

Work-Based Learning Toolkit

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**COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF EDUCATION**

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Job Shadowing

Introduction

Job shadowing is a career exploration activity. Students gain exposure to careers that they are interested in pursuing by working with business volunteers. For a short period of time, up to several days, students spend the work day as a shadow to a competent worker. By visiting a workplace, investigating a career field and industry, and experiencing a typical day on the job, students can determine if the career and industry fits their interests and career aspirations (PA Department of Education: PA Career Standards; Electronic Toolkit).

Job shadowing allows students to clarify their career goals and understand how knowledge learned in the classroom translates to their ability to be successful in the workplace. An employer demonstrates the connection between academics and careers, inspiring students to learn by making their coursework more relevant. It also exposes students to career settings within their interests and offers firsthand knowledge about different career fields. Job shadowing should provide exposure to the day-to-day work environments, job characteristics, and responsibilities to assist them in determining a career fit and create a better understanding of the workplace and types of skills needed for specific occupations (PA Department of Education: PA Career Standards; Electronic Toolkit). However, these connections only happen if there is instruction aligned to the experience supporting the transfer of knowledge which assists students in making these connections.

Teachers sometimes are provided job shadowing opportunities as part of professional development activities in their districts. This helps teachers assist students in making real world connections.

Background

In Pennsylvania, as school districts create comprehensive career development program linked to the Academic Standards for Career Education and Work, job shadowing is an essential activity (PA Department of Education: PA Career Standards). Job shadows are planned for both middle and high school students, and provide a foundation for middle school students to be ready to select either curricular pathways or career and technical education options, or for high school students to assist the student in confirming career plans that are beginning to be formed.

In programs where the district includes classroom-based activities, the additional instruction before and after the job shadow are helpful to the student. Students may struggle to understand the academic and career linkages from observing a worker or a workplace, unless the connections for the student are clearly illustrated. Prior to the job shadowing experience, students should assess their interests and personality. Using the Pennsylvania Department of Education's free resource, PA CareerZone (PA Department of Education: Career Zone), students can discover their Holland personality type linked to work environments, find jobs and industries that match their interests, and explore their skills.

Research

Job shadowing is part of the continuum of work-based learning, representing the least intense, shortest term workplace experience available to students. As such, though researchers identify job shadowing as an important career exploration activity, no research has been conducted to determine its impact. Practitioners report that students who participate in job shadowing show increased understanding of the world of work (Junior Achievement).

Definitions and Terms

“Shadowing is learning through observation and is a way to form partnerships between employers and the local schools. Shadowing is an opportunity for a student to spend a limited amount of time with an individual in a chosen occupation in order to become familiar with the duties associated with that occupation, the physical setting of the occupation, and the compatibility of the occupation with his or her own career goals” (Kentucky Office of Career and Technical Education, 2015, pp. 4-1).

Policy

State professional certification: Although there are no state professional certification requirements for the category of job shadowing or internships, it is highly recommended that persons working with students in these areas be professionally prepared. Any form of student job shadowing or internship should be addressed and adopted as part of the school entity or career and technical center strategic plan (PA Department of Education, 2014, p. 71).

Wages: The legal ramifications for unpaid learning experiences per Labor and Industry regulations fall under the Fair Labor Standards Act (Wages-Hour Law) and Child Labor Law. It is imperative to apply the six criteria for students who are not considered employees. It would be advisable to have the school solicitor assist in the preparation of a comprehensive school policy regarding potential liability in case of an accident or injury to a student participating in an unpaid worksite experience (PA Department of Education, 2014, p. 70).

Clearances: Employers participating in the program are required to obtain school volunteer background clearances. School volunteers are required to have a Pennsylvania State Police criminal history check, child abuse history certification, and if the mentor has resided in Pennsylvania for fewer than 10 years, a federal criminal history check. If the child interacts with other workers at the employer’s job site, only the assigned employee is required to have clearances as long as that employee remains in the immediate vicinity of the student and is identified as the responsible adult (PA Department of Education, n.d.).

