparing teens for the workforce by building technical and general employability skills. The combination of classroom and work-based instruction afford youth the opportunity to earn industry-recognized credentials and a paycheck while learning. Several attempts to scale and advance youth apprenticeships over the decades were made with little to no success. The fact that most of the recent bipartisan legislative efforts failed to be considered in committee for reasons unknown created the need to determine concepts for policies and legislation that is inclusive of

all industries. The availability of limited funds forces competition and may be an underlying reason for the lack of committee consideration.

Governmental white papers and researchers have offered policy and legislation recommendations to advance youth apprenticeship programs. This study seeks to determine if the recommendations are plausible or if there are other concepts that are as much as or more important. The policy Delphi method was used to pursue consensus among advocates for youth apprenticeship program. Chapter 3 frames the methodology, providing details about the data collection and analysis rounds of the Delphi study.

CHAPTER III

The purpose of this study was to determine which governmental policy statements and legislation would increase the likelihood of advancing the development and implementation of youth apprenticeship programs across multiple industries. It was guided by the research question, “What universal concepts should be included or modified in policy statements and draft legislation to advance youth apprenticeships that are inclusive of all industries and could increase the likelihood of enactment?” The following describes the methodology and builds a case for its usage.

METHODOLOGY

This research study employed the policy Delphi method to collect and analyze plausible concepts for inclusion in policy statements and draft legislation to advance youth apprenticeship programs. This method was selected as it was deemed appropriate to identify and prioritize crucial issues. It provides the opportunity to collect rich data on policy development and legislative efforts through the attainment of a range of opinions and ratings using a heterogeneous panel of relevant stakeholders with moderate to extreme familiarity with and a strong advocacy for youth apprenticeships.

Evolution of the Policy Delphi

The development of the traditional Delphi research technique is attributed to Dalkey and Helmer, employees at the Rand Corporation in the 1950s (Baker & Moon, 2010; Day & Bobeva, 2005; Grisham, 2008; Howard, 2018; Hsu & Sandford, 2007; Okoli & Pawlowski, 2004). The general applications of the Delphi method include forecasting, issue identification, prioritization of issues, framework design, and strategy development (Day & Bobeva, 2005; Iqbal & Pison-Young, 2009; Ogbeifun et al., 2016; Okoli & Pawlowski, 2003). It has been applied specifically

to establish program objectives, planning, and modifying budgets, establishing professional competencies, developing curriculum, understanding personal motivations, investigating urban and regional planning potential, and predicting future options (Donohoe & Needham, 2009; Warner, n.d.). Due to the potential applications, up to 10 variations of the method have been developed and implemented (Hasson et al., 2000; Ogbeifun et al., 2016; Okoli & Pawlowski, 2004).

The policy Delphi is one of these variations. In 1970, Turoff introduced this variation as a tool for determining the differing viewpoints on an issue for decision-making or prognostication purposes (Manley, 2013; Paraskevas & Saunders, 2012). As with a traditional Delphi, four key principles are typically adhered to while conducting a policy Delphi (Baker & Moon, 2010). They include (1) anonymity amongst the panelists, (2) asynchronicity allowing the panelists to respond at their convenience, (3) controlled feedback as data from each round are used to create the next collection tool, and (4) the conversion of qualitative data into a statistical response (Baker & Moon, 2010; Dupras et al., 2020).

Commonalities and Differences between the Traditional and Policy Delphi

Both the traditional and policy Delphis use a structured group communication process through which the panelists are provided the opportunity to offer opinions and re-evaluate their thoughts and ratings after reviewing the comments and critiques of the other participants (Manley, 2013). The process of each involves multiple iterations of data collection and analyses that rigorously query study participants to broaden knowledge and gain collective opinion (Day & Bobeva, 2005; Donohoe & Needham, 2009; Hasson et al., 2000; Howard, 2018; Hsu & Sandford, 2007; Linstone & Turoff, 2002; Warner, n.d.) Both are widely used and accepted methods for attaining convergence or divergence of opinion from informed advocates or experts

that is not dependent upon a statistical sample representative of the population (Donohoe & Needham, 2009; Howard, 2018; Hsu & Sandford, 2007; Manley, 2013; Ogbeifun et al., 2016; Okoli & Pawlowski, 2004).

There are four distinct differences between the traditional and the policy Delphi methods. Rather than seeking a consensus, the policy Delphi generates ideas and plausible options by pursuing opposing views and alternatives on potential resolutions (de Loë et al., 2016; Franklin & Hart, 2006; Manley, 2013). The second difference relates to the composition of the panel. A heterogeneous group of participants is preferred for the policy Delphi so that the various and diverse aspects of an issue can be examined (Baker & Moon, 2010; de Loë et al., 2016; Dupras et al., 2020; Rahimzadeh et al., 2021; Rauch, 1979; Spickermann et al., 2014). The participants may be advocates, key stakeholders, non-experts, and informed individuals with a diverse knowledge base, differing levels of experiences, and varying perspectives (Baker & Moon, 2010; Dupras et al., 2020). The intention of the policy Delphi is to address policy issues using informed advocates rather than experts well versed on the topic being studied (Manley, 2013). The inquiry system philosophy employed is the fourth difference. The traditional Delphi follows the Lockean system that believes that truth is experimental and not grounded on theoretical assumptions, data define a theory, and a consensus must be obtained. The policy uses the Kantian system that believes that truth is synthetic, neither data nor theory take precedence, and it seeks to give as many views of a problem as possible.

Instead of a homogenous panel, the participants are preselected based on their various levels of working knowledge of the issue being studied (Manley, 2013). The assembly of this type of panel, rather than the use of experts, is in harmony with the research presented by Hussler et al. (2011), de Loë et al. (2016), Rauch (1979), Spickermann et al. (2014), and Turoff

(1975). Hussler et al. (2011) went further to suggest creating panels composed of both experts and non-experts to introduce diversity and dispersion of ideas. However, they cautioned the use of mixed panels because the probability of reaching consensus is reduced. As the policy Delphi does not seek consensus, the use of panelists with varying levels of familiarity of youth apprenticeship programs was not overruled by the primary researcher of this study. The use of non-experts was ruled out for this study; however, the creation of a heterogeneous group of relevant stakeholders with a moderate to extreme level of familiarity with youth apprenticeship programs was considered acceptable.

The research technique employed for this study was a structured approach to data collection using a succession of questionnaires created from the panelists' input from the previous round (Howard, 2018; Hsu & Sandford, 2007; Powell, 2002). Two to four plus rounds are administered over the course of 45 days or more to allow for time to collect and analyze the data and to develop and administer the successive instruments (Grisham, 2008; Howard, 2018; Hsu & Sandford, 2007; Okoli & Pawlowski, 2004; Warner, n.d.). The number of rounds to intertwine data collection and analysis continues until opinions remain unchanged (Day & Bobeva, 2005; Howard, 2018; Warner, n.d.). Other than the first round, the panelists received a collective summary of the progressive results and their own ratings from the previous round while maintaining the anonymity of the responses and permitting reflection on the opinions of others (Day & Bobeva, 2005; Donohoe & Needham, 2009; Howard, 2018; Ogbeifun et al., 2016).

Rationale for Selection

The rationale for selecting this research method was to explore underlying information, problem solve, and determine some probable policies and legislation for advancing youth

apprenticeships. The Delphi method is not dependent upon statistical power; therefore, a large study population is not required (Okoli & Pawlowski, 2003). Due to the employment of construct validation, panelists can validate the researcher's interpretation and categorization of data.

According to Okoli and Pawlowski, the response rate is typically high and the dropout rates low in Delphi studies. Worthwhile outcomes are characteristic due to the opportunity to revise responses based upon feedback from the entire panel.

Advantages and Limitations

Based upon a review of the literature, the policy Delphi is an appropriate method to discover the opinions of key stakeholders and advocates for this study. There are numerous advantages of the policy Delphi method when used in an appropriate setting and most pertain to the panel of participants. It preserves the anonymity of the panelists to each other while minimizing the possibility of domineering personalities to sway opinions (Day & Bobeva, 2005; Donohoe & Needham, 2009; Howard, 2018; Manley, 2013; Ogbeifun et al., 2016; Turoff, 1975; Warner, n.d.). Because each participant's position is considered, opposing and alternative views are welcomed and can be voiced during the process (Donohoe & Needham, 2009; Turoff, 2002). Hammons (1995) considered the controlled-feedback procedures of the policy Delphi method more accurate than in-person discussions (Day & Bobeva, 2005; Howard, 2018; Ogbeifun et al., 2016; Powell, 2002).

Just as the advantages are numerous, so are the limitations. The Delphi method is time-consuming for both the researcher and the panelists even with the usage of an electronic platform and is a major reason for attrition of participants (Howard, 2018; Powell, 2002). Although the rate of attrition can increase with each successive round of data collection, it can be mitigated by informing potential participants prior to their committing to the study (Howard, 2018; Iqbal &

Pipon-Young, 2009). Because there is a lack of guidance and agreed upon standards for the Delphi method, it is a less efficient means of generating or testing new knowledge and theories (Hasson et al., 2000; Iqbal & Pipon-Young, 2009). Because the potential of researcher manipulation of the data during the first round is high, it is recommended that a committee or board be used to analyze the qualitative data (Howard, 2018). The results may be untrustworthy and unable to be generalized because a different panel may reach a dissimilar conclusion; however, it can be mitigated through careful selection of the panelists (Franklin & Hart, 2006; Hasson et al., 2000; Iqbal & Pipon-Young, 2009).

Research Question

Guided by one research question, the study sets out to uncover what concepts to consider and include in policy statements and draft legislation, to advance youth apprenticeships across industries at the local, state, and national levels. The specific question was “What universal concepts should be included or modified in policy statements and draft legislation to advance youth apprenticeships that are inclusive of all industries and could increase the likelihood of enactment?”

Participants

This study utilized a purposive, criterion-based sample of relevant stakeholders familiar with youth apprenticeship programs, career and technical education, work-based learning experience, and cooperative education. To produce credible results, the panelists with varied backgrounds and experiences were sought. Most Delphi studies recruit experts as panelists (Day & Bobeva, 2005; de Loë et al., 2016; Dupras et al., 2020; Franklin & Hart, 2007; Grisham, 2008; Ogbeifun et al., 2016; Spickermann et al., 2014; Valentine & Kosloski, 2021); however, researchers have shown that heterogeneous groups with mixed experiences and perspectives tend

to result in more robust results which are more aligned with the goals of a policy Delphi (Baker & Moon, 2010; de Loë et al., 2016; Hussler et al., 2011; Rahimzadeh et al., 2021; Spickermann et al., 2014). Based upon the literature review, the use of individuals with varying backgrounds associated with youth apprenticeship programs, career and technical education, cooperative education, and work-based learning was deemed acceptable based upon similar instructional and on-the-job learning experiences. The researcher defined the criteria and sought out individuals who prequalified based upon the Knowledge Resource Nomination Worksheet (see Appendix 1) because it assists with minimizing researcher bias and increases reliability (Franklin & Hart, 2007; Howard, 2018; Ogbeifun et al., 2016; Okoli & Pawlowski, 2004; Warner, n.d.). A five-step process was used to complete the worksheet. These steps are: (1) identify the disciplines and organizations pertinent to the study, (2) identify qualified individuals within the disciplines and organizations, (3) contact the individuals to determine willingness to participate and ask for nominations of other qualified individuals, (4) rank the individuals based upon their qualifications, and (5) invite the most relevant individuals to participate (Okoli & Pawlowski, 2004). Because the selection process is the most crucial step in the process, care was taken to ensure that advocates for youth apprenticeship programs were selected for this study. A three-pronged approach was used to identify potential panelists familiar with youth apprenticeships, career and technical education, work-based learning, and cooperative education. The first was maintaining a list of the researchers and authors identified during the literature review. This approach was recommended by Grisham (2008), Hsu and Sandford (2007), and Okoli and Pawlowski (2004). An Internet search located contact information for these individuals if not provided in the published article. The second method involved participation in workforce development conferences, such as the one hosted by the Partnership to Advance Youth

Apprenticeships. This permitted creation of a list of individuals who either advocate for youth apprenticeship programs or have working knowledge and/or experience developing and implementing these programs. Company affiliations and email addresses were documented so that future contact could be made. As suggested by Grisham (2008), Hsu and Sandford (2007), and Okoli and Pawlowski (2004), the third step involved an Internet search to identify various organizations involved with youth workforce development. The contact information was collected for key personnel associated with these organizations.

An invitation email presenting the subject of the research, anticipated time commitment, number of rounds, selection criteria, the data collection format, and an estimated timeline for each round was created and sent to potential members (Grisham, 2008). All pertinent information about the research study was presented so that the potential participants could make an informed decision before committing (Howard, 2018). The informed consent form is presented as Appendix 2. Invitees were encouraged to forward the invitation to colleagues who they considered advocates for youth apprenticeship programs. This method of increasing the number of panelists is known as snowballing which involves the solicitation of nominations from the initial invitees (Howard, 2018; Hsu & Sandford, 2007; Okoli & Pawlowski, 2004; Valentine & Kosloski, 2021; Warner, n.d.). This method ensured that a panel of 15 to 20 individuals participated. This amount is recommended as it takes into consideration the possibility of attrition (Day & Bobeva, 2005; Hsu & Sandford, 2007; Warner, n.d.).

Interested panelists completed a commitment form and provided demographic information which is in line with recommendations made by Franklin and Hart (2007). The use of an electronic platform permits inclusion of members regardless of geographical location (Valentine & Kosloski, 2021). The hyperlink to the electronic generative round survey was sent

upon receipt of the commitment form (Franklin & Hart, 2007). An electronic platform was chosen to speed up the turnaround time between the successive rounds (Okoli & Pawlowski, 2004). The level of familiarity with youth apprenticeship programs was assessed using a Likert-type scale while collecting demographic information on the participants. The scale was 1 – Not at all familiar, 2 – Slightly familiar, 3 – Somewhat familiar, 4 – Moderately familiar, and 5 – Extremely familiar.

Data Collection and Analysis

The policy Delphi technique is a hybrid structured process that involves collection of both qualitative and quantitative data (Franklin & Hart, 2007; Manley, 2013; Turoff, 1975). It involves multiple rounds of iterations from the study participants ranging from positions, opinions, underlying assumptions, and supporting arguments (Geist, 2010; Paraskevas & Saunders, 2012; Powell, 2002; Warner, n.d.). To minimize dominant personalities, the participants remain unknown to each other throughout the entire study (Day & Bobeva, 2005; Donohoe & Needham, 2009; Howard, 2018; Manley, 2013; Ogbeifun et al., 2016; Turoff, 1975; Warner, n.d.). Successive data collection tools are developed using the input from the previous round (Warner, n.d.). To protect anonymity, all participants were blind copied when emailed the hyperlinks of the questionnaire or survey for each round (Donohoe & Needham, 2009; Franklin & Hart, 2007).

Round 1

Round 1 involved the collection of demographic information of the panelists, opinions on concepts found during the review of the literature, and responses to open-ended prompts. The Round 1 questionnaire (see Appendix 3) was pre-populated with recommendations posited by researchers and workforce development specialists based upon the findings of their studies

published in peer-reviewed journals. These recommendations were presented to the panelists who were asked if the statement should be retained for further study or eliminated for the purposes of this study using a simple majority. As a means of supplementing ideas, the panelists were asked to individually generate two to three additional concepts, if deemed appropriate, for each of the following two prompts:

- An idea or modification to advance youth apprenticeships in draft legislation that spans various industries is ...
- A policy statement to advance youth apprenticeships needs to include ...

To minimize research bias, a codifying committee of three educators and researchers was formed based on their experience with the Delphi method to review and aggregate the qualitative data gathered during Round 1 using an iterative coding process to review the items for redundancy and similarities, and code-recode until the common themes were identified. This followed the process advised by Dooley (2007), Franklin & Hart (2007), Kolb (2012), Manley (2013), Powell (2002), and Warner (n.d.). With this method, each open-ended response was individually examined by the members of the codifying committee to determine the main idea and usability per prompt and then provisionally classified. Items were compared for similarity or repetitiveness. If found, these items were combined into a single response and recoded by themes. A spreadsheet was maintained to show the comparison and recoding continued until succinct categories and subcategories were detected for easier management and description of data.