Program Guidance

There are two excellent work-based learning toolkits that have comprehensive school level implementation strategies, checklists and forms for job shadowing. The suggestions in these two documents are exhaustive and are highly recommended to schools to examine prior to implementing a job shadowing program. Kansas City, Kansas’ Toolkit includes discussion of the program, tools to use in working with stakeholders, and factsheets (Kansas City, Kansas Public Schools, 2003, pp. 50-58; Tools 15, 19 & 25; Factsheet #15) and Kentucky’s Office of Career and Technical Education’s Manual also provides checklists and forms (Kentucky Office of Career and Technical Education, 2015, pp. 4-1 to 4-11).

School-Level Implementation Steps

The school-level implementation steps have been adapted from Kentucky’s Work-Based Learning Manual, Chapter 4 (Kentucky Office of Career and Technical Education, 2015).

To implement a job shadowing program that will meet student needs and build partnerships with the local business community, the following steps should be considered:

- Discuss and identify the goals and policies of the shadowing program.
- Select the teacher(s)/other personnel who will be working with the shadowing program inside the school system.
- Gain school board approval.
- Develop and launch a media campaign.

- Develop selection criteria for both students and employers.
- Develop selection criteria and documents explaining the employer's role. These roles include:
 - Organize a half or full of day of activities or assignments for the student and remain available during the student's shadowing assignment.
 - Clarify any behavioral issues, rules, permissions, clothing, and safety requirements.
 - Provide the hours of the day and the contact information to the schools.
 - Provide an overview of the organization and industry, and share career advice and tips on work and life balance.
 - Help students understand the required skills and attitudes needed for the job.
 - Demonstrate and explain effective work methods and show a desire to work with students.
 - Introduce the student to a realistic view of their career area and work roles.
 - Welcome questions and provide students with constructive feedback, especially as it relates to realistic expectations of the student.
 - Encourage students to talk about their interests and abilities. Incorporate that information into discussions regarding career or industry employment choices.
 - Organize a tour of your office and facility.
 - Engage in brief discussion of different departmental functions, job titles, educational preparation, and pay ranges.
 - Discuss the relationships between suppliers and customers.
 - Introduce the student to the mission of the workplace: What do you do?
 - Give a personal note: Why is my job important to me? Why do I like my job? How did I get to my current job?
 - Discuss a student's career interests and plans. Offer suggestions for appropriate training or experience.
 - If applicable, involve the students in a "hands-on" project or assignment.
 - Discuss math, science and communication foundations of the job (PA Department of Education: PA Career Standards; Electronic Toolkit).
- Develop application materials for interested students and employers.
- Recruit students (along with their parents), and employers to participate in the program.
- Select the individual students and employers who will be participating in the shadowing program.
- Discuss and identify where and when the shadowing will take place.
- Discuss and determine transportation needs for the shadowing experiences.
- Hold a training and orientation session for the employers and their staff involved in the shadowing experiences. Topics should include:
 - An explanation of the goals, procedure for setting up shadowing event, evaluation procedures, and expectations of the school and student
 - How to develop a day agenda
- Hold a training and orientation session for the school staff involved in the shadowing experiences. Topics should include:
 - An explanation of goals and standard procedure to be followed for the shadowing day
 - A review of instructional pre-shadow activities and materials students are to bring back by lead teachers
 - Requesting teachers to integrate the experience into their classroom discussions
 - Presenting a class make-up plan
 - Reviewing safety precautions

- Hold a training session for the students involved in the shadowing experience to discuss. Topics should include:
 - Expectations for making up missed class materials
 - Proper dress
 - Conduct Holland Personality Inventory assessment or similar personality assessment (PA Department of Education: Career Zone). Have students link job shadow selection to assessment results.
 - Research careers relating to shadowing experience
 - Knowledge of workplace etiquette
 - Knowledge of safety practices/procedures
 - Explanation of the evaluation
 - Plans for transportation
- Select an employer and a shadowing site compatible with student interest.
- Facilitate the shadowing sessions.
- Develop evaluation forms to monitor the success of the program for each stakeholder group.
- Evaluate the shadowing experience to improve program outcomes (students, teachers, and employers).
- Send notes of appreciation to the employers who were involved in the shadowing experience.

Financial Considerations

Pennsylvania's Ready to Learn Block Grant (2016-17) provides formula driven allocations distributing funds to school districts and charter schools in Pennsylvania. Proven practices are considered acceptable expenditures. Career awareness activities such as career mentoring are eligible. Included in acceptable uses of funds are

“(k) Establishing, maintaining or establishing career awareness programs.

(n) Establishing, maintaining or expanding programs to strengthen high school curricula by providing college and career programs, school-based counseling and professional development and offering AP courses to increase academic achievement” (PA Department of Education, 2016).”

Transportation

In most instances, there is school board policy making the student and parent/guardian responsible for transportation. There are, however, situations where the school district provides the transportation, such as busing an entire class of students to an off-campus learning site or providing transportation for special needs students. The district is advised to develop a board-approved policy for student transportation to an off-campus learning site (PA Department of Education, 2014, p. 75).

Student Admissions, Access, Supports

Fulfilling Equity Goals

All students including special populations are encouraged to participate in job shadowing. In cases when students are responsible for finding their own job shadowing employer, care should be taken to provide extra help in site recruitment for students who come from high-poverty areas, are foster children, or who have limited community resources.

Student Supports

Helping students develop a context for the job shadow maximizes their learning once the students are in the workplace. Building the classroom connection provides greater detail on several of the activities listed below. Recommendations from the Kansas City Public School Toolkit include the following: (Kansas City, Kansas Public Schools, 2003):

- Discuss student expectations of the experience and what the student may want to learn.
- Discuss what students know about the company and how it impacts them.
- Support students in researching the company and the industry so that they can ask meaningful questions during the job shadow.
- Have students prepare questions and learning objectives that they would like to accomplish during the job shadow.
- Introduce frameworks and materials that will help students organize what they learn in the workplace. These frameworks include the Secretary's Commission on Achieving Necessary Skills (SCANS) (Academic Innovations) and All Aspects of an Industry (New Hampshire Department of Education).
- Instruct students in appropriate dress, language, and behavior expected in a place of business.
- Discuss behavioral expectations that will allow students to make the most of the job shadow.

Curricular Integration: After the job shadow, integrate the job shadowing experience into the classroom learning. Reflection promotes self-awareness and personal assessment and helps students internalize the learning that has occurred during the job shadow. When you provide for adequate reflection, you ensure that students have the opportunity to examine the experience, form an understanding of what they have observed and extend that understanding to other situations. Reflection helps students to "own" the knowledge they have acquired (Kansas City, Kansas Public Schools, 2003, p. 56).

Job shadowing provides students an opportunity to discover the elements of building a career. After a job shadow and reflection activities, students can articulate the next level of questions that this visit has inspired, identify other workplaces they would like to visit and make the educational plans they need to move toward the career of their choice (Kansas City, Kansas Public Schools, 2003, p. 57).

Students and job shadow hosts can provide feedback on the experience that will help support them more effectively in the future. Job shadows can be low-stress and high-impact when structured carefully to support student learning, workplace partner participation, and your own curriculum goals for your class (Kansas City, Kansas Public Schools, 2003, p. 57).

Resources

Program Examples

[Warrior Run School District](#)

As part of Warrior Run School District's Comprehensive Career Development Program, eighth-grade students participate in a job shadow every spring. Every student shadows a community member. Before students go to their job shadow, they complete a Holland Personality Survey and research careers. The information the students learn from this experience is then used to assist them in their ninth-grade career readiness class. (Warrior Run School District)

[Greater Latrobe School District](#)

Greater Latrobe School District uses an online form for community partners to express interest in partnering with the school for either their tenth-grade job shadowing or eleventh-grade mentorship program. Developed as part of their Comprehensive Career Development Program, the district's goal is to have all students in these grades participate in worksite activities. Community partners are asked to contribute at least two hours to the activity and request that the mentor provide an opportunity for the student to observe the roles and tasks of a professional and engage in conversation concerning career paths, courses that would assist in following this career path, and any desired or required skills needed within the industry (Greater Latrobe School District).

[Avon Grove School District](#)

The Avon Grove Job Shadowing Experience immerses students into the world of work, where they can acquire first-hand information about job skills and careers. From experiencing the workplace, realistic and tangible career options come alive for students. Job shadowing involves student visits to a variety of career areas of interest during which time they can observe and ask questions of their shadowing hosts. This structured worksite experience provides students with a preview of the "real" world of work and the range of career opportunities available to them.