Round 2

After being reduced, coded, and categorized by the codifying committee using the data coding process, the aggregated list was distributed to the panel for review and verification. The

participants were afforded the opportunity to review the summary of the brainstormed ideas and add concepts that were overlooked or an afterthought. This adheres to the procedure presented by Franklin and Hart (2007), Grisham (2002), Manley (2013), Okoli and Pawlowski (2004), and Valentine and Kosloski (2021). The same codifying committee reanalyzed the data, examined it for overlap, re-aggregated, and incorporated the additional responses, if any, using the coding process. The revised aggregated list was used to create a Likert-type scale for the Round 3 data collection tool.

Round 3

The third round of data collection involved the panelists receiving the aggregated list of concepts in a Likert-type scale format. They rated the importance of each individual concept collected during the last two rounds using a 5-point Likert-type scale with 1 = unimportant, 2 = slightly important, 3 = moderately important, 4 = important, and 5 = especially important. Each item was statistically analyzed to determine level of importance and consensus — a process validated by Valentine and Kosloski (2021). In adherence with previous studies conducted by Grishman (2008), Manley (2013), Powell (2002), and Valentine and Kosloski (2021), the means, levels of dispersion (standard deviation), and interquartile range (*IQR*) were calculated for each item. Prior to Round 3 analysis, an a priori mean score of 3.5 or higher ($M \geq 3.5$) and an interquartile range equal to or lower than 1.0 ($IQR \leq 1.00$) were to be a predetermined threshold of retention as these statistics imply consensus among the panelists in accordance with procedures executed by Childress and Rhodes (2006), Martin and Ritz (2012), and Valentine and Kosloski (2021). Concepts not achieving either criterion were eliminated from the list prior to Round 4 data collection. A list of concepts retained on the list were created, along with their corresponding statistics, and were used to create a list for Round 4.

Round 4

For the fourth and final round, the participants received the revised list with their individual means for each item, as well as the group means for each item. The panelists were asked to compare their ratings to those of the group and revise if desired. The responses were reviewed for any changes and the mean, standard deviation, and interquartile range were recalculated for those items modified by the panelists. The coefficient of variance was calculated for each item. Although the policy Delphi does not seek consensus, a coefficient of variance was calculated as it strengthens the findings of the study. Those items with less than or equal to 0.50 were found to have a strong consensus amongst the panelists. Those concepts not attaining all a priori elimination criteria of $M \geq 3.5$, $IQR \leq 1.00$, and $CV \leq 0.50$ were removed.

Summary

Using the policy Delphi method, a heterogeneous group of youth apprenticeship advocates approved and rated the importance of universal concepts. Qualitative data were collected and analyzed using an iterative coding during the first two rounds. A Likert-type scale was used to determine the importance of the retained and newly developed concepts. The mean, median, standard deviation, and interquartile ranges were calculated. The fourth and final round permitted the panelists to review the group's collective summary of data and revise their responses if desired. In addition to the central tendencies, levels of dispersion, and interquartile ranges for the altered responses, coefficients of variance were computed to determine if consensus was met to further validate the findings. The results will be presented in Chapter IV.

CHAPTER IV

RESULTS

The purpose of this policy Delphi was to determine what governmental policy statements and legislation might advance the development and implementation of youth apprenticeship programs across multiple industries. The guiding question was, “What universal concepts should be included or modified in policy statements and draft legislation to advance youth apprenticeships that are inclusive of all industries and could increase the likelihood of enactment?” This chapter describes the findings of each round of analysis and the overarching results of the study.

Response Rate

The targeted number of panelists for participation in Round 1 was 25 to 30 to aggregate diverse perspectives and levels of advocacy and to further account for potential attrition for the remaining rounds so that the proposed number of 15 to 20 could be achieved. Table 3 displays the number of invitees per wave and the number who accepted per wave and per request.

Table 3

Invitees Response per Wave and Request

	# Of Invitations 1st Request	# Of Responses 1st Request	# Of Invitations 2nd Request	# Of Acceptances 2nd Request	Running Total
1st Wave	32	9	23	1	10
2nd Wave	41	6	35	0	16
Snowball	Unknown	3	--	--	19
3rd Wave	15	3	--	--	22
4th Wave	14	4	--	--	26

The initial round of invitations was distributed by email to 32 prequalified candidates using the Knowledge Resource Nomination Worksheet (see Appendix 1). These individuals were prequalified based upon their job title, the years of experience indicated on their LinkedIn or biographies on organizational websites, or research background. The invitation email presented the research subject, anticipated time commitment, data collection format, estimated timeline, and a link to the informed consent form and Round 1 data collection tool. To maintain anonymity, all the recipients were blind-copied on the email. Two email addresses were invalid while an additional panelist blocked any further communication. Another individual stated they were unable to participate due to their current role. Nine invitees accepted the invitation to participate (31%). Due to the lack of response, a second wave of invitations was sent to 41 individuals. Four emails were invalid. Six invitees from the second wave accepted the invitation to participate (15%) for a total of 15 panelists. Because the minimal number was not yet obtained, a second request was sent to the 23 non-responding invitees from the first wave. This elicited a phone call from one individual who was seeking more information and clarification on the study. Following the conversation, the invitee opted to accept the invitation to bring the overall total up to 16. Another individual recommended to send the invitation individually addressed with the informed consent attached.

Being concerned about the lack of response, a conversation occurred with a Career and Technical Education (CTE) administrator who requested an invitation to participate that was forwarded to a colleague at another CTE regional center in Pennsylvania. As a result of snowballing, the invitation was sent to the President of the PA Cooperative Education Association who forwarded it to the entire membership, which elicited a response from three individuals bringing the total up to 19. Because the minimum number of panelists was not yet

met, a second request was sent to the 34 non-responding individuals from the second wave. The email invitation to participate was sent to an additional 15 individuals, referred to as the third wave, for a total of 101 invitations sent. This wave resulted in three acceptances for a total of 22 participants. Although the minimal number of panelists was reached, a buffer to counteract attrition was sought. A fourth wave of invitations was sent to 15 individuals of which one was found to be invalid. The remaining four participants accepted the invitation during this wave bringing the total number of panelists to 26. A minimum of 116 invitations were sent. The actual number is unknown due to snowballing.

Panel Composition

Twenty-six individuals accepted the invitation, agreed to the informed consent, and completed the Round 1 data collection tool. The qualifications of the panelists were verified upon review of the collected demographic information. Two respondents were eliminated based upon their lower level of familiarity with youth apprenticeship programs. Displayed in Table 4, the resulting heterogeneous panel was a cross-section of researchers, authors, program developers and coordinators, intermediary officers, CTE administrators, and workforce developers with an average of 6.56 years in their current position with a range from 0.5 to 21 years. The common characteristics included a moderate to extreme familiarity with youth apprenticeships and advocacy for scaling these programs.

Table 4

Demographic Characteristics of Panel

Panelist	Industry	Role	Years in Current Role	Level of Familiarity
1	Youth Apprenticeship Work-based Learning	Coordinator	4	Extremely
2	Consortium/Intermediary	Manager	4	Moderately

3	Career & Technical Education	Assistant Director	1	Moderately
4	Work-based Learning	Coordinator	4	Slightly
5	Cooperative Education	Coordinator	3	Moderately
6	Youth Apprenticeship	Vice President	1	Moderately
7	Consortium/Intermediary	Coordinator	13	Extremely
8	Cooperative Education	Coordinator	2	Somewhat
9	Career & Technical Education	Director	7	Extremely
10	Consortium/Intermediary	Fellow	15	Extremely
11	Cooperative Education	Coordinator	4	Extremely
12	Cooperative Education	Coordinator	5	Extremely
13	Work-based Learning	Coordinator	15	Moderately
14	Consortium/Intermediary	President/CEO	21	Extremely
15	Workforce Development	Director	3	Extremely
16	Consortium/Intermediary	Policy Analyst	5	Extremely
17	Consortium/Intermediary	CEO	9	Extremely
18	Consortium/Intermediary	Director	8	Extremely
19	Consortium/Intermediary	Policy Analyst	7	Extremely
20	Consortium/Intermediary	Director	2	Extremely
21	Consortium/Intermediary	Director	7	Extremely
22	Consortium/Intermediary	Advisor	4	Extremely
23	Consortium/Intermediary	Vice President	10	Extremely
24	Cooperative Education	Coordinator	0.5	Moderately
25	Workforce Development	Director	7	Moderately
26	Youth Apprenticeship	Coordinator	1	Moderately

Round 1. The 24 panelists completed the Round 1 data collection tool by indicating whether to retain or eliminate 12 pre-populated recommendations found in the literature. A simple majority of the panelists ($n/2 + 1$) was needed to validate the recommendation for it to be retained for the purposes of this study. Five of these recommendations related to draft legislation. Tables 5 displays the actual verbiage of the draft legislation concepts and the panelists' decision to retain or eliminate. Of these five, the panelists opted to retain four of them.

The first recommendation was to use Workforce Innovation and Opportunity Act, Higher Education Act, Perkins V, Every Student Succeeds Act, and other discretionary post-secondary training, and employment subsidies to established sustained funding to cover training of mentors

and apprentices for both new and existing programs. All the panelists ($n = 24$, 100%) validated the concept and it was retained.

Table 5*Analysis of Pre-populated Posited Draft Legislation Concepts*

Posited Concept	Respondents (<i>n</i>)	Retention	Elimination	Determination
1. Sustained funds, including WIOA, HEA, Perkins V, ESSA, and other discretionary post-secondary, training, and employment subsidies shall be available to cover training of mentors and apprentices for both new and existing programs.	24	<i>n</i> = 24 100%	<i>n</i> = 0 0%	Retain
2. To receive funding, youth apprenticeship programs shall initially apply and continuously retain registration status.	24	<i>n</i> = 12 50%	<i>n</i> = 12 50%	Eliminate
3. Regional intermediaries shall be established and receive funding to (1) assist in the creation of apprenticeship programs, (2) provide technical support, (3) provide administrative assistance, (4) collect and analyze outcome data, (5) create and distribute marketing material, and (6) serve as an information clearinghouse.	24	<i>n</i> = 23 96%	<i>n</i> = 1 4%	Retain
4. Regional intermediaries shall promote sharing of costs and resources among employers, the public, and apprentices	23	<i>n</i> = 22 96%	<i>n</i> = 1 4%	Retain
5. An Office of Youth Apprenticeship shall be established to (1) create a national definition and framework, (2) oversee the registration process, (3) work closely with established intermediaries, (4) creates industry-wide pathways to reduce program start-up time, and (5) is jointly operated by the Departments of Labor and Education.	23	<i>n</i> = 21 91%	<i>n</i> = 2 9%	Retain

The second posited concept required programs to obtain and continuously retain registration status to receive funding. There was a split decision on this recommendation as 12 advocates (50%) chose to retain while 12 (50%) opted to eliminate. Because a simple majority was not met, this concept was eliminated. The third posited recommendation was to establish regional intermediaries and receive funding to assist in the creation of programs, provide technical support and administrative assistance, collect and analyze data, create and distribute marketing material, and serve as an information clearinghouse. The recommendation received a split decision. One panelist (4%) opted to eliminate while the remaining ($n = 23$, 96%) validated the concept for retention. The fourth concept promoted regional intermediaries to share the costs and resources amongst employers, the public, and apprentices. Through an email, one panelist reported mixed feelings on some of the concepts resulting in the selection of both options. This prompted the removal of these responses ($n = 23$). A split decision results with 22 panelists (96%) validating the recommendation while one (4%) opted to eliminate. The recommendation was retained because criteria were met. The fifth concept established a national Office of Youth Apprenticeship to create a national definition and program framework, oversee the registration process, collaborate closely with intermediaries, create industry-wide pathways to reduce program start-up time, and is jointly operated by the Departments of Labor and Education. One response was omitted as the panelist selected both options ($n = 23$). Two panelists (9%) chose to invalidate leading to a split decision. The other 21 panelists (91%) substantiated the recommendation. The concept was retained as it met the criteria.

The remaining seven pre-populated posited recommendations relate to policy statements. The panelists validated all seven of the concepts. Table 6 displays the wording of the policy statement concepts and the panelists' replies.

Table 6*Analysis Pre-populated Posited Policy Statement Concepts*

Posited Concept	Respondents (n)	Retention	Elimination	Determination
6. The Office of Youth Apprenticeship shall establish a streamlined registration process that is (1) publicized and easily accessible by business entities and intermediaries and (2) determines the employer's motivation for involvement.	23	n = 13 57%	n = 10 43%	Retain
7. All new and existing youth apprenticeship programs shall not discriminate, provide equal access to all applicants, and encourage enrollment in non-traditional careers.	24	n = 24 100%	n = 0 0%	Retain
8. Employers shall compensate apprentices using a progressive salary scale for mastery of skills, attainment of credentials, and increased productivity.	24	n = 22 92%	n = 2 8%	Retain
9. To meet current workforce needs, the curriculum can be altered to meet business standards.	23	n = 23 100%	n = 0 0%	Retain
10. Youth apprenticeships shall establish a partnership with a registered adult apprenticeship program and/or college/university to promote smooth transition for program completers. This partnership shall agree to the awarding of credits and ensure redundancy of course material is non-existent.	24	n = 21 87.5%	n = 3 12.5%	Retain
11. To expand youth apprenticeship programs, regional intermediaries shall establish partnerships between business entities and existing secondary career and technical education (CTE) programs.	24	n = 24 100%	n = 0 0%	Retain
12. To maintain registration status, youth apprenticeships shall ensure attainment of industry-recognized credentials by all program completers to improve transition into the workforce.	24	n = 13 54%	n = 11 46%	Retain

The first policy statement recommendation was for the Office of Youth Apprenticeship to establish a streamlined registration process that is publicized and easily accessible by business entities and intermediaries and determines employer's motivation for involvement. One panelist felt that there were two separate concepts incorporated into this concept and chose to both retain and eliminate leading to the removal of the response ($n = 23$). Thirteen advocates (57%) validated the recommendation while 10 (43%) opted to eliminate. Because the criteria were met, the concept was retained. The purpose of the second posited concept was for programs to not discriminate, provide equal access to all applicants, and encourage enrollment in non-traditional careers. All panelists ($n = 24$, 100%) validated this recommendation. The third concept required employers to compensate apprentices using a progressive salary scale as skills are mastered credentials are attained, and productivity is increased. Twenty-two advocates (92%) opted to retain while two (8%) chose to eliminate. Even with the split decision, the criteria were met, and the recommendation was validated. The fourth posited concept permitted flexibility with the curriculum to meet business standards and current workforce needs. One response was removed as one panelist selected both options. The other panelists ($n = 23$, 100%) validated the concept leading to retainment. The fifth recommendation required youth apprenticeship programs to establish partnerships with registered adult apprenticeships and/or colleges/universities to promote smooth transition for program completers and the awarding of credits and eliminate redundancy of course material. The decision was split with three choosing to eliminate (12.5%) and 21 opting to retain (87.5%). The concept was validated as the criteria were met. The sixth recommendation met with approval from all panelists ($n = 24$, 100%). It required regional intermediaries to establish partnerships between business entities and CTE programs to expand youth apprenticeship programs. The last recommendation required the youth apprenticeship

programs to ensure attainment of industry-recognized credentials by all program completers to maintain registration status and improve transition into the workforce. A split decision resulted as 11 advocates (46%) invalidated the recommendation while the remaining ($n = 13$, 54%) chose to retain. Because the criteria were met, the concept was retained.

For this round, each participant was provided the opportunity to provide a minimum of two responses each for the open-ended prompts. Tables 7 and 8 list the responses provided by the panelists to these prompts.

Table 7

Responses to the Open-Ended Prompt for Draft Legislation

An idea or modification to advance youth apprenticeships in draft legislation that spans various industries is ...

1. Provide nationally recognized credentials for completion of programs.
2. Not sure what this question is asking
3. provide more info in order to garner support
4. Help students to obtain transportation to and from the employer.
5. Give tax breaks to businesses willing to take on and train our students interested in these apprenticeships.
6. Provide youth apprenticeship as an opportunity through out-of-school programs such as Job Corps.
7. "Choosing a career path can feel like a daunting process at times and that is why it is important to consider what Career Clusters could be a good fit and explore on a broader scale first, sort of like testing the water before getting in. Career Clusters are a framework that allows us to examine areas of interest without having to choose a specific career right away. Youth Apprenticeship offers several career programs to pursue. (This is from - <https://dwd.wisconsin.gov/apprenticeship/ya-applicants.htm#pathways>)"
8. Connect schools and industry representatives to study regional job needs and bring in an expert in allocating educational funds to create programs for apprenticeships among CTC centers and comprehensive high schools.
9. none
10. Not having a separate title, but instead encouraging full apprenticeships for youth.

11. Look at ways to open doors for all work-based learning opportunities
12. Financial aid to assist with transportation in rural areas
13. To create connections with non-traditional workers and a needed field of employment.
14. Render youth pre-apprenticeship programs eligible for funding and recognition
15. Strong idea for supporting youth transition to solid career pathways
16. Provide training for businesses on the processes and importance of the Youth Apprenticeship program.
17. Not sure what this question is asking
18. eliminate barriers - ensure youth can indeed participate in a registered model (age requirements)
19. Allow some programs to be run in the CTC itself to provide beginning training.
20. "Fix" the issue of businesses willing to work with minors. Many companies say their insurance policies will not allow them to hire a minor. This has caused many companies to lose out on employing some wonderful students of ours.
21. Provide youth apprenticeship as an opportunity for youth in corrections facility with on-site RTI and connection to local employers upon re-entry to continue the apprenticeship program.
22. "Draft legislation should include a description of Occupational Pathways.
23. In Wisconsin YA Careers have been organized into 11 clusters based on common knowledge and similar skill requirements. Within each cluster there are pathways that break those careers down further into smaller groups. <https://dwd.wisconsin.gov/apprenticeship/ya-applicants.htm#pathways>"
24. Increase the awareness of the benefits of the program utilizing local workforce alliance organizations, news outlets, OACs, elected officials that specialize in school funding
25. none
26. Providing incentives to intermediaries and employers to create apprenticeships.
27. Do not force multiple certifications on students in order to qualify for program
28. Apprenticeships need to be more standardized and mean the same thing at the local, (trade union), state and federal government Level. the lack of coherence is degrading the value of the journey person status
29. not sure here
30. Have Dept of Ed. coordinate articulation agreements with school systems for high-school credits based on apprenticeship training
31. Great idea to support the cross-cutting skills across many areas that are appropriate for youth
32. Not sure what this question is asking
33. very clear, easy to follow guidelines

34. Streamline the process of businesses obtaining security clearances.
 35. Provide registered apprenticeship program training and Reservation-based employment through funded RTI and OJT/OJL opportunities to Native American populations on reservations.
 36. Same as above because same question
 37. none
 38. Creating and updating "safe harbor" standards for registered apprenticeships that allow almost automatic registration.
 39. Do not let hard skills out way soft skills for program completers
 40. The importance of casting a wide net for those showing interest.
 41. Advisable to support the ever-changing labor market
 42. To conceptually separate the proposed quality framework and definitions from the idea of national registration. Though registered apprenticeship remains the gold standard of apprenticeship programming, it still faces significant barriers to the expansion of registered apprenticeship in the United States. It is unclear, and perhaps unlikely, that the largest possible expansion of YA will be possible in the US if a new, equally imperfect system of national registration is implemented for YA. To balance quality and scale, it may be necessary to implement a federated system of quality assurance, supported by state agencies with the help of a national quality framework and definition, that does not rise to the level of a new system of registration.
 43. A system for more adequately funding single- and multi-sector intermediaries that can more adequately translate and coordinate the needs and priorities of secondary, postsecondary, and employer partners.
 44. A modern, accessible, and user-friendly national public database of youth apprenticeship and apprenticeship skills standards that can be used to structure new apprenticeship programs that can be registered (in the case of the RA system) or built into programs that achieve quality principles (in the proposed YA system).
 45. ...to in order to minimize and guard against discriminatory hiring practices, a diversity, equity and inclusion officer or panel should be assembled.
 46. ...so-called minority youth apprentices from historically disadvantaged areas, and who can demonstrate an objective financial need, should have access to funding and or financing to help them secure reliable transportation.
 47. ...anonymous, whistle-blower type input and tracking of first year apprenticeship experience should be well and objectively documented, in order to identify those construction companies actively demonstrating chronic discriminatory practices.
-

Table 8

Responses to the Open-Ended Prompt for Policy Statement

A policy statement to advance youth apprenticeships needs to include

1. funding
2. A focus on quality and equity
3. ???
4. information about the requirements of the Dept of Education and the employers. Need to be able to work together in all rules and regulations as well as required documentation.
5. Help mold the youth of today into the highly trained professionals in your trade area of tomorrow.
6. Students in CTE programs who engage in Work-Based Learning programs of pre-apprenticeship and apprenticeship will receive academic credit for the work experience.
7. Funding and support for local full-time school to work coordinators in every high school
8. Diverse industries, regional and state-wide needs, safety
9. none
10. Creating an auditing group to ensure that all registered apprenticeship programs receiving federal funds are building skills.
11. YA opportunities will provide students the necessary skills to enter the work force and will provide employers the ability to hire in demand areas.
12. Exact Outcomes for the apprentice. I understand you may lose some employers, but if there is no vale placed on the apprenticeship it does not help to have more of them.
13. The connection between school interests/skills/knowledge and the vacuums
14. Youth Pre-Apprenticeships are a formal DOL recognized Registered Apprenticeship Program (RAP)
15. Key employer embedded and leadership; it all starts with employers and that must be first, not public sector or intermediaries; and be wary of employer-based intermediaries. Look at market share as a metric to determine the right employers
16. training
17. A focus on quality and equity
18. ???
19. Adhere to all laws requiring Child Labor and OSHA standards.
20. Giving back a little today will greatly enhance the workforce of tomorrow.
21. Students in CTE programs who engage in Work-Based Learning programs of pre-apprenticeship and apprenticeship will receive academic credit for the CTE training which serves as RTI.
22. need to review

23. achievable industry credentials/certifications
24. none
25. Providing federal funds for the off-job learning required in apprenticeships.
26. see above
27. Allow for Tax credits for employers willing to follow a rigorous paid training program
28. The importance of identifying and training employer mentors to work with the students.
29. High-School credits should be allocated equal to Related Technical Instruction (RTI) within a DOL Registered Apprenticeship Program (RAP)
30. Consistent funding throughout large and small businesses, urban and rural
31. education
32. A focus on quality and equity
33. Sharing your knowledge and expertise to the youth of today before it's gone.
34. Apprentices will receive post-secondary academic credit for WBL and secondary education CTE programs when they transfer to a post-secondary CTE program
35. need to review
36. none
37. Encouraging high schools to become registered apprenticeship sponsors.
38. Diverse apprenticeships that mirror the labor market opportunities
39. A commitment to engage and adequately fund sector-based, regional, and community-based intermediaries in the development of YA programs, and to supporting the partnerships of K-12, higher ed, employers, and other community and government organizations that are necessary for apprenticeship growth and success. (Representative of group response)
40. Clear support from organized labor and other industry stakeholders, especially in "traditional" apprenticeship occupations, who are invested in the registered apprenticeship system. Youth apprenticeships, like apprenticeship in non-traditional occupations, are often seen by these stakeholders as a threat to their model. National and local organizations must be carefully and thoughtfully engaged and "bought into" a national YA system. (Representative of group response)
41. Commitment from K-12 and postsecondary partners to allow the flexibilities required to do youth apprenticeship programs right. Rigorous programming that puts students' interests first is crucial to youth apprenticeship success and expansion. However, partnerships can also suffer delays or failures if colleges and K-12 schools are unwilling to provide the flexibility necessary to allow students to participate in work-based learning. Youth apprenticeship is not "business as usual" for American education, and education stakeholders must be prepared (and supported) to meet business halfway. (Representative of group response)

42. Diversity, equity, and inclusion must be supported, encouraged, and enforced in any youth apprenticeship program.
 43. Equal emphasis on residential construction job opportunities, not just commercial.
 44. Whistle-blower protections.
-

The first open-ended prompt, “An idea or modification to advance youth apprenticeships in draft legislation that spans various industries is...” resulted in 47 replies. The list was distributed to the codifying committee members to compare, code, categorize, and reduce the data. Composed of three educators/researchers, this committee analyzed the qualitative data to minimize researcher bias. Following consultation with the codifying committee members, the statements were reduced and enfolded into the posited concepts, if possible, or led to the creation of new concepts.

Of the 47 responses, eight were eliminated as they provided no relevant information, such as “none” or “same as above.” An additional response was deemed a recommendation for what to do with the overall results of the study. The remaining 38 were enfolded into the retained 12 posited draft legislation and policy statements or used to create eight new concepts.

One contained two separate ideas and was partially enfolded into a posited draft legislation and a policy statement. One expanded the posited draft legislation related to sustained funds. Five were enfolded into the establishment of regional intermediaries expanding their roles and responsibilities. One was incorporated into the posited concept related to the sharing of costs and resources to include transportation for apprentices to and from the worksite. Six were enfolded into the posited draft legislation establishing an Office of Youth Apprenticeship to expand its role and responsibilities. Two were enfolded into the posited policy statement related to the establishment of a streamlined registration process. Five were enfolded into the policy statement that dealt with discrimination and provision of equal access. Two were enfolded into the concept

concerning compensation of apprentices. One was enfolded into the posited policy statement that established partnerships with post-secondary programs. One was incorporated into the concept related to the attainment of credentials by program completers to maintain registration status. One proffered response was merged into the posited policy statement concerning the establishment of partnerships with business entities. The remaining responses to the open-ended draft legislation were used to create four new concepts. Four were used to create a new draft legislation concept related to tax credits as an incentive for businesses and intermediaries to participate in youth apprenticeship programs. Three created an auditing committee to ensure that programs bridge the skills gap, meet workforce needs, and adhere to safe harbor standards. One created a committee to oversee whistle-blower procedures and reports. The final response created a concept that created and maintained a national database of programs and industry-wide standards based upon Career Clusters and occupational Pathways. One was used to create a new policy statement that establishes a partnership with existing work-based opportunities, such as Job Corps. Two responses create a new concept that eliminate barriers, such as age requirements, to ensure participation in the work-based aspects of the programs. The newly created statements recommended by the codifying committee were:

- Tax credits shall be provided to businesses and intermediaries willing to participate in youth apprenticeship programs.
- The Office of Youth Apprenticeship shall create an auditing committee to ensure that all youth apprenticeship programs receiving federal, or state funds are (1) bridging the skills gap and meeting workforce needs and (2) adhere to safe harbor standards that permit continuous registration.

- The Office of Youth Apprenticeship shall create a committee to create and handle whistle-blower procedures and reports.
- The Office of Youth Apprenticeship shall create and maintain an accessible, user-friendly national public database of programs and industry-wide standards based upon the Career Clusters and occupational Pathways.

The second open-ended prompt, “A policy statement to advance youth apprenticeship needs to include...” resulted in 44 comments. The list was distributed to the codifying committee members to compare, code, categorize, and reduce the data using a coding process. A total of 12 responses were omitted. Four were eliminated as question marks or “none” was the provided response. Three were deemed too vague and two were repeats of another answer. Two additional responses were removed because they were the overall reason for the study. Two contained two separate ideas and were enfolded into posited draft legislation and posited policy statements. Four were enfolded into the draft legislation concept related to sustained funding. Five expanded the roles and responsibilities of regional intermediaries. Three were incorporated into the draft legislation related to the role and responsibilities of the Office of Youth Apprenticeship. One was enfolded into the new concept related to tax credits for businesses and intermediaries. Two were added to the creation of an auditing committee to ensure that the skills gap is bridged and there is adherence to safe harbor standards. Two proffered responses were enfolded into the posited policy statement relating to discrimination and equal access. Three supported the flexibility of curriculum to meet business and safety standards and provide youth with the necessary technical and employability skills for entry into the workforce. Three were enfolded into the establishment of partnerships with post-secondary programs. Five were enfolded into the establishment of partnerships with business entities and existing CTE programs. One response created a

committee to handle whistle-blower procedures. The final response was used to create a new concept that permits youth to explore the various Career Clusters before participating in an apprenticeship program. The newly created policy statements are:

- To assist out-of-school and adjudicated youth, youth apprenticeship programs shall partner with existing work-based opportunities, such as Job Corps.
- Permit youth to explore the various Career Clusters before participating in an apprenticeship program.
- Eliminate barriers, such as age requirements, to ensure all youth can participate in the work-based aspects of a youth apprenticeship program.
- Regional intermediaries shall establish an apprenticeship advocacy team to work with apprentices, mentors, and educational institutions to uphold the youth apprenticeship model as a viable career pathway and to ensure that (1) the apprentice’s welfare is priority, (2) peer and mentor relationships are appropriately developed, and (3) the academic schedule is flexible to permit youth to participate.

Tables 9 and 10 display the original posited draft legislation and policy statements versus the ones enhanced with the enfolded concepts shown in red italicized lettering.

Table 9

Round 1 Original Posited vs. Enfolded Response into Draft Legislation

Original Posited Draft Legislation	Enfolded Responses into Draft Legislation
Sustained funds, including WIOA, HEA, Perkins V, ESSA, and other discretionary post-secondary, training, and employment subsidies shall be available to cover training of mentors and apprentices for both new and existing programs.	Sustained funds, including WIOA, HEA, Perkins V, ESSA, and other discretionary post-secondary, training, and employment subsidies shall be available to cover training of <i>coordinators</i> , mentors, and apprentices for both new and existing programs.
Regional intermediaries shall be established and receive funding to (1) assist in the creation of apprenticeship programs, (2) provide technical	Regional intermediaries shall be established and receive funding to (1) <i>conduct periodic workforce needs assessments to evaluate the ever-changing</i>

support, (3) provide administrative assistance, (4) collect and analyze outcome data, (5) create and distribute marketing material, and (6) serve as an information clearinghouse.

labor market, (2) assist in the creation of *high-quality, rigorous youth* apprenticeship programs, (3) *provide guidelines and training for businesses on the processes, the required documentation, and their importance*, (4) provide technical support, (5) *coordinate the needs and priorities of secondary, post-secondary, and employer partners*, (6) provide administrative assistance, (7) collect and analyze outcome data *to ensure program quality is maintained*, (8) create and distribute marketing material *for traditional trade skills and non-traditional industry business entities*, (9) serve as an information clearinghouse, and (10) *work with state agencies*.

Regional intermediaries shall promote sharing of costs and resources among employers, the public, and apprentices.

Regional intermediaries shall promote sharing of costs and resources among employers, the public, and apprentices, *including obtaining transportation to and from the worksite*.

An Office of Youth Apprenticeship shall be established to (1) create a national definition and framework, (2) oversee the registration process, (3) work closely with established intermediaries, (4) creates industry-wide pathways to reduce program start-up time, and (5) is jointly operated by the Departments of Labor and Education.

An Office of Youth Apprenticeship shall be established to (1) create a national definition and *framework based upon Career Clusters and occupational Pathways that allows for mobility from state to state*, (2) oversee the registration process, (3) work closely with established intermediaries, (4) creates industry-wide pathways to reduce program start-up time, and (5) is jointly operated by the Departments of Labor and Education.

Table 10

Round 1 Original Posited vs. Enfolded Response into Policy Statements

Original Posited Policy Statement	Enfolded Responses into Policy Statements
The Office of Youth Apprenticeship shall establish a streamlined registration process that is (1) publicized and easily accessible by business entities and intermediaries and (2) determines the employer's motivation for involvement.	The Office of Youth Apprenticeship shall establish a streamlined registration process that (1) <i>is clear and easy to follow</i> , (2) is publicized and easily accessible by business entities and intermediaries, (3) <i>simplifies the process of obtaining security and background clearances for coordinators and mentors</i> , (4) <i>provides information on the requirement established by the Departments of Labor and Education</i> , and (5) determines the employer's motivation for involvement.
All new and existing youth apprenticeship programs shall not discriminate, provide equal access to all applicants, and encourage enrollment in non-traditional careers.	All new and existing youth apprenticeship programs shall not discriminate and provide equal access to all applicants, <i>including out-of-school, adjudicated, and Native American youth</i> , and encourage enrollment in non-traditional careers.

Employers shall compensate apprentices using a progressive salary scale for mastery of skills, attainment of credentials, and increased productivity.

No change was recommended.

To meet current workforce needs, the curriculum can be altered to meet business standards.

To meet current workforce needs, the curriculum may be altered to meet business *and safety* standards and *to provide youth the necessary technical and employability skills to enter the workforce.*

Youth apprenticeships shall establish a partnership with a registered adult apprenticeship program and/or college/university to promote smooth transition for program completers. This partnership shall agree to the awarding of credits and ensure redundancy of course material is non-existent.