Avon Grove High School Job Shadowing Experience student benefits:

- Provides an up-close look at workplaces and careers
- Demonstrates the link between education and future career success
- Provides essential information to shape future career decision-making
- Creates new networking opportunities for future career planning
- Assists in developing a Career Action Plan for postsecondary goals
- Introduces students to the requirements of professions and industries to help them prepare to join the workforce of the 21st century

Avon Grove High School students meet with the Career Counselor to discuss interest and participation in a Job Shadowing Experience. Students who participate in a Job Shadowing Experience are excused from school [on the day(s) of the experience] but are expected to make up all required assignments, quizzes, projects, and tests. (Avon Grove School District, p. 38).

Helpful Links

[Pennsylvania Career Zone](#)

The Pennsylvania Career Zone is a free online career development tool to help prepare students for selecting and researching their job shadowing experiences. This password-protected site allows students to assess themselves by completing a questionnaire that will determine their Holland personality code, explore job families and occupations with Pennsylvania-specific data that match students' Holland code, and relates their interests in the world of work to a realistic personal budget. This free resource is provided by the PA Department of Education.

[New Ways to Work](#)

New Ways to Work is a consulting, technical assistance, and training organization that helps communities build comprehensive local youth-serving systems, develop new programs and partnerships, and improve practice in the organizations that serve young people. Detailed, high-quality resources available free to

download can be found on this site. Topics include career development approaches, employer engagement, and high-quality work-based learning. The Kansas City, Kansas Work-Based Learning Toolkit is amongst the free resources available on this website (Kansas City, Kansas Public Schools, 2003, pp. 50-58, Tools 15, 19, 25; Factsheet #15).

[Kentucky Office of CTE Work-Based Learning Manual](#)

Chapter 4 of this manual provides job shadowing how-to advice and useful forms to assist in program development and employer recruitment and evaluation.

Career Mentoring

Introduction

Career mentoring is a career exploration component of work-based learning. Career exploration is one of the three developmental stages of career development and is a core element of the Pennsylvania Academic Standards for Career Education and Work. Career mentoring is one instance of youth mentoring which has a long history of success with at-risk students, students in the child welfare system, and diverse populations. Career mentoring should focus on career exploration, training, and related education.

Background

Career mentoring occurs when a student is matched one-to-one with an adult professional in a chosen field of interest to explore a career, career interests, and related workplace and career development issues. The career mentor serves as a resource for the student by sharing insights and providing encouragement and guidance about the workplace, work ethics, careers, and educational requirements. The one-to-one relationship goes beyond the formal obligations of a teaching or supervisory role.

Building a trusting relationship between the student and the mentor is the key to a successful experience. This trusting relationship gives the mentor an opportunity to have a positive influence on the development of a young person. For the student, the mentor can be someone to look to for support and guidance in the complicated processes of growing into adulthood and making quality career decisions.

Career mentoring experiences promote exploration of a field of interest and increase students' exposure to jobs, careers and adult role models in the workplace. Students can develop pre-employment and work maturity skills while building professional knowledge. Building a relationship with an adult aids students in expanding their ability to develop positive relationships.

A cost-effective tool that has gained popularity in Pennsylvania is electronic mentoring or e-mentoring. Students and mentors exchange electronic communications on a regular basis and can include career mentoring as well as other issues critical to school and academic success. Ideally, electronic mentoring is part of a committed relationship that includes time spent in face-to-face contact (The Principal's Partnership).

Research

Research shows that career mentoring relationships should be at least six months in duration and include structured activities as well as career and education related activities agreed to by the school, the workplace, and the student (Kansas City, Kansas Public Schools, pp. 1, Factsheet #2).

Policy

Mentors participating in the program are required to obtain school volunteer background clearances. School volunteers are required to have a Pennsylvania State Police criminal history check, child abuse history certification, and if the mentor has resided in Pennsylvania for less than 10 years, a federal criminal history check. If the child interacts with other workers at the mentor's job site, only the mentor is required to have clearances as long as that mentor remains in the immediate vicinity of the student and is identified as the responsible adult (PA Department of Education, n.d.)

Program Guidance

School-Level Implementation

Successful career mentoring programs have a well-organized structure, are carefully planned to include the needs of the mentor and student, have approval by parents and provide ongoing support and training. Mentoring should take place at the school, workplace, or an approved outing. Career mentors that participate in activities with students outside the school must be approved by the principal and the parents. Specifically, the program should incorporate the following:

- Develop clear, written policy and procedures materials for all parties.
- Match students with career mentors based on career interest and personality.
- Allow the mentor and mentee to interview and select each other.
- Have the student and career mentor set and communicate expectations that are assessed on a regular basis.
- Provide ongoing support and training for career mentors. (Kansas City, Kansas Public Schools, pp. 1, Factsheet #2)

Some schools use their school alumni as the source of their mentors. Online intake systems can help find matches between students and mentors.