Youth apprenticeships shall establish a partnership with a registered adult apprenticeship program and/or college/university to promote smooth transition for program completers. This partnership shall agree to the awarding of *course* credits *at the completion of the program* and ensure redundancy of course material is non-existent.

To expand youth apprenticeship programs, regional intermediaries shall establish partnerships between business entities and existing secondary career and technical education (CTE) programs.

To expand youth apprenticeship programs, regional intermediaries shall establish partnerships between business entities, *organized labor, other industry stakeholders*, and/or existing secondary career and technical education (CTE) programs and *encourage the CTE schools to become registered apprenticeship sponsors.*

To maintain registration status, youth apprenticeships shall ensure attainment of industry-recognized credentials by all program completers to improve transition into the workforce.

To maintain registration status, youth apprenticeships shall ensure attainment of *achievable nationally recognized and* industry-relevant credentials by all program completers to improve transition into the workforce *and adhere to Child Labor laws and OSHA regulations.*

To summarize, the codifying committee's analysis of the Round 1 qualitative data related to draft legislation, and it resulted in the creation of four additional concepts while the remaining ideas were enfolded into the four retained posited recommendations. For the policy statements, the codifying committee recommended the creation of four additional concepts based upon the feedback from the advocates. The remaining responses were enfolded into the retained five posited recommendations for policy statements. The codifying committee opted to retain two posited recommendations that the panelists eliminated because proffered responses to the open-ended responses contradicted this elimination. Additional concepts were enfolded into the recommendations as they related to the overall notion. Tables 11 and 12 respectively present the

codifying committee's prepared aggregated lists on draft legislation and policy statements for Round 2.

Table 11

Codifying Committee's Draft Legislation Aggregated List

	Draft Legislation Concept
1	Sustained funds, including WIOA, HEA, Perkins V, ESSA, and other discretionary post-secondary, training, and employment subsidies shall be available to cover training of coordinators, mentors, and apprentices for both new and existing programs.
2	Regional intermediaries shall be established and receive funding to (1) conduct periodic workforce needs assessments to evaluate the ever-changing labor market, (2) assist in the creation of high-quality, rigorous youth apprenticeship programs, (3) provide guidelines and training for businesses on the processes, the required documentation, and their importance, (4) provide technical support, (5) coordinate the needs and priorities of secondary, post-secondary, and employer partners, (6) provide administrative assistance, (7) collect and analyze outcome data to ensure program quality is maintained, (8) create and distribute marketing material for traditional trade skills and non-traditional industry business entities, (9) serve as an information clearinghouse, and (10) work with state agencies.
3	Regional intermediaries shall promote sharing of costs and resources among employers, the public, and apprentices, including obtaining transportation to and from the worksite.
4	An Office of Youth Apprenticeship shall be established to (1) create a national definition and framework based upon Career Clusters and occupational Pathways that allows for mobility from state to state, (2) oversee the registration process, (3) work closely with established intermediaries, (4) creates industry-wide pathways to reduce program start-up time, and (5) is jointly operated by the Departments of Labor and Education.
5	Tax credits shall be provided to businesses and intermediaries willing to participate in youth apprenticeship programs.
6	The Office of Youth Apprenticeship shall create an auditing committee to ensure that all youth apprenticeship programs receiving federal, or state funds are (1) bridging the skills gap and meeting workforce needs and (2) adhere to safe harbor standards that permit continuous registration.
7	The Office of Youth Apprenticeship shall create a committee to create and handle whistle-blower procedures and reports.
8	The Office of Youth Apprenticeship shall create and maintain an accessible, user-friendly national public database of programs and industry-wide standards based upon the Career Clusters and occupational Pathways.

Table 12*Codifying Committee's Policy Statement Aggregated List*

	Policy Statement Concept
1	The Office of Youth Apprenticeship shall establish a streamlined registration process that (1) is clear and easy to follow, (2) is publicized and easily accessible by business entities and intermediaries, (3) simplifies the process of obtaining security and background clearances for coordinators and mentors, (4) provides information on the requirement established by the Departments of Labor and Education, and (5) determines the employer's motivation for involvement.
2	All new and existing youth apprenticeship programs shall not discriminate and provide equal access to all applicants, including out-of-school, adjudicated, and Native American youth, and encourage enrollment in non-traditional careers.
3	No change was recommended.
4	To meet current workforce needs, the curriculum may be altered to meet business and safety standards and to provide youth the necessary technical and employability skills to enter the workforce.
5	Youth apprenticeships shall establish a partnership with a registered adult apprenticeship program and/or college/university to promote smooth transition for program completers. This partnership shall agree to the awarding of course credits at the completion of the program and ensure redundancy of course material is non-existent.
6	To expand youth apprenticeship programs, regional intermediaries shall establish partnerships between business entities, organized labor, other industry stakeholders, and/or existing secondary career and technical education (CTE) programs and encourage the CTE schools to become registered apprenticeship sponsors.
7	To maintain registration status, youth apprenticeships shall ensure attainment of achievable nationally recognized and industry-relevant credentials by all program completers to improve transition into the workforce and adhere to Child Labor laws and OSHA regulations.
8	To assist out-of-school and adjudicated youth, youth apprenticeship programs shall partner with existing work-based opportunities, such as Job Corps.
9	Permit youth to explore the various Career Clusters before participating in an apprenticeship program.
10	Eliminate barriers, such as age requirements, to ensure all youth can participate in the work-based aspects of a youth apprenticeship program
11	Regional intermediaries shall establish an apprenticeship advocacy team to work with apprentices, mentors, and educational institutions to uphold the youth apprenticeship model as a viable career pathway and to ensure that (1) the apprentice's welfare is priority, (2) peer and mentor relationships are appropriately developed, and (3) the academic schedule is flexible to permit youth to participate.

Round 2. For Round 2, three panelists were lost to attrition with a response rate of 88% ($n = 21$). This round involved the panelists' corroboration of the group's assessment of the pre-populated posited recommendations. The codifying committee's aggregated lists of the enfolded, reduced, or newly created statements were individually reviewed. The panelists were asked for agreement or comments. Twenty of the respondents (95%) agreed with the aggregated lists presented by the codifying committee. The remaining panelist indicated uncertainty on how to evaluate the presented data. Seven comments on the data were offered. Table 13 exhibits the panelists' edits and recommendations. To minimize researcher bias, the comments were presented to the codifying committee to review and edit the draft legislation related to tax credits to include other financial incentives and the one establishing partnerships with business entities to include corporate and union training programs. Based upon the panelists' comments, the codifying committee edited three policy statements. The first one strengthened the discrimination clause and included consequences for violation of the clause. The second one included partnering with corporate and union training programs. The last one changed the term *elimination* to *assess and develop strategies to reduce barriers*. Tables 14 and 15 display the codifying committee's incorporation of edits into the draft legislation and policy statements, respectively. These resulting outcomes were used to create a 19-item, 5-point Likert-type scale for Round 3 data collection. Eight items relate to draft legislation and eleven to policy statements.

Round 3. All 21 panelists responded to the Likert-type scale, and none were lost to attrition. The panelists rated the importance of each remaining item (1 = unimportant, 2 = slightly important, 3 = moderately important, 4 = important, 5 = especially important). Items meeting the established a priori level of a mean score equal to or greater than 3.5 ($M \geq 3.5$) and an interquartile range equal to or less than 1.0 ($IQR \leq 1.0$) were retained.

Table 13

Panel's Comments on Draft Legislation and Policy Statements Presented by Codifying Committee

Draft Legislation

I'm not sure the draft legislation really addresses the implementation of programs/policies that will assist the young people we are connecting with who have traditionally lacked meaningful opportunity and exposure to the skilled trades. There is a need for hybrid programs that account for the skill deficiencies “opportunity youth, youth of color and women” experience as a result of insufficient exposure to the trades. For the young people who have already graduated from high school, who have dropped out, traditional pre-apprenticeship programs may be out of reach for them. My experience delivering programming to this demographic reveal that there is a gap in the types of services, programs that are necessary to bridge the gap for those who require more scaffolding, but who have tremendous potential if engaged and serviced in the right way. They would benefit from transitional programs that allow for career exploration, soft skill development and paid industry work experiences to place them in a more equitable position to successfully complete an official pre-apprenticeship program that matriculates into enrollment in a registered apprenticeship.

Is there consideration for financial incentives for business, and/or financial incentives directly to supervisor and to student to participate?

Policy Statement

It is imperative that there be clear standards for holding YA partners accountable for DEI&A initiatives and that the policies enacted are communicated and enforced at the ground level between journeymen and apprentices. It is at this level that true advocacy or oversight is needed to effectuate change.

Eliminate is a strong word, and I recommend “reduce” since many states and also institutions have age requirements for work apprenticeship programs. For example, (my institution), has new restrictions on youth under age 18 in clinical care areas, so we have had to limit the high school students from visiting.

Although I understand the frustration with placement of youth, there are very valid reasons for business to prohibit minors from work placements and disagree with this policy statement. Perhaps a policy statement that looks to assess barriers and develop strategies to reduce barriers.

Also include gender, sexual orientation, race, and ethnicity as part of non-discrimination.

I agree with all except policy statement should reference “high school” edit specifically.

Table 14

Panelists' Suggested Edits to Codifying Committee Recommendations for Draft Legislation

Codifying committee Recommendation	Suggested Edit
Tax credits shall be provided to businesses and intermediaries willing to participate in youth apprenticeship programs.	Tax credits <i>and/or other financial incentives</i> shall be provided to businesses and intermediaries willing to participate in youth apprenticeship programs <i>to directly support the mentor and apprentice.</i>

Table 15

Panelists' Suggested Edits to Codifying Committee Recommendations for Policy Statements

Codifying committee Recommendation	Suggested Edit
All new and existing youth apprenticeship programs shall not discriminate and provide equal access to all applicants, including out-of-school, adjudicated, and Native American youth, and encourage enrollment in non-traditional careers.	All new and existing youth apprenticeship programs shall (1) not discriminate <i>based on gender, sexual orientation, race, and ethnicity</i> , (2) provide equal access to all applicants, including out-of-school, adjudicated, and Native American youth, and (3) encourage enrollment in non-traditional careers. <i>Violations of diversity, equity, inclusion, and accessibility initiatives may result in loss of registration status and place the business entity and/or intermediary in jeopardy of legal action.</i>
To expand youth apprenticeship programs, regional intermediaries shall establish partnerships between business entities and existing secondary career and technical education (CTE) programs and encourage the schools to become registered apprenticeship sponsors.	To expand youth apprenticeship programs, regional intermediaries shall establish partnerships between business entities, <i>organized labor, other industry stakeholders</i> , and/or existing secondary career and technical education (CTE) programs and <i>corporate and/or union training programs and encourage the CTE schools to become registered apprenticeship sponsors.</i>
Eliminate barriers, such as age requirements, to ensure all youth can participate in the work-based aspects of a youth apprenticeship program.	<i>Assess</i> barriers, such as age requirements, <i>and develop strategies to reduce barriers</i> to ensure <i>all youth can participate in the work-based aspects</i> of a youth apprenticeship program.

The panel rated the importance of eight draft legislation concepts. Five items were retained as the a priori threshold was met. These items related to sustained funding, the establishment, roles, and responsibilities of regional intermediaries, the sharing of costs and resources, the creation of an auditing committee, and the creation and accessibility of a public database of youth apprenticeship programs. Three draft legislation concepts failed to meet the a priori threshold. The first concept, the establishment, roles, and responsibilities of the Office of

Youth Apprenticeship, met the mean criteria but exceeded the interquartile range. The provision of tax credits and other financial incentives also met the mean and exceeded the interquartile range. The third draft legislation failed to meet the mean threshold but met the interquartile range criteria related to the creation of a committee to handle whistle-blowing procedures and reports. The panel rated eleven policy statement concepts. The one permitting youth to explore Career Clusters prior to enrollment in a youth apprenticeship program failed to meet the a priori threshold for both the mean and interquartile range. The remaining 10 concepts met a priori criteria. The item analyses for draft legislation and policy statements are displayed in Tables 16 and 17, respectively, that provide the means, standard deviations, and interquartile ranges. They also indicate if the a priori thresholds were met. Three draft legislation concepts and one policy statement concept were eliminated and are displayed in Table 18. These items were removed from the aggregated list for Round 4.

Round 4. The panelists received their individual ratings for each item, the panelists' collective means scores, and the interquartile ranges for each of the remaining 15 items. They were asked to compare their individual responses to those of the entire panel and make appropriate changes or indicate agreement to their original response. At the conclusion of Round 4, four of the 21 panelists changed their responses following the comparison of individual Round 3 scores to the group mean. The mean scores, standard deviations, and interquartile ranges were carried through from Round 3 for those items with no scoring changes. The means, standard deviations, and interquartile range were recalculated for those items with scoring changes and are displayed in Tables 19 and 20 along with the calculated coefficient of variance (CV) to further strengthen the findings. An a priori level set at equal or less than .50 ($CV \leq .50$) validated the

concept (English & Kernan, 1976; Jordaan, 2016; Loughlin & Moore, 1979). All items on the final list met the following criteria: $M \geq 3.5$, $IQR \leq 1.0$, and $CV \leq .50$.

Conclusion

The objective of the study was to determine what universal concepts should be included or modified in policy statements and draft legislation to advance youth apprenticeships that are inclusive of all industries and fine-tune them so they could potentially increase the likelihood of enactment. The panelists' responses to the two open-ended prompts were analyzed throughout the duration of the study. During the study, three panelists dropped out of the study between Rounds 1 and 2 resulting in an attrition rate of 12.5%. The remaining 21 panelists (87.5%) were successfully retained throughout the entire study.

A codifying committee was established to review and aggregate the data for Round 1 to minimize researcher bias. The 91 proffered ideas, 47 draft legislation and 44 policy statements, were reviewed, reduced, or eliminated. The statements were either enfolded into the posited recommendations or used to create new concepts. This resulted in the creation of a 19-item Likert-type scale used by the panelists to identify the level of importance of each concept. Four items failed to meet a priori criteria and were eliminated. During Round 4, the panelists compared their individual responses against those of the group's. Because a policy Delphi was used, consensus was not being sought; however, consensus amongst the panelists was found, strengthening the inclusion of the concept into draft legislation or policy statement.