Ages of mentees vary by programs. Schools can start as early as tenth grade with their career mentoring program. In those cases, mentors often are encouraged to remain in contact with their mentees throughout their high school experience.

The Kentucky Office of Career and Technical Education has developed a listing of the steps required for implementing a career mentoring program for students:

- Discuss and identify the opportunities of the mentoring program.
- Discuss and determine where and when the mentoring will take place. (e.g., school/off-campus)
- Develop application materials for interested students and mentors.
- Develop selection criteria for both students and mentors.
- Develop an evaluation form to monitor the success of the program.
- Recruit students (in collaboration with their parents) and mentors to participate in the program.
- Select the teacher(s)/other personnel who will be working with the mentoring program in the school system.
- Select the individuals (students and mentors) who will be participating in the mentoring program.
- Match the student with a compatible mentor based on career interest.
- Conduct a training and orientation session for mentors, students and school staff involved in the mentoring program.

- School Staff: In these sessions, review
 - goals of the program
 - procedures to be followed for the mentoring sessions based on site-based policies
 - evaluation procedure
 - expectations for staff members
 - safety procedures
- Mentor(s): In these sessions, review
 - goals of the program
 - procedures to be followed for mentoring sessions
 - necessary information about the school and the school routine such as beginning and ending time, days off, and school sign in and out policy
 - evaluation procedure
 - expectations for mentors involved in the program
 - information on school resources, cultural sensitivity, the profile of students, liability, safety, etc.
- Students: In these sessions, review
 - expectations
 - proper dress
 - careers relating to mentoring experience
 - safety practices and procedures
 - evaluation procedures
 - transportation for off-campus sessions
- Facilitate meetings between the mentor and student.
- Evaluate the mentoring program to continually improve the program outcomes (students, teachers, and mentors each complete an evaluation).
- Organize an appreciation meeting for mentors.

(Kentucky Office of Career and Technical Education, 2015, pp. 3-1 to 3-2)

Access the [Kentucky Work-Based Learning Manual](#) to find the following sample forms: Student Application; Mentor Questionnaire; Teacher Evaluation for Mentoring; Student Mentoring Evaluation; and Mentor Evaluation (Kentucky Office of Career and Technical Education, 2015, pp. 3-4 through 3-8).

Financial Considerations

Career awareness programs such as career mentoring are funded out of school district operating funds. The program is often administered by the school counseling office but might reside in a business program, industrial arts, or other school office and might be in partnership with a community-based organization such as a school-business partnership, workforce investment board or school-to-work program. The activities support the implementation of the Career Education and Work Standards and can often be included in the development of the school's Comprehensive Career Development Program. The Career Development Advisory Council can serve as the advisory body to the career mentoring program.

Pennsylvania's Ready to Learn Block Grant (2016-17) provides formula driven allocations distributing funds to school districts and charter schools in Pennsylvania. Proven practices are considered acceptable expenditures. Career awareness activities such as career mentoring are eligible. Included in acceptable uses of funds are

(k) Establishing, maintaining or establishing a career awareness programs.

(n) Establishing, maintaining or expanding programs to strengthen high school curricula by providing college and career programs, school-based counseling and professional development and offering AP courses to increase academic achievement (PA Department of Education, 2016).

Student Admissions, Access, Supports

Fulfilling Equity Goals

Career mentoring is an outgrowth of youth mentoring programs that have assisted at-risk students and special populations for many years. Programs should carefully evaluate the need to put performance criteria on student participation. Performance criteria such as attendance or GPA might restrict the neediest students from participating in the career mentoring program.

Mentors should be recruited who are willing to work with at-risk students. Ensuring that the mentor fully understands the strengths and weaknesses of their match will assist in creating successful pairs, even for the most troubled and needy student.

Care should be given to providing mentors of both genders so that a variety of role models can be found within career clusters.

Student Supports

- Students might need transportation assistance.
- Students should be provided with school time to meet with mentors on a regular basis.