Table 16*Round 3 Item Analysis of Draft Legislation Concepts*

Draft Legislation	<i>M</i>	<i>SD</i>	<i>IQR</i>	A priori threshold
Sustained funds, including WIOA, HEA, Perkins V, ESSA, and other discretionary post-secondary, training, and employment subsidies shall be available to cover training of coordinators, mentors, and apprentices for both new and existing programs.	4.57	0.60	1.0	Met
Regional intermediaries shall be established and receive funding to (1) conduct periodic workforce needs assessments to evaluate the ever-changing labor market, (2) assist in the creation of high-quality, rigorous youth apprenticeship programs, (3) provide guidelines and training for businesses on the processes, the required documentation, and their importance, (4) provide technical support, (5) coordinate the needs and priorities of secondary, post-secondary, and employer partners, (6) provide administrative assistance, (7) collect and analyze outcome data to ensure program quality is maintained, (8) create and distribute marketing material for traditional trade skills and non-traditional industry business entities, (9) serve as an information clearinghouse, and (10) work with state agencies.	4.29	0.78	1.0	Met
Regional intermediaries shall promote sharing of costs and resources among employers, the public, and apprentices, including obtaining transportation to and from the work site.	4.24	0.89	1.0	Met
An Office of Youth Apprenticeship shall be established to (1) create a national definition and framework based upon Career Clusters and occupational Pathways that allows for mobility from state to state, (2) oversee the registration process, (3) work closely with established intermediaries, (4) creates industry-wide pathways to reduce program start-up time, and (5) is jointly operated by the Departments of Labor and Education.	4.14	0.96	2.0	Not Met
Tax credits and/or other financial incentives shall be provided to businesses and intermediaries willing to participate in youth apprenticeship programs to directly support the mentor and apprentice	4.14	0.85	2.0	Not Met
The Office of Youth Apprenticeship shall create an auditing committee to ensure that all youth apprenticeship programs receiving federal, or state funds are (1) bridging the skills gap and meeting workforce needs and (2) adhere to safe harbor standards that permit continuous registration.	4.05	0.87	0.50	Met
The Office of Youth Apprenticeship shall create a committee to create and handle whistle-blower procedures and reports.	3.43	0.81	1.0	Not Met
The Office of Youth Apprenticeship shall create and maintain an accessible, user-friendly national public database of programs and industry-wide standards based upon the Career Clusters and occupational Pathways.	4.24	0.77	1.0	Met

Table 17*Round 3 Item Analysis of Policy Statement Concepts*

Policy Statement	<i>M</i>	<i>SD</i>	<i>IQR</i>	A priori threshold
The Office of Youth Apprenticeship shall establish a streamlined registration process that (1) is clear and easy to follow, (2) is publicized and easily accessible by business entities and intermediaries, (3) simplifies the process of obtaining security and background clearances for coordinators and mentors, (4) provides information on the requirement established by the Departments of Labor and Education, and (5) determines the employer's motivation for involvement.	4.38	0.67	1.0	Met
All new and existing youth apprenticeship programs shall (1) not discriminate based on gender, sexual orientation, race, and ethnicity, (2) provide equal access to all applicants, including out-of-school, adjudicated, and Native American youth, and (3) encourage enrollment in non-traditional careers. Violations of diversity, equity, inclusion, and accessibility initiatives may result in loss of registration status and place the business entity and/or intermediary in jeopardy of legal action.	4.43	0.68	1.0	Met
Employers shall compensate apprentices using a progressive salary scale for mastery of skills, attainment of credentials, and increased productivity.	4.29	0.85	1.0	Met
To meet current workforce needs, the curriculum may be altered to meet business and safety standards and to provide youth the necessary technical and employability skills to enter the workforce.	4.43	0.68	1.0	Met
Youth apprenticeships shall establish a partnership with a registered adult apprenticeship program and/or college/university to promote smooth transition for program completers. This partnership shall agree to the awarding of course credits at the completion of the program and ensure redundancy of course material is non-existent.	4.48	0.68	1.0	Met
To maintain registration status, youth apprenticeships shall ensure attainment of achievable nationally recognized and industry-relevant credentials by all program completers to improve transition into the workforce and adhere to Child Labor laws and OSHA regulations.	4.19	0.93	1.0	Met
To expand youth apprenticeship programs, regional intermediaries shall establish partnerships between business entities and existing secondary career and technical education (CTE) programs and corporate and/or union training programs and encourage the schools to become registered apprenticeship sponsors.	4.48	0.75	1.0	Met
To assist out-of-school and adjudicated youth, youth apprenticeship programs shall partner with existing work-based opportunities, such as Job Corps.	3.52	1.08	1.0	Met
Permit youth to explore the various Career Clusters before participating in an apprenticeship program.	3.90	0.83	1.50	Not Met

Assess barriers, such as age requirements, and develop strategies to reduce barriers to ensure all youth can participate in the work-based aspects of a youth apprenticeship program.	4.57	0.60	1.0	Met
Regional intermediaries shall establish an apprenticeship advocacy team to work with apprentices, mentors, and educational institutions to uphold the youth apprenticeship model as a viable career pathway and to ensure that (1) the apprentice's welfare is priority, (2) peer and mentor relationships are appropriately developed, and (3) the academic schedule is flexible to permit youth to participate.	4.10	1.18	1.0	Met

Table 18*Round 3 Items Eliminated.*

Concept	$M < 3.5$	Concept	$IQR > 1.0$
The Office of Youth Apprenticeship shall create a committee to create and handle whistle-blower procedures and reports.	3.43	An Office of Youth Apprenticeship shall be established to (1) create a national definition and framework based upon Career Clusters and occupational pathways that allows for mobility from state to state, (2) oversee the registration process, (3) work closely with established intermediaries, (4) creates industry-wide pathways to reduce program start-up time, and (5) is jointly operated by the Departments of Labor and Education.	2.0
		Tax credits and/or other financial incentives shall be provided to businesses and intermediaries willing to participate in youth apprenticeship programs to directly support the mentor and apprentice.	2.0
		Permit youth to explore the various Career Clusters before participating in an apprenticeship program.	1.5

Table 19*Round 4 Item Analysis of Draft Legislation Concepts*

Draft Legislation	<i>M</i>	<i>SD</i>	<i>IQR</i>	<i>CV</i>	A priori threshold
Sustained funds, including WIOA, HEA, Perkins V, ESSA, and other discretionary post-secondary, training, and employment subsidies shall be available to cover training of coordinators, mentors, and apprentices for both new and existing programs.	4.57	0.60	1.0	0.13	Met
Regional intermediaries shall be established and receive funding to (1) conduct periodic workforce needs assessments to evaluate the ever-changing labor market, (2) assist in the creation of high-quality, rigorous youth apprenticeship programs, (3) provide guidelines and training for businesses on the processes, the required documentation, and their importance, (4) provide technical support, (5) coordinate the needs and priorities of secondary, post-secondary, and employer partners, (6) provide administrative assistance, (7) collect and analyze outcome data to ensure program quality is maintained, (8) create and distribute marketing material for traditional trade skills and non-traditional industry business entities, (9) serve as an information clearinghouse, and (10) work with state agencies.	4.33	0.80	1.0	0.18	Met
Regional intermediaries shall promote sharing of costs and resources among employers, the public, and apprentices, including obtaining transportation to and from the work site.	4.24	0.89	1.0	0.21	Met
The Office of Youth Apprenticeship shall create an auditing committee to ensure that all youth apprenticeship programs receiving federal, or state funds are (1) bridging the skills gap and meeting workforce needs and (2) adhere to safe harbor standards that permit continuous registration.	4.05	0.87	0.50	0.21	Met
The Office of Youth Apprenticeship shall create and maintain an accessible, user-friendly national public database of programs and industry-wide standards based upon the Career Clusters and occupational Pathways.	4.24	0.77	1.0	0.18	Met

Table 20*Round 4 Item Analysis of Policy Statement Concepts*

Policy Statement	<i>M</i>	<i>SD</i>	<i>IQR</i>	<i>CV</i>	A priori threshold
The Office of Youth Apprenticeship shall establish a streamlined registration process that (1) is clear and easy to follow, (2) is publicized and easily accessible by business entities and intermediaries, (3) simplifies the process of obtaining security and background clearances for coordinators and mentors, (4) provides information on the requirement established by the Departments of Labor and Education, and (5) determines the employer's motivation for involvement.	4.43	0.60	1.0	0.14	Met
All new and existing youth apprenticeship programs shall (1) not discriminate based on gender, sexual orientation, race, and ethnicity, (2) provide equal access to all applicants, including out-of-school, adjudicated, and Native American youth, and (3) encourage enrollment in non-traditional careers. Violations of diversity, equity, inclusion, and accessibility initiatives may result in loss of registration status and place the business entity and/or intermediary in jeopardy of legal action.	4.52	0.60	1.0	0.13	Met
Employers shall compensate apprentices using a progressive salary scale for mastery of skills, attainment of credentials, and increased productivity	4.29	0.85	1.0	0.20	Met
To meet current workforce needs, the curriculum may be altered to meet business and safety standards and to provide youth the necessary technical and employability skills to enter the workforce.	4.48	0.60	1.0	0.13	Met
Youth apprenticeships shall establish a partnership with a registered adult apprenticeship program and/or college/university to promote smooth transition for program completers. This partnership shall agree to the awarding of course credits at the completion of the program and ensure redundancy of course material is non-existent.	4.52	0.68	1.0	0.15	Met
To maintain registration status, youth apprenticeships shall ensure attainment of achievable nationally recognized and industry-relevant credentials by all program completers to improve transition into the workforce and adhere to Child Labor laws and OSHA regulations.	4.24	0.94	1.0	0.22	Met
To expand youth apprenticeship programs, regional intermediaries shall establish partnerships between business entities and existing secondary career and technical education (CTE) programs and corporate and/or union training programs and encourage the schools to become registered apprenticeship sponsors.	4.48	0.75	1.0	0.17	Met
To assist out-of-school and adjudicated youth, youth apprenticeship programs shall partner with existing work-based opportunities, such as Job Corps.	3.57	1.07	1.0	0.30	Met

Assess barriers, such as age requirements, and develop strategies to reduce barriers to ensure all youth can participate in the work-based aspects of a youth apprenticeship program.	4.57	0.60	1.0	0.13	Met
Regional intermediaries shall establish an apprenticeship advocacy team to work with apprentices, mentors, and educational institutions to uphold the youth apprenticeship model as a viable career pathway and to ensure that (1) the apprentice's welfare is priority, (2) peer and mentor relationships are appropriately developed, and (3) the academic schedule is flexible to permit youth to participate	4.14	1.20	1.0	0.30	Met

CHAPTER V

Chapter 5 begins with a summary of the major findings of the study guided by the question: “What universal concepts should be included or modified in policy statements and draft legislation to advance youth apprenticeships that are inclusive of all industries and could increase the likelihood of enactment?” The chapter also includes the implications of the findings within the context of the body of research literature and identification of limitations of the study. Both recommendations for communicating the findings to legislators and other key stakeholders to enhance the development and enactment of legislation and policy statements to advance youth apprenticeship programs and for future research are provided.

Summary

Youth apprenticeship programs are a means of bridging the middle skills gap by providing teens the opportunity to gain experience and master technical and employability skills in a real-world setting. During the program, classroom and work-based instruction are combined and the youth are afforded the opportunity to earn industry-recognized credentials while being financially compensated. Legislative attempts to scale and advance youth apprenticeships have been made with little to no success. The failure to enact bipartisan legislation in the past due to unknown reasons is the underlying reason for this study. A need exists to determine which concepts to incorporate into policy statements and draft legislation that are inclusive of all industries and may increase the likelihood of advancing youth apprenticeship programs.

Problem Statement and Research Goals

The problem of this study was to determine what governmental policy statements and legislation would advance the development and implementation of youth apprenticeship programs across multiple industries. The guiding research question was, “What universal

concepts should be included or modified in policy statements and draft legislation to advance youth apprenticeships that are inclusive of all industries and could increase the likelihood of enactment?” Using a policy Delphi design and a heterogeneous panel of advocates, the researcher sought to identify concepts and their level of importance to include or modify draft legislation and policy statements to advance youth apprenticeship programs. The aim of this study was to identify as many concepts as possible and narrow them down based upon the level of importance indicated by the panelists. It included evaluating the plausibility of recommendations found during the literature review and other concepts offered by the participant. This study is meant to address a gap in the knowledge base on the advancement of youth apprenticeship programs. The results will be used as talking points to address the issue with key stakeholders.

Population

Of the 116 invitations extended, 26 advocates accepted and 24 participated as panelists at the start of the study as two were eliminated based upon a lower level of familiarity with youth apprenticeships. While the panel consisted of individuals who were moderately familiar about youth apprenticeship programs, they still possess knowledge of work-based learning, career and technical education, and cooperative education which have similar characteristics.

Instrument

The data collection instrument for Round 1 was an electronic questionnaire with four sections. The first section was for the collection of demographic information for each panelist. A spreadsheet was created and updated as responses were received to reduce the time between rounds and to minimize the attrition rate. An electronic questionnaire was used for the panel to verify the coding, enfolding, and creation of the concepts for Round 2. For Round 3 data

collection, the aggregated lists were used to create a 19-item Likert-type scale for the panelists to rate the importance of each item. The Round 4 data collection tool had the panelists compare their initial response to that of the group. They were asked if they agreed with their previous answer or if they opted to change, to indicate their new score.

Statistical Procedures

Rounds 1 and 2 involved the collection of qualitative data. A codifying committee of three educators/researchers used an iterative coding process to develop two aggregated lists of concepts related to draft legislation and policy statements. Round 3 used a five-point Likert-type scale to collect quantitative data. The mean, standard deviation, and interquartile range was calculated for each item. Items failing to meet a priori threshold set were eliminated. For Round 4, the panelists compared their responses to those of the group's. For those items to which the panelists changed their responses following the comparison, the means, standard deviations, and interquartile ranges were recalculated. The coefficient of variance was calculated for the remaining items to assess level of consensus.

Summary of Findings

The 24 panelists evaluated 12 pre-posed concepts identified during the literature review and elected to retain eleven and eliminate the one requiring continuous registration to receive funding. Electively, the respondents individually provided two to three responses to two open-ended prompts to suggest missing concepts for incorporation into draft legislation and policy statements. The panel provided 47 responses to the draft legislation prompt and 44 to the prompt for policy statements. The codifying committee categorized and coded-recoded the recommendations offered by the panelists and presented an aggregated list to the panel for approval. During Round 2, the panelists verified the coding and categorization of the concepts

provided. The panelists were afforded the opportunity to add overlooked or omitted concepts during this round.

Following collective agreement, the aggregated list was used to create a 5-point, 19-item Likert-type scale that the panelists used to rate the importance of each item. There was little support for four of the concepts and they were eliminated because of failure to meet a priori criteria. One panelist reported rating some concepts as less important because of not agreeing with all the elements listed within them. During Round 4, the panelists compared their individual responses to those of the group and either kept or changed their response following the comparison. Means, standard deviations, and interquartile ranges were recalculated for those items that responses were altered. Although not sought, the coefficients of variance were calculated to strengthen the findings, and consensus was reached by panelists for the remaining 15 items furthering evidencing the importance of including these concepts.

Discussion

The discussion section is organized to examine the findings of the study based upon the limitations of existing research found during the review of the literature. During Round 1, one panelist raised the issue of the provision of tax credits and/or other financial incentives to businesses and intermediaries to directly support the mentor and apprentice. The codifying committee added this concept to the aggregated list of draft legislation. However, during Round 3, this concept was eliminated by the panel as it failed to gain support and meet a priori threshold. The panelists determined that offering tax credits and other financial incentives does not equate to the advancement of youth apprenticeship programs. This is consistent with Bailey (1993) who identified three problems that prevented youth apprenticeship programs from being a successful workforce strategy in the past. The first was the enticement of employers. Zemsky

(1994) cautioned key stakeholders to be suspicious of any policy initiative designed to entice employers into boosting the hiring and training of youth.

The second problem identified by Bailey (1993) related to the provision of quality work-based learning experiences. The panel valued this issue by supporting sustained funding to cover training costs for apprentices, coordinators, mentors, and teachers. The inclusion of mentors supports this concept. These individuals provide vital feedback to program coordinators and teachers. This feedback includes the youth's progressive level of technical and general employability skills; an important idea recommended by Messing-Mathie (2015), Stone (2017), Symonds et al. (2017), and Zemsky (1994). Bauman and Christensen (2018), Dembicki (2020), Ladika (2016), and Parton (2017) stressed the importance of covering training costs for the various participants. Baddour and Hauge (2020) and Lerman (2014, 2015, 2016) both suggested using WIOA, Pell, and Perkins grants that are designated for post-secondary education. The panel agreed with using these sources of funding as a means of investing in the future and success of youth. The panel further validated the need to provide quality work-based experiences by specifying one of the roles of the regional intermediaries as assisting in the creation of high-quality, rigorous programs.

The third problem Bailey (1993) recognized dealt with unequal access to youth apprenticeship programs for underserved, disadvantaged, and non-traditional teens. The panel tackled this issue by validating the pre-posed recommendation to create an anti-discrimination and equal access policy to address inequity and the exclusion of underserved and non-traditional populations. This was consistent with the notion set forth by Browning and Sofer (2017) and Baddour and Hauge (2020). The panel expanded on this recommendation by endorsing the

assistance of out-of-school and adjudicated youth by advocating the partnership with existing work-based opportunities such as Job Corps.

McCarthy (2014) and Zemsky (1994) recommended garnering input from labor, public, and private sector-industry leaders through the creation of partnerships with business entities. Shenon (1994) and Zemsky (1994) further recommended including union leadership to acquire support and avoid a repetitive hindrance in the advancement of youth apprenticeship programs. The findings of this study are consistent with both ideas through the establishment of partnerships between programs and business entities. Furthermore, the panel advised partnering with post-secondary training and educational institutions to reduce curricular redundancy and smooth the transition for apprentices. The post-secondary partnerships align with the recommendation made by Scribner and Wakelyn (1998) while the reduction in curricular redundancy idea was posited by Zemsky (1994).

Zemsky (1994) iterated the need to review current child labor laws to increase work-based experiences. The panel fortified the need to assess and reduce barriers, such as minimum age requirements, to afford youth apprentices more opportunities in the career field of their choice. Dembicki (2020) cautioned that care is needed to protect youth. The panel addressed the need for youth protection by considering the ideas of adhering to safe harbor standards and the creation of a committee to handle concerns brought forth by whistle-blowers. During Round 1, the codifying committee created a new draft legislation in response to an offered concept to create a committee to handle whistle-blowers procedures. This concept was not found during the literature review. It garnered little support and was eliminated in Round 3 as it did not meet a priori criteria. The panel did find the adherence to safe harbor standards important for continuous registration of the program.

According to Browning and Sofer (2017), Parton, (2017), Strong Workforce Apprenticeship Group (n.d.), and U.S. Department of Labor (2019), youth apprenticeship programs must align with the current needs of employers and bridge the gaps in the workforce. The panel agreed with this notion as they deemed the conduction of periodic workforce needs assessments, the creation of an auditing committee to ensure that programs bridge the skills gap, and the alteration of curricula to meet business standards and ever-changing workforce needs as essential. This strong connection to local labor markets was consistent with the recommendations made by McCarthy (2014) to involve business entities and by Messing-Mathie (2015) to conduct needs assessment to design curricula to prepare the future workforce.

The panel upheld the need to establish regional third-party intermediaries to serve as a liaison between the business entity, the educational institution, and the government. This was a recommendation set forth by Bailey (1993), Craig and Berwick (2018), Dembicki (2020), Messing-Mathie (2015), and Parton (2017). One role of these intermediaries identified by the panel is overseeing cost- and resource-sharing amongst all parties involved. This aligns with the concept presented by Browning and Sofer (2017) who stated that sharing of costs, resources, and risk should be shouldered by all participating parties.

The following conclusions were drawn from the findings of this policy Delphi. Overall, the panelists expressed strong support for many of the concepts; however, the study revealed some differences of opinion. As mentioned in the discussion, the panelists found that most of the concepts were consistent with the recommendations found during the literature review. The panelists validated 11 of the 12 pre-posed recommendations. This illustrates the importance of these concepts as they remained the same over the past three decades. The one concept disapproved required initial and continuous registration to receive funding. Perhaps that is

because of the current arduous registration process. These recommendations were previously included into draft legislation that failed to make it out of the assigned legislative committee. The actual reasons for non-movement and loss are unknown. The panel also identified eight new concepts for inclusion into draft legislation and policy statements. Even though the policy Delphi does not seek consensus, coefficients of variance show that the panelists strongly agreed with the concepts.

Significance of the Study

Key stakeholders, including the panelists, are encouraged to acknowledge the findings and work collaboratively to draft bipartisan legislation and policy statements to increase the likelihood of advancing youth apprenticeship programs in the United States. Because of the current high unemployment and underemployment rate of youth, now is the time to promote youth apprenticeships as a solution to bridging the skills gap and providing an earlier entry point into the talent pipeline. Informing key stakeholders and legislators about the results of this study is crucial for enactment and implementation of legislation and policy to advance youth apprenticeship programs. This includes organizations that lobby for youth apprenticeship on a local and national level.

Limitations of the Study

The limitations of this study either stemmed from its design or unanticipated issues that arose during data collection. One limitation arose from the recruitment method of the study. Because snowball sampling was used, the demographic information needed to be carefully reviewed prior to the viewing of the data collection tool to ensure eligibility criteria were met based upon position and familiarity with youth apprenticeship programs. Approximately one-third of the panelists were from Pennsylvania potentially narrowing the perspective as they are

knowledgeable about the youth apprenticeship structure utilized within the Commonwealth of Pennsylvania. The use of panelists with a greater familiarity with a national structure and working experience with youth apprenticeship programs may counteract this issue.

Another limitation associated with Delphi studies is the potential for researcher bias during the analysis of the qualitative data collected during the first round or two of data collection. To mitigate this potential, a codifying committee of three educators was used to compare, code-recode, and categorize the responses to the open-ended prompts during the first two rounds of this policy Delphi. Additional precaution was taken by having the panelists confirm the coding and categorization during the second round of data collection to increase reliability.

One delimitation stemmed from the enfolding and coding of the information. Items that were interrelated were grouped thereby potentially including more than one concept in an item. This led to the panel potentially eliminating or rating the importance at a lower level because of disagreement with all aspects of the concept. Each item should be addressed separately rather than grouped or combined. For example, the role of the codifying committee should be to examine the items for repetitive answers and manage separately. This will result in a more extensive Round 3 data collection tool, but more trustworthy information will be collected. For example, one panelist reported scoring lower on the importance scale in Round 3 because they did not agree with all the roles and responsibilities of the Office of Youth Apprenticeship.

Recommendations

To advance youth apprenticeship programs, educating policymakers on the merits of these programs as a strategy to bridge the middle skills gap is critical. There are several approaches to communicate the findings of this study to key stakeholders. The creation of a well-

written and concise white paper or policy brief would provide background information and specific recommendations. This document may (1) garner support, (2) encourage legislators to act, and (3) reinforce the notion that today's actions will enhance tomorrow's workforce by improving youth unemployment and underemployment rates while preparing young people for future careers. These ideas are consistent with Safford and Brown's (2019) recommendations to know your target audience, have clear and concise recommendations, develop a well-written policy brief to present the information, and to deliver the information at the appropriate moment.

This white paper can be used to present the information to legislators and policymakers so that strides can be made to enact and implement the concepts to advance youth apprenticeship programs. The information can also be shared with workforce alliance organizations, news outlets, and occupational advisory committees to increase the awareness of the benefits for all parties involved with youth apprenticeship programs. Establishing partnerships with non-profit, industry, advocacy, and private sector organizations that develop and implement programs will strengthen the collective case to advance youth apprenticeships that are consistent with an important point offered by Safford and Brown (2019) to identify others with a vested interest. Per Cerna (2013), these organizations are instrumental in shaping the debate on the topic although they do not implement public policy.

As proposed by Safford & Brown (2019), sustained engagement between proponents of youth apprenticeship programs and legislators and policymakers permits all parties to remain current on the enactment progress of draft legislation and policy statements. Per Safford and Brown, advocates' demonstration of an elevated level of commitment to their cause increases the odds of action, in this case enactment or implementation of draft legislation and policy statements. To further demonstrate commitment to the cause, a draft outline of the bill can be

created along with the white paper and presented to one or more representatives that previously sponsored initiatives to advance youth apprenticeship programs (Hofford, 2001).

The concepts lost during the rounds of data collection and analysis warrant more attention. During Round 1, the concept requiring initial and continuous registration to receive funds was disapproved by the panel. This posited concept was recommended by Dembicki (2020) as it would hold programs accountable to taxpayers. Future studies may validate or reject the disapproval of the requirement for registration by the panelists of this study.

During Round 3, the concept creating a jointly run Office of Youth Apprenticeship by the Departments of Labor and Education, and its roles and responsibilities was eliminated. Perhaps this disapproval was based upon the inclusion of too many ideas in one statement that were enfolded by the codifying committee. Each role and responsibility should be evaluated individually on its own merit.

As addressed in the limitations, it is recommended to treat each response to the open-ended prompts separately rather than grouping them together. This will lead to more items on the Likert-type scale, but a better sense of importance and inclusion can be assessed. These items merit more attention and need to be re-assessed and evaluated separately as some aspects may be considered as vital, especially the role and responsibilities which included the development of a national definition and framework of a youth apprenticeship program, oversight of the registration process, working closely with regional intermediaries, and the creation of industry-wide pathways.

The creation of a committee to handle whistle-blower concerns falls within the realm of youth protection which was deemed important by this study's panelists. Future investigations could approve or disapprove this concept as it was eliminated during Round 3 of this study. The

last concept that failed to meet a priori criteria during Round 3 was the exploration of Career Clusters before enrollment into a youth apprenticeship program. This exploration could occur in earlier school grades and be addressed through educational reform, that was an area not addressed during this study.

Other limitations of existing studies were upheld by the findings of this study starting with a source of sustained funding was of the highest priority for the panel; however, no discussion centered around the government subsidization of wages for apprentices, mentors, or program coordinators, a concept recommended by Bauman and Christensen (2006). This item may warrant further investigation as it may fall within the confines of training costs.

Existing data on the effectiveness of youth apprenticeship programs are sparse according to Advance CTE (2019) and Dembicki (2020). A standardized data collection process, a method of validating data, and a central repository were not addressed in this study. A gap in the literature still exists given that the array of advocates involved with this study failed to investigate these stratagems. This issue merits future study because youth apprenticeship programs should be held accountable to the taxpayers according to Dembicki (2020). Per Ladika (2016) and Zemsky (1994), applicable data can be used to educate employers about the contribution apprentices make to the economy and thus increase participation leading to the advancement of youth apprenticeship programs.

Lerman (2013b) recommended building and expanding programs at the industry level versus one employer at a time. The panel sidestepped this topic by including Career Clusters and Occupational Pathways into the draft legislation involving the creation and maintenance of a national database. This does not address the building and expansion at an industry level as envisioned. Participation of professional and labor organizations would likely be the starting

points to advance youth apprenticeships within the industry at large rather than one employer at a time.

The aim of this study was to identify as many concepts as possible and narrow them down based upon the level of importance indicated by the panelists. At the conclusion of this study, five draft legislations and 10 policy statements were approved by the panel. The panelists identified four new concepts that were not found in the literature, addressing a gap in the knowledge base on the advancement of youth apprenticeship programs.

Conclusion

Youth apprenticeships are a solution to rebuilding the workforce which is needed more now than in the past. These programs prepare youth to be successful contributing members of society and bridge the middle skills gap. Youth are provided related technical instruction in the classroom while learning and mastering general employability and technical skills in the workplace. The youth are provided the opportunity to earn industry-recognized credentials while enrolled in the program and are afforded smooth transition into the workforce or a post-secondary training or college program.

Assessment of barriers to the establishment and participation in these programs is needed. Review and modification of child labor laws are a start to breaking down some of these barriers. Educating industry leaders and other key stakeholders may influence the reduction or removal of others. Non-discrimination and equal access policy statement and legislation will open doors for adjudicated and disadvantaged youth.

The study results note the concepts needed to be incorporated into draft legislation and policy statements to increase the likelihood of enactment and implementation. The findings in the form of a white paper can be used to educate legislators, policymakers, lobbyists, and other

key stakeholders. This educational process, coupled with both the current unemployment and underemployment rates of youth and the middle skills gap, may lead to the advancement and scaling of youth apprenticeship programs across multiple industries.

The advancement and scaling of youth apprenticeship programs are a viable answer to meet the current and workforce needs and to bolster the United States' rank in the global economy. Identifying sources of sustained funding permit investment in the youth and their future societal role.

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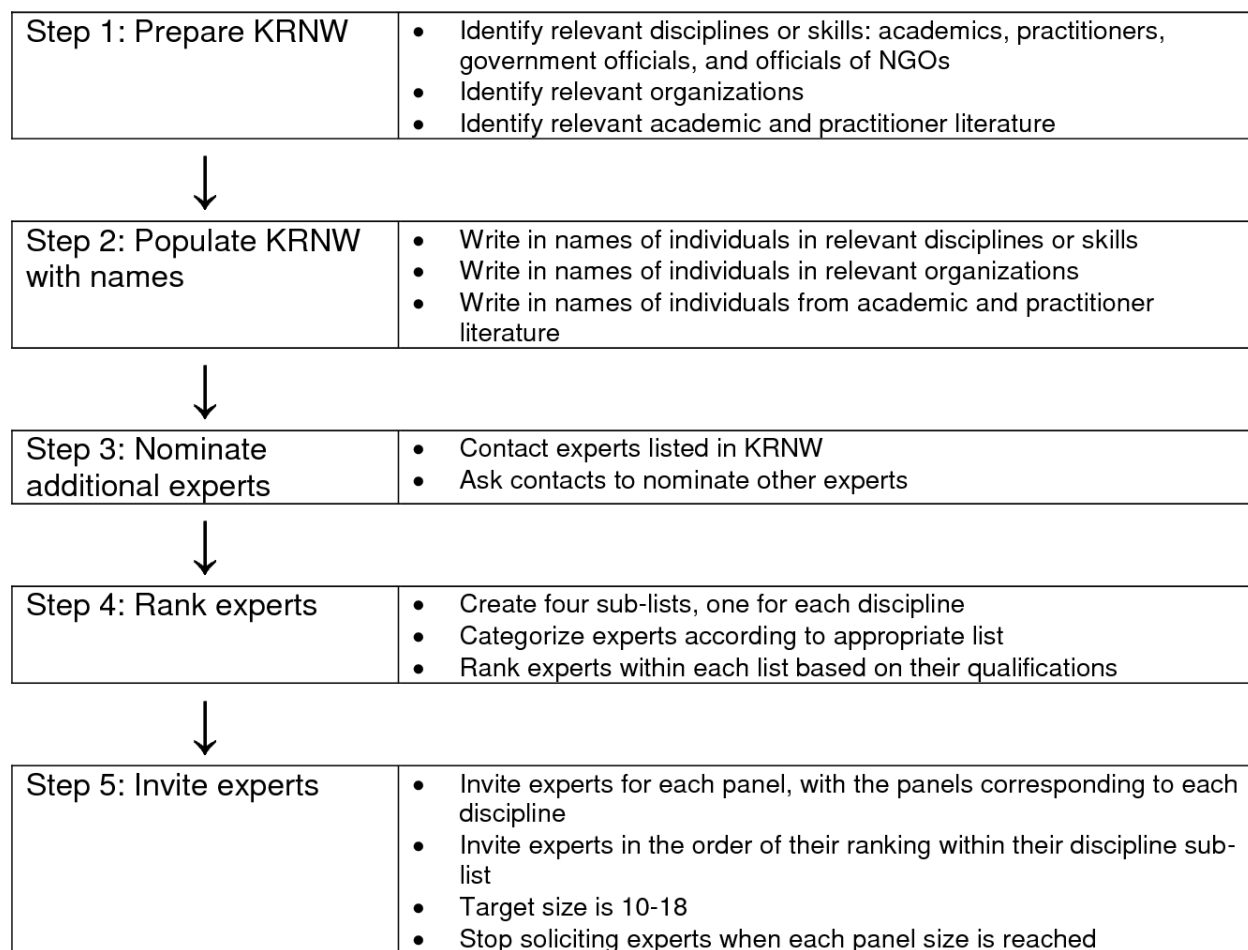
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APPENDICES

Appendix 1

Knowledge Resource Nomination Worksheet



Source: Okoli & Pawlowski, 2004

Appendix 2

Informed Consent Document

OLD DOMINION UNIVERSITY

PROJECT TITLE: Conceptual Advancement of Youth Apprenticeship Programs using**a policy Delphi INTRODUCTION**

You are invited to participate in a research study to determine what government policy statements and legislation advance the development and implementation of youth apprenticeship programs inclusive of all industries. This study, titled "Conceptual Advancement of Youth Apprenticeship Programs using a policy Delphi," is a research initiative to advance and expand youth apprenticeship programs that partially fulfills the requirements for the degree of Doctor of Philosophy in Education. As an advocate of youth apprenticeship programs, you will be asked to brainstorm, sort, and rate the importance of concepts for inclusion in draft legislation or governmental policies.

Through these processes, the panel will:

- Brainstorm concepts that will be coded and categorized
- Verify the coding and categorization
- Rate the importance of these concepts
- Arrive at a consensus

During the first round of data collection, you will be engaging in an online questionnaire that is pre-populated with posited recommendations found in the literature and respond to two open-ended prompts. The data will be analyzed, coded, and categorized. During round two, you will verify the coding and add any missing concepts. Using a 5-point Likert-type scale, you will rate the importance of each item for round three. The fourth and final round involves validating the findings, comparing your responses to those of the group's, and changing your response if desired.

Taking part in this study is voluntary. You may refuse to participate before the study begins or discontinue at any time. Please note there are no "right" or "wrong" answers. This study seeks opposing and alternative views.

If you know of any co-workers or colleagues who have expertise in youth apprenticeship programs and may be interested or instrumental in participating, please share the link with them.

The purpose of this form is to give you information that may affect your decision whether to say YES or NO to participation in this research, and to record the consent of those who say YES.