Resources

Program Examples

[PA eMentoring](#)

The PA eMentoring program allows schools to provide their students, grades 8-12, with an online career mentor within the classroom. eMentors communicate with students through email and online curriculum that leads to a college and career plan for each mentee. PA eMentoring offers working and retired adults, parents, and mature college students a flexible alternative to traditional face-to-face mentoring and offers employers a way to establish meaningful connections with youths and schools within a community. PA eMentoring is a program of Smart Futures, a 501 c-3 nonprofit organization based in Pittsburgh. School districts or a sponsoring organization pays a fee for this service. Schools and organizations that have used the program include Beaver Falls High School, Belle Vernon Area High School, and over 30 additional districts across Pennsylvania. Belle Vernon Area High School has implemented the program in their business programs (Smart Futures, 2016).

[Architecture, Construction and Engineering Mentor Program](#)

ACE is a national not-for-profit organization with affiliates in southcentral PA, eastern PA, the Lehigh Valley, and in western PA. Under the mentorship of experienced professionals from leading building industry firms, students work in teams to pursue a range of informative and stimulating after-school activities, including field trips to “in-progress” construction sites, discussions with project managers, tours of professional offices, and more. In addition, each team works on a project that addresses “real-life” situations and issues. Teams have worked on a variety of projects that represent all facets of the design and construction industry. Each team produces seven items (site plans, models, elevations, perspectives, etc.) from a list of required deliverables. The teams then used these things to demonstrate their project solutions during a special event for mentors, peers, and other guests. Students can then apply for postsecondary scholarships. Amongst the schools with ACE programs are School District of Philadelphia, Pottsgrove School District, and Parkland School District (ACE Mentor Program: Architecture, Construction, Engineering, 2016).

[Women in Business Mentoring Program](#)

The Women in Business Mentoring Program is sponsored by the Lancaster Chamber of Commerce and Industry. The program includes one-on-one mentoring, job shadowing, special learning and professional growth opportunities. Students participate from 13 high schools (private and public) located in Lancaster County (The Lancaster Chamber of Commerce and Industry, 2016).

[Youth Works](#)

Youth Works is a program of Goodwill of Southwestern Pennsylvania. Hire Me mentoring is a free career preparation after-school program that provides work-readiness training, career mentoring, service learning opportunities and career exploration experiences. Requiring mentors to make a one-year commitment, the mentor serves students between the ages of 12-17 with monthly outside activities and weekly electronic correspondence (Youth Works, A program of Goodwill of Southwestern Pennsylvania, 2016).

Helpful Links

[National Mentoring Partnership](#)

The National Mentoring Partnership helps children by providing a public voice, developing and delivering resources to mentoring programs nationwide and promoting quality for mentoring through standards, cutting-edge research, and state of the art tools. This site focuses on general youth mentorship programs of which two exist in Pennsylvania sites (National Mentoring Partnership, 2016).

[Community Mentoring Program for High School Homeroom Advisory Groups](#)

This handbook provides a 7-step guide to building support for students using community mentors, educators, and parent volunteers. Detailed instructions on creating the infrastructure, creating the pilot program, creating a mentor database, preparing the student body and faculty for the program, delivering the first pilot mentoring session, evaluating the program, and funding the program are included. A variety of templates and forms is also provided. This resource provides the how-to for starting a new program (Arkansas Department of Career Education).

[Kentucky Office of CTE Work-Based Learning Manual](#)

Chapter 3 of this manual provides career mentoring how-to advice and useful forms to assist in program development and mentor recruitment and evaluation.

[NYS P-TECH Public Private Partnerships for College and Career Success](#)

The P-TECH 9-14 School Model Playbook website is designed to serve as the central hub for public-private partnerships interested in learning about and implementing this groundbreaking school reform model. The site focuses the partnerships on the key elements that characterize the P-TECH model and provides action-oriented guidance and tools to enable them to implement the model with quality and fidelity. The site features a toolkit that includes a section on career mentoring (New York State P-TECH, 2016, pp. 16-23).

Internship

Introduction

Internships are career preparation work-based learning experiences in a particular occupational area that assist the student in developing technical competencies while they earn school credit. It is a short-term practical experience, giving the student a broad overview of the career area, and is supervised by an employer and a teacher. These experiences are especially useful when they supplement the technical competencies that the school can deliver by providing access to tools, equipment, facilities, and expertise that generally are not available at the school. The work experience is evaluated by the teachers and employers, with input from the student.