RESEARCHERS

Principal Investigator: Dr. Michael F. Kosloski, PhD - Associate Professor
 Old Dominion University
 Darden College of Education & Professional Studies
 Department of STEM Education & Professional Studies

Investigator: Susan L. Wienand, MS, M.Ed. – PhD Candidate
 Old Dominion University
 Darden College of Education & Professional Studies
 Department of STEM Education & Professional Studies

DESCRIPTION OF RESEARCH STUDY

Previous attempts to advance, scale, and expand youth apprenticeship programs were unsuccessful. During the 116th legislative session, two of the twenty bills focused on youth apprenticeships were discussed in committee. Similar activity is occurring during the 117th legislative session. This study sets out to determine what concepts need to be included in draft legislation and policy statements to advance youth apprenticeships and improve the likelihood of enactment.

If you decide to participate, then you will join a study involving research to advance youth apprenticeship programs. If you say YES, then your participation will last for four round of data collection or until you opt to discontinue participation in the study. Due to the number of rounds of data collection, this study will be conducted over a two-to-three-month period. Approximately 15-20 panelists will be participating in this study.

EXCLUSIONARY CRITERIA

You have been identified as an advocate for youth apprenticeship programs based upon your research, publication, position, and organization participation. To the best of your knowledge, you should not lack knowledge or familiarity with youth apprenticeship programs that would keep you from participating in this study.

RISKS AND BENEFITS

RISKS: There are no risks if you decide to participate in this study. Your participation in the study will be kept anonymous to the other panelists.

BENEFITS: The main benefit for participating in this study is to advance youth apprenticeships, increase youth employment rates, provide youth earlier access into the talent pipeline, and meet workforce demands.

COSTS AND PAYMENTS

The researchers want your decision about participating in this study to be voluntary. The researchers are unable to provide any payment for participating in this study.

NEW INFORMATION

If the researchers find new information during this study that would reasonably change your decision about participating, then they will give it to you.

CONFIDENTIALITY

The researchers will take all reasonable steps to maintain your anonymity before, during, and after completion of this study. The researcher will blind copy all participants when electronically communicating with the panelists. The results of this study may be used in reports, presentations, and publications; but the researcher will not identify you. Of course, your records may be subpoenaed by court order or inspected by government bodies with oversight authority.

WITHDRAWAL PRIVILEGE

It is OK for you to say NO. Even if you say YES now, you are free to say NO later, and walk away or withdraw from the study -- at any time. Your decision will not affect your relationship with Old Dominion University, or otherwise cause a loss of benefits to which you might otherwise be entitled.

COMPENSATION FOR ILLNESS AND INJURY

If you say YES, then your consent in this document does not waive any of your legal rights. However, in the event of harm arising from this study, neither Old Dominion University nor the researchers can give you any money, insurance coverage, free medical care, or any other compensation for such injury. If you suffer injury because of participation in any research project, you may contact Susan L. Wienand at swien002@odu.edu or 215-219-6672., Dr. John Baaki, the current IRB chair of the Darden College of Education and Professional Studies at 757--683-4305 at Old Dominion University, or the Old Dominion University Office of Research at 757-683-3460 who will be glad to review the matter with you.

VOLUNTARY CONSENT

The researchers should have answered any questions you may have had about the research. If any questions arise once the study has started, you can contact Susan L. Wienand at swien002@odu.edu or 215-219-6672.

If at any time you feel pressured to participate, or if you have any questions about your rights or this form, then you should call Dr. John Bake, the current IRB chair of the Darden College of Education and Professional Studies, at 757-683-4305, or the Old Dominion University Office of Research, at 757-683-3460.

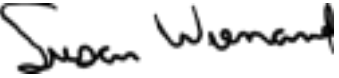
Written electronic consent: Please indicate your decision and consent to participate in the described research by selecting yes or no in the online questionnaire platform. By selecting yes, you are indicating that you:

1. have read this form
2. are satisfied that you understand this form, the research study, and its risks and benefits
3. are aware that your participation will be kept anonymous to the other panelists throughout the entire study

The researcher will provide you a copy of the written electronic consent for your records.

INVESTIGATOR'S STATEMENT

I certify that I have explained to this subject the nature and purpose of this research, including benefits, risks, costs, and any experimental procedures. I have described the rights and protections afforded to human subjects and have done nothing to pressure, coerce, or falsely entice this subject into participating. I am aware of my obligations under state and federal laws and promise compliance. I have answered the subject's questions and have encouraged him/her to ask additional questions at any time during this study. I have evidence of the electronic signatures for this consent form.

<p>Susan L. Wienand </p> <p>Investigator's Printed Name & Signature</p>	<p>8/23/2021</p> <p>Date</p>
---	-------------------------------------

Appendix 3

Demographic and Round 1 Data Collection Tool**Consent to Participate**

Emails are being collected to ensure receipt of the next round's data collection tool.

Please read the entire consent form before responding.

<https://drive.google.com/file/d/1kCTS72IfPKyg9sr2EmCg6oryc5KWQGBj/view?usp=sharing>

* Required

1. Email *

2. After reading the consent form, do you consent to participating in the policy Delphi study to advance youth apprenticeship programs. *

Mark only one oval.

Yes

No

Demographic
Information

The following demographic information is for the purpose of the research only to ensure participation qualifications are met. All information is confidential and will remain anonymous to the panelists.

3. Affiliated Organization *

4. Position Title *

5. Years in the Position *

6. Level of familiarity with Youth Apprenticeship Programs *

Mark only one oval.

Not at all familiar

Slightly familiar

Somewhat familiar

Moderately familiar

Extremely familiar

Round 1 Data Collection - Pre-populated

Please indicate if you agree the concept should be retained for the study.

7. Sustained funds, including WIOA, HEA, Perkins V, ESSA, and other discretionary post-secondary, training, and employment subsidies shall be available to cover training of mentors and apprentices for both new and existing programs. *

Check all that apply.

- Retain
 Eliminate

8. To receive funding, youth apprenticeship programs shall initially apply and continuously retain registration status. *

Check all that apply.

- Retain
 Eliminate

9. Regional intermediaries shall be established and receive funding to (1) assist in the creation of apprenticeship programs, (2) provide technical support, (3) provide administrative assistance, (4) collect and analyze outcome data, (5) create and distribute marketing material, and (6) serve as an information clearinghouse. *

Check all that apply.

- Retain
 Eliminate

10. Regional intermediaries shall promote sharing of costs and resources among employers, the public, and apprentices. *

Check all that apply.

- Retain
 Eliminate

11. An Office of Youth Apprenticeship shall be established to (1) create a national definition and framework, (2) oversee the registration process, (3) work closely with established intermediaries, (4) creates industry-wide pathways to reduce program start-up time, and (5) is jointly operated by the Departments of Labor and Education. *

Check all that apply.

- Retain
 Eliminate

12. The Office of Youth Apprenticeship shall establish a streamlined registration process that is (1) publicized and easily accessible by business entities and intermediaries and (2) determines the employer's motivation for involvement. *

Check all that apply.

- Retain
 Eliminate

13. All new and existing youth apprenticeship programs shall not discriminate and provide equal access to all applicants and encourage enrollment in non-traditional careers. *

Check all that apply.

- Retain
 Eliminate

14. Employers shall compensate apprentices using a progressive salary scale for mastery of skills, attainment of credentials, and increased productivity *

Check all that apply.

- Retain
 Eliminate

15. To meet current workforce needs, the curriculum can be altered to meet business standards. *

Check all that apply.

- Retain
 Eliminate

16. Youth apprenticeships shall establish a partnership with a registered adult apprenticeship program and/or college/university to promote smooth transition for program completers. This partnership shall agree to the awarding of credits and ensure redundancy of course material is non-existent. *

Check all that apply.

- Retain
 Eliminate

17. To expand youth apprenticeship programs, regional intermediaries shall establish partnerships between business entities and existing secondary career and technical education (CTE) programs. *

Check all that apply.

- Retain
 Eliminate

18. To maintain registration status, youth apprenticeship shall ensure attainment of industry-recognized credentials by all program completers to improve transition into the workforce. *

Check all that apply.

- Retain
 Eliminate

Round 1 Data
Collection - Open-
ended Prompts

The purpose of this study is to determine how government policy statements and legislation advance the development and implementation of youth apprenticeship programs across multiple industries.

Please provide 2 to 3 responses to each of the following statements.

19. An idea or modification to advance youth apprenticeships in draft legislation that spans various industries is ...

*

20. An idea or modification to advance youth apprenticeships in draft legislation that spans various industries is ...

*

21. An idea or modification to advance youth apprenticeships in draft legislation that spans various industries is ...

22. A policy statement to advance youth apprenticeships needs to include *

23. A policy statement to advance youth apprenticeship needs to include *

24. A policy statement to advance youth apprenticeships needs to include

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Appendix 4

Round 2 Data Collection Tool

Round 2 Data Collection Tool

* Required

1. Email *

Comments on results to pre-populated concepts

<https://drive.google.com/file/d/1OwVokgKpUjTykDETTsT0i3r9thJ3-8M6/view?usp=sharing>

2. Do you agree with the panelists' responses to the pre-populated concepts? *

Mark only one oval. Yes No

Open-ended Responses to Draft Legislation

<https://drive.google.com/file/d/1OQDbS0uuNxsjTca7zHA4Xcg8LJwICD8/view?usp=sharing>

3. Do you agree with the committee's recommendations to the open-ended responses regarding draft legislation? *

Mark only one oval. Yes No

- 4.

Open-ended Responses to Policy Statements

<https://drive.google.com/file/d/1suTpYSq2bWjyY0Lulw9hKpeft6sUdp1t/view?usp=sharing>

5. Do you agree with the recommendations to the open-ended responses regarding policy statements? *

Mark only one oval. Yes No

6. If you disagree, please provide comments below.

7. Did any other responses come to mind regarding draft legislation? Please provide below.

8. Did any other responses come to mind regarding policy statements? Please provide below.

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Appendix 5

Round 3 Data Collection Tool**Round 3 Data Collection**

Likert-type Scale: Please read the item statement and indicate the level of importance related to expanding youth youth apprenticeship programs.

* Required

1. Email *

2. Sustained funds, including WIOA, HEA, Perkins V, ESSA, and other discretionary post-secondary, training, and employment subsidies shall be available to cover training of coordinators, mentors, and apprentices for both new and existing programs. *

Mark only one oval.

- Unimportant
- Slightly important
- Moderately important
- Important
- Especially important

3. Regional intermediaries shall be established and receive funding to (1) conduct periodic workforce needs assessments to evaluate the ever-changing labor market, (2) assist in the creation of high-quality, rigorous youth apprenticeship programs, (3) provide guidelines and training for businesses on the processes, the required documentation, and their importance, (4) provide technical support, (5) coordinate the needs and priorities of secondary, post-secondary, and employer partners, (6) provide administrative assistance, (7) collect and analyze outcome data to ensure program quality is maintained, (8) create and distribute marketing material for traditional trade skills and non-traditional industry business entities, (9) serve as an information clearinghouse, and (10) work with state agencies. *

Mark only one oval.

- Unimportant
- Slightly important
- Moderately important
- Important
- Especially important

4. Regional intermediaries shall promote sharing of costs and resources among employers, the public, and apprentices, including obtaining transportation to and from the work site. *

Mark only one oval.

- Unimportant
 Slightly important
 Moderately important
 Important
 Especially important

5. An Office of Youth Apprenticeship shall be established to (1) create a national definition and framework based upon career clusters and occupational pathways that allows for mobility from state to state, (2) oversee the registration process, (3) work closely with established intermediaries, (4) creates industry-wide pathways to reduce program start-up time, and (5) is jointly operated by the Departments of Labor and Education. *

Mark only one oval.

- Unimportant
 Slightly important
 Moderately important
 Important
 Especially important

6. Tax credits and/or other financial incentives shall be provided to businesses and intermediaries willing to participate in youth apprenticeship programs to directly support the mentor and apprentice. *

Mark only one oval.

- Unimportant
 Slightly important
 Moderately important
 Important
 Especially important

7. The Office of Youth Apprenticeship shall create an auditing committee to ensure that all youth apprenticeship programs receiving federal, or state funds are (1) bridging the skills gap and meeting workforce needs and (2) adhere to safe harbor standards that permit continuous registration. *

Mark only one oval.

- Unimportant
 Slightly important
 Moderately important
 Important
 Especially important

8. The Office of Youth Apprenticeship shall create a committee to create and handle whistle-blower procedures and reports. *

Mark only one oval.

- Unimportant
 Slightly important
 Moderately important
 Important
 Especially important

9. The Office of Youth Apprenticeship shall create and maintain an accessible, user-friendly national public database of programs and industry-wide standards base upon the career clusters and occupational pathways. *

Mark only one oval.

- Unimportant
 Slightly important
 Moderately important
 Important
 Especially important

10. The Office of Youth Apprenticeship shall establish a streamlined registration process that (1) is clear and easy to follow, (2) is publicized and easily accessible by business entities and intermediaries, (3) simplifies the process of obtaining security and background clearances for coordinators and mentors, (4) provides information on the requirement established by the Departments of Labor and Education, and (5) determines the employer's motivation for involvement. *

Mark only one oval.

- Unimportant
 Slightly important
 Moderately important
 Important
 Especially important

11. All new and existing youth apprenticeship programs shall (1) not discriminate based on gender, sexual orientation, race, and ethnicity, (2) provide equal access to all applicants, including out-of-school, adjudicated, and Native American youth, and (3) encourage enrollment in non-traditional careers. Violations of diversity, equity, inclusion, and accessibility initiatives may result in loss of registration status and place the business entity and/or intermediary in jeopardy of legal action. *

Mark only one oval.

- Unimportant
 Slightly important
 Moderately important
 Important
 Especially important

12. Employers shall compensate apprentices using a progressive salary scale for mastery of skills, attainment of credentials, and increased productivity *

Mark only one oval.

- Unimportant
 Slightly important
 Moderately important
 Important
 Especially important

- 3 o meet current workforce needs, the curriculum may be altered to meet business and safety standards and to provide youth the necessary technical and employability skills to enter the workforce. *

Mark only one oval.

- Unimportant
 Slightly important
 Moderately important
 Important
 Especially important

14. Youth apprenticeships shall establish a partnership with a registered adult apprenticeship program and/or college/university to promote smooth transition for program completers. This partnership shall agree to the awarding of course credits at the completion of the program and ensure redundancy of course material is non-existent. *

Mark only one oval.

- Unimportant
 Slightly important
 Moderately important
 Important
 Especially important

15. To maintain registration status, youth apprenticeships shall ensure attainment of achievable nationally recognized and industry-relevant credentials by all program completers to improve transition into the workforce and adhere to Child Labor laws and OSHA regulations. *

Mark only one oval.

- Unimportant
 Slightly important
 Moderately important
 Important
 Especially important

6. To expand youth apprenticeship programs, regional intermediaries shall establish partnerships between business entities and existing secondary career and technical education (CTE) programs and corporate and/or union training programs and encourage the schools to become registered apprenticeship sponsors. *

Mark only one oval.

- Unimportant
 Slightly important
 Moderately important
 Important
 Especially important

17. To assist out-of-school and adjudicated youth, youth apprenticeship programs shall partner with existing work-based opportunities, such as Job Corps. *

Mark only one oval.

- Unimportant
 Slightly important
 Moderately important
 Important
 Especially important

18. Permit youth to explore the various career clusters before participating in an apprenticeship program. *

Mark only one oval.

- Unimportant
 Slightly important
 Moderately important
 Important
 Especially important

9. Assess barriers, such as age requirements, and develop strategies to reduce barriers to ensure all youth can participate in the work-based aspects of a youth apprenticeship program. *

Mark only one oval.

- Unimportant
 Slightly important
 Moderately important
 Important
 Especially important

20. Regional intermediaries shall establish an apprenticeship advocacy team to work with apprentices, mentors, and educational institutions to uphold the youth apprenticeship model as a viable career pathway and to ensure that (1) the apprentice's welfare is priority, (2) peer and mentor relationships are appropriately developed, and (3) the academic schedule is flexible to permit youth to participate.

*

Mark only one oval.

- Unimportant
- Slightly important
- Moderately important
- Important
- Especially important
-

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Appendix 6

Round 4 Data Collection Tool

Round 4 Data Collection Tool

Attached is the analysis of Round 3 Data. An a priori level was established with a mean score equal to or greater than 3.5 ($M \geq 3.5$) and an interquartile range equal to or less than 1.0 ($IQR \leq 1.0$).

Please review the chart and indicate your agreement with the result or select the level of importance if you wish to change your previous score.

<https://drive.google.com/file/d/1wFDZNNhHp3mdEJnsqQb1tZRK9RZFxoXa/view?usp=sharing>

* Required

1. Email *

2. Sustained funds, including WIOA, HEA, Perkins V, ESSA, and other discretionary post-secondary, training, and employment subsidies shall be available to cover training of coordinators, mentors, and apprentices for both new and existing programs. *

Mark only one oval.

- Agree that a priori data was met
- Change my response to Extremely Important
- Change my response to Important
- Change my response to Moderately Important
- Change my response to Slightly Important
- Change my response to Unimportant

3. Regional intermediaries shall be established and receive funding to (1) conduct periodic workforce needs assessments to evaluate the ever-changing labor market, (2) assist in the creation of high-quality, rigorous youth apprenticeship programs, (3) provide guidelines and training for businesses on the processes, the required documentation, and their importance, (4) provide technical support, (5) coordinate the needs and priorities of secondary, post-secondary, and employer partners, (6) provide administrative assistance, (7) collect and analyze outcome data to ensure program quality is maintained, (7) create and distribute marketing material for traditional trade skills and non-traditional industry business entities, (8) serve as an information clearinghouse, (9) serve as an information clearinghouse, and (10) work with state agencies. *

Mark only one oval.

- Agree that a priori data was met
- Change my response to Extremely Important
- Change my response to Important
- Change my response to Moderately Important
- Change my response to Slightly Important
- Change my response to Unimportant

4. Regional intermediaries shall promote sharing of costs and resources among employers, the public, and apprentices, including obtaining transportation to and from the work site. *

Mark only one oval.

- Agree that a priori data was met
- Change my response to Extremely Important
- Change my response to Important
- Change my response to Moderately Important
- Change my response to Slightly Important
- Change my response to Unimportant

5. An Office of Youth Apprenticeship shall be established to (1) create a national definition and framework based upon career clusters and occupational pathways that allows for mobility from state to state, (2) oversee the registration process, (3) work closely with established intermediaries, (4) creates industry-wide pathways to reduce program start-up time, and (5) is jointly operated by the Departments of Labor and Education. *

Mark only one oval.

- Agree that a priori data was not met
- Change my response to Extremely Important
- Change my response to Important
- Change my response to Moderately Important
- Change my response to Slightly Important
- Change my response to Unimportant

6. Tax credits shall be provided to businesses and intermediaries willing to participate in youth apprenticeship programs. *

Mark only one oval.

- Agree that a priori data was not met
- Change my response to Extremely Important
- Change my response to Important
- Change my response to Moderately Important
- Change my response to Slightly Important
- Change my response to Unimportant

7. The Office of Youth Apprenticeship shall create an auditing committee to ensure that all youth apprenticeship programs receiving federal, or state funds are (1) bridging the skills gap and meeting workforce needs and (2) adhere to safe harbor standards that permit continuous registration. *

Mark only one oval.

- Agree that a priori data was met
- Change my response to Extremely Important
- Change my response to Important
- Change my response to Moderately Important
- Change my response to Slightly Important
- Change my response to Unimportant

8. The Office of Youth Apprenticeship shall create a committee to create and handle whistle-blower procedures and reports. *

Mark only one oval.

- Agree that a priori data was not met
- Change my response to Extremely Important
- Change my response to Important
- Change my response to Moderately Important
- Change my response to Slightly Important
- Change my response to Unimportant

9. The Office of Youth Apprenticeship shall create and maintain an accessible, user-friendly national public database of programs and industry-wide standards base upon the career clusters and occupational pathways. *

Mark only one oval.

- Agree that a priori data was met
- Change my response to Extremely Important
- Change my response to Important
- Change my response to Moderately Important
- Change my response to Slightly Important
- Change my response to Unimportant

10. The Office of Youth Apprenticeship shall establish a streamlined registration process that (1) is clear and easy to follow, (2) is publicized and easily accessible by business entities and intermediaries, (3) simplifies the process of obtaining security and background clearances for coordinators and mentors, (4) provides information on the requirement established by the Departments of Labor and Education, and (5) determines the employer's motivation for involvement. *

Mark only one oval.

- Agree that a priori data was met
- Change my response to Extremely Important
- Change my response to Important
- Change my response to Moderately Important
- Change my response to Slightly Important
- Change my response to Unimportant

11. All new and existing youth apprenticeship programs shall not discriminate and provide equal access to all applicants, including out-of-school, adjudicated, and Native American youth, and encourage enrollment in non-traditional careers. *

Mark only one oval.

- Agree that a priori data was met
- Change my response to Extremely Important
- Change my response to Important
- Change my response to Moderately Important
- Change my response to Slightly Important
- Change my response to Unimportant

12. Employers shall compensate apprentices using a progressive salary scale for mastery of skills, attainment of credentials, and increased productivity. *

Mark only one oval.

- Agree that a priori data was met
- Change my response to Extremely Important
- Change my response to Important
- Change my response to Moderately Important
- Change my response to Slightly Important
- Change my response to Unimportant

- 3 o meet current workforce needs, the curriculum may be altered to meet business and safety standards and to provide youth the necessary technical and employability skills to enter the workforce. *

Mark only one oval.

- Agree that a priori data was met
- Change my response to Extremely Important
- Change my response to Important
- Change my response to Moderately Important
- Change my response to Slightly Important
- Change my response to Unimportant

14. Youth apprenticeships shall establish a partnership with a registered adult apprenticeship program and/or college/university to promote smooth transition for program completers. This partnership shall agree to the awarding of course credits at the completion of the program and ensure redundancy of course material is non-existent. *

Mark only one oval.

- Agree that a priori data was met
- Change my response to Extremely Important
- Change my response to Important
- Change my response to Moderately Important
- Change my response to Slightly Important
- Change my response to Unimportant

15. To maintain registration status, youth apprenticeships shall ensure attainment of achievable nationally recognized and industry-relevant credentials by all program completers to improve transition into the workforce and adhere to Child Labor laws and OSHA regulations. *

Mark only one oval.

- Agree that a priori data was met
- Change my response to Extremely Important
- Change my response to Important
- Change my response to Moderately Important
- Change my response to Slightly Important
- Change my response to Unimportant

- 6 o expand youth apprenticeship programs, regional intermediaries shall establish partnership between business entities, organized labor, other industry stakeholders, and/or existing secondary career and technical education (CTE) programs and encourage the CTE schools to become registered apprenticeship sponsors. *

Mark only one oval.

- Agree that a priori data was met
- Change my response to Extremely Important
- Change my response to Important
- Change my response to Moderately Important
- Change my response to Slightly Important
- Change my response to Unimportant

17. To assist out-of-school and adjudicated youth, youth apprenticeship programs shall partner with existing work-based opportunities, such as Job Corps. *

Mark only one oval.

- Agree that a priori data was met
- Change my response to Extremely Important
- Change my response to Important
- Change my response to Moderately Important
- Change my response to Slightly Important
- Change my response to Unimportant

18. Permit youth to explore the various career clusters before participating in an apprenticeship program. *

Mark only one oval.

- Agree that a priori data was not met
- Change my response to Extremely Important
- Change my response to Important
- Change my response to Moderately Important
- Change my response to Slightly Important
- Change my response to Unimportant

- 9 Eliminate barriers, such as age requirements, to ensure all youth can participate in the work-based aspects of a youth apprenticeship program. *

Mark only one oval.

- Agree that a priori data was met
- Change my response to Extremely Important
- Change my response to Important
- Change my response to Moderately Important
- Change my response to Slightly Important
- Change my response to Unimportant

20. Regional intermediaries shall establish an apprenticeship advocacy team to work with apprentices, mentors, and educational institutions to uphold the youth apprenticeship model as a viable career pathway and to ensure that (1) the apprentice's welfare is priority, (2) peer and mentor relationships are appropriately developed, and (3) the academic schedule is flexible to permit youth to participate. *

Mark only one oval.

- Agree that a priori data was met
- Change my response to Extremely Important
- Change my response to Important
- Change my response to Moderately Important
- Change my response to Slightly Important
- Change my response to Unimportant

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VITA

Susan L. Wienand

Denver, PA

215-219-6672 / slwrhdh93@gmail.com

PROFESSIONAL SUMMARY

- Capable of developing and nurturing professional relationships; able to work individually or collaboratively
- Strong presentation and customer service skills; strong work ethic
- Organized and detail-oriented; able to maintain accurate records
- Flexible; able to prioritize and multi-task
- Proficient at collecting and analyzing data
- Proficient in Microsoft Word, Excel, and PowerPoint and Google Docs, Sheets, and Slides
- Knowledgeable about Perkins and workforce development legislation

RELATED EXPERIENCE

Work-Based Learning and Outreach Coordinator

Lancaster County Career and Technology Center; Ephrata, PA

01/03/2022 to present

- Built and maintained working relationships with local employers.
- Expanded work-based training opportunities for students.
- Served as a knowledge resource for local employers on student training opportunities.
- Served as a knowledge resource on state and federal legal requirements that apply to work-based learning programs for secondary students.
- Managed and reviewed student eligibility to participate in work-based learning.
- Prepared, maintained, and filed necessary paperwork related to students' work-based learning programs.
- Observed and monitored students participating in work-based learning programs.
- Maintained accurate records of students' progress in coordination with CTE instructor for grade reports.
- Regularly visited work-based learning program locations to ensure safety conditions for students.
- Worked cooperatively with other staff members to promote and support the student work-based learning program both inside and outside the classroom.
- Aided and supported outreach programs including presentations, tours, and student visits to promote the student work-based learning program and the LCCTC generally.
- Contacted students' parents and guardians on matters related to work-based learning programs.
- Performed other assigned duties related to Perkins Act funding, including submission of time and efforts logs in compliance with Perkins Guidelines.
- Developed, conducted, and reported on employer survey and compiled student placement data to report to the administrative team and JOC on work-based learning programs.
- Served as the primary liaison between students, employers, CTE instructor, and the administration for the student work-based learning program.
- Attended JOC meeting and school functions, as needed.

Instructional Technical Support Specialist and Substitute Teacher

07/01/2021 to 12/10/21

Instructional Assistant and Substitute Teacher

09/2020 to 06/30/2021

North Montco Technical School; Lansdale, PA

- Provided Career Counseling
 - Offered guidance on career goals based upon students' interest and competencies
 - Assisted students with creation of portfolios, including career goals, resumes, and cover letters
 - Assisted students in identifying post-secondary programs to meet their goals and interests
- Supported Health Sciences teachers in the classroom
 - Worked individually with struggling students

- Graded assignments and tests
- Assisted in creation of lesson plans, worksheets, and exams
- Fostered professional relationships with students, colleagues, and administrators using appropriate customer service skills
- Covered other classes in the absence of the teacher; followed emergency lesson plans
- Conducted Covid-19 assurance testing
- Certified students and staff in CPR, Basic Life Support, and Basic First Aid

Dental Assisting Teacher

Kensington Health Sciences Academy; Philadelphia, PA

02/2019 to 06/2020

Delaware County Technical School; Aston, PA

08/2012 to 02/2019

- Delivered didactic and clinical instruction to secondary students
 - High percentage of students that earned proficient or advanced on NOCTI exam
 - High percentage of students that passed DANB exam on first attempt
- Provided Academic Advising - advised students on academic performance and attendance
- Provided Career Counseling
 - Offered guidance on career goals based upon students' interest and competencies
 - Assisted students with creation of portfolios, including career goals, resumes, and cover letters
 - Conducted mock job interviews with students
- Fostered professional relationships with students, parents, colleagues, and administrators using appropriate customer service skills
- Acted as interim Cooperative Education Coordinator
 - Met with current and future employers about student placement in work-based experiences
 - Made certain that employers were following Child Labor laws
- Mentored new teachers on company policies and offered guidance on classroom management and lesson development
- Maintained inventory list; submitted annual budget requests and monitored expenditures
- Participated in recruitment events for both program and school
- Evaluated program success of at end of each school year
- Served as Advisor to a student organization

Harris School of Business; Upper Darby, PA

Dental Assisting Teacher

10/2009 to 05/2012

Dental Assisting Program Manager

02/2011 to 10/2011

03/2010 to 11/2010

- Delivered didactic and clinical instruction to post-secondary students
- Academic Advisor - advised students on academic standing and attendance
- Career Counselor - offered guidance on career goals based upon students' interest and competencies
- Handled student behavior issues
- Supervised program instructors
 - Completed formal and informal observations, reviewed findings with individual instructors, and offered feedback and assistance
- Evaluated student and program success upon cohort graduation
- Maintained inventory list; submitted annual budget requests and monitored expenditures
- Redesigned and implemented competency-based curriculum

Dental Hygienist, Various general and specialty dental practices

06/1993 to 08/2012

- Provided comprehensive preventive and initial periodontal therapy
- Exposed, developed, and mounted radiographs
- Obtain preliminary impressions for study models
- Fostered professional relationships with patients and colleagues using appropriate customer service skills

Dental Assistant, Various general and specialty dental practices

07/1984 to 06/1993

- Greeted and seated patients
- Reviewed medical histories
- Exposed, developed, and mounted radiographs
- Assisted the dentist during procedures
- Provided patient education
- Fostered professional relationships with patients and colleagues using appropriate customer service skills

OTHER WORK EXPERIENCE

- Seasonal Sales Associate**, Kohl's – Philadelphia, PA 10/2021 to 12/2021
- Greeted and assisted customers
 - Organized and maintained displays
 - Cashiered
 - Picked and packed online orders

EDUCATION

- Old Dominion University, Norfolk, VA 07/2019 to Present
- Doctor of Philosophy in Education**
Concentration: Occupational and Technical Studies
GPA: 3.98

Relevant Courses:

- Administration and Management of Education and Training Programs
- Trends and Issues of Economic and Workforce Development
- Curriculum Development in Occupational Education and Training
- Instructional Strategies for Innovation in Training
- Instructional Technology in Education and Training

Internship

- Chamber of Commerce for Greater Philadelphia; Philadelphia, PA 10/2020 to 12/2020
- Researched and designed talent pipeline beginning with secondary students for Cell & Gene Therapy, IT, and Healthcare Tech Administration
 - Summarized legislation and meeting minutes
 - Participated in PAYA and Apprenticeship PHL conferences

Honors


- The Society for Collegiate Leadership & Achievement 12/2020 to Present

- Temple University, Philadelphia, PA 01/2013 to 05/2016
- Master of Education** GPA: 4.0
Concentration: Industrial Education

- St. Joseph's University, Philadelphia, PA 08/1993 to 05/1997
- Master of Science** GPA: 3.8
Concentration: Health Administration

- Thomas Jefferson University, Philadelphia, PA 08/1991 to 05/1993
- Bachelor of Science** GPA: 4.0
Concentration: Dental Hygiene

PUBLICATIONS

 <https://orcid.org/0000-0001-8639-8192>

Wienand, S. L. (2020). Fourth industrial revolution: Standing at the precipice. (Book Review). *Critical Questions in Education*, 11(3), 243-245.

Wienand, S. L. (2001). Alternative therapies: Nutritional supplement for improving oral health. *Contemporary Oral Hygiene*, November/December, 43-44.

PROFESSIONAL ACTIVITIES

Member: Association for Career & Technical Education	02/2020 to Present
Member: Association for Supervision and Curriculum Development	07/2019 to Present
Board Member: Temple University Dental Hygiene Club	04/2019 to 04/2022
Subject Matter Expert: Radiation Health and Safety Exam Writing Committee, Dental Assisting National Board	03/2018 to 03/2022
Subject Matter Expert: NOCTI Teacher Cut Score Project for Dental Assisting	02/2019 to 03/2019
Health Occupations Section Chair: PSEA Dept. of Career & Technical Studies	09/2015 to 02/2019

CERTIFICATIONS AND LICENSES

Education Specialist – Dental Hygienist	PA Department of Education	04/2018 to Present
Public Health Dental Hygiene Practitioner	Pennsylvania (PHDH000989)	03/2018 to Present
Vocational II Teaching Certificate	PA Department of Education	01/2017 to Present
Basic Life Support Instructor	American Heart Association	12/2015 to Present
Dental Hygiene Local Anesthesia Permit	Pennsylvania (DHA-001461)	04/2012 to Present
Registered Dental Hygienist	Pennsylvania (DH-010901-L)	07/1993 to Present
Certified Dental Assistant	Dental Assisting National Board	1987 to Present
Radiation Health and Safety	Pennsylvania (XD-001368-L)	11/1987 to Present
Safety-Care De-escalation Training	QBS, Inc.	04/2018 - 04/2019