Internships differ from cooperative education in Pennsylvania in that a cooperative education program is integrated into a Career and Technical Program of Study with the development of specific technical skills linked to task lists as the goal, offers employability skills training to the student as part of the school-based program, works under a training plan and agreement, and is supervised by a certified Cooperative Education Supervisor. Students receive wages and school credit for cooperative education experiences (PA Department of Education, 2014, pp. 64-65).

Background

An internship is a highly-structured, sustained career preparation activity in which students are placed at a workplace for a defined period of time to participate in and observe work firsthand within a given industry. Learning objectives are specified, and student performance is assessed. The longer time period in the workplace deepens the learning experience for the student. This deepened experience enhances the transference of employability skills and increases the acquisition of technical skills through hands-on experiences. Internships may be paid or unpaid, depending on whether the student is performing productive work for the employer (U.S. Department of Labor, 2010).

Research

Research on the impact of work-based learning, and specifically internships, is rare. Hanover Research found:

Reliable data that accurately quantify the efficacy of specific practices in work-based learning are scarce. Because rigorous longitudinal studies of work-based learning programs are exceedingly difficult to conduct, much of the available data must be viewed and interpreted cautiously. However, even though the scarcity of reliable data precludes a set of strictly evidence-based best practices, work-based learning experts are able to point to numerous best practices that have demonstrated efficacy (Hanover Research, 2013, p. 3).

Essential characteristics for work-based learning internships include:

- “Direct and systematic employer and community input
- Depth of experience and engagement
- Connection to the curriculum” (Darche, Nayar, & Bracco, 2009, p. 5).

Without the link to the curriculum, work-based learning experiences are equivalent to regular employment and offer students no additional knowledge or connections to the world of work, academic or technical content knowledge nor to their career aspirations. An internship’s links to the curriculum are the value-added to the student’s career journey.

Definitions and Terms

An internship is a career preparation activity in which students are placed in a workplace for a defined period of time to participate in and observe work within a given industry and occupation. Internships are highly structured, time-limited experiences that occur at a worksite. Unlike work experience, internships often allow students to rotate through a number of departments and job functions. Internships may be paid or unpaid, depending on whether the student is performing productive work (U.S. Department of Labor, 2010). They are designed to give students hands-on experience, providing them a deeper understanding of the occupation and industry (Kansas City, Kansas Public Schools, pp. 1, Factsheet #4).

Policy

State professional certification: Although there are no state professional certification requirements for the category of job shadowing or internships, it is highly recommended that persons working with students in these areas be professionally prepared. Any form of student job shadowing or internship should be addressed and adopted as part of the school entity or career and technical center strategic plan (PA Department of Education, 2014).

Fair Labor Standards Act: Under the federal Fair Labor Standards Act (FLSA)¹, internship programs must evaluate whether the interns need to be paid the minimum wage and overtime for the services they provide to for-profit, private sector employers.

“The following six criteria must be applied when making this determination:

1. The internship, even though it includes actual operation of the facilities of the employer, is similar to training which would be given in an educational environment;
2. The internship experience is for the benefit of the intern;

¹ Fair Labor Standards Act (FLSA) 29 U.S.C. §201, et seq.

3. The intern does not displace regular employees, but works under close supervision of existing staff;
4. The employer that provides the training derives no immediate advantage from the activities of the intern; and on occasion, its operations may actually be impeded;
5. The intern is not necessarily entitled to a job at the conclusion of the internship; and
6. The employer and the intern understand that the intern is not entitled to wages for the time spent in the internship (U.S. Department of Labor, 2010).

Additional considerations about wages:

- If the student is paid by the workplace, the employer is responsible for all wages and taxes as well as liability and workers' compensation coverage.
- If the school pays the student, the school district is responsible for all wages and taxes as well as liability and workers' compensation coverage.
- If the student is unpaid, the school district is responsible for liability coverage.

Clearances: Worksite employees participating in the program are required to obtain school volunteer background clearances. School volunteers are required to have a Pennsylvania State Police criminal history check, child abuse history certification, and if the employee has resided in Pennsylvania for less than 10 years, a federal criminal history check. If the child interacts with other workers at the employee's job site, only the employee is required to have clearances as long as that employee remains in the immediate vicinity of the student and is identified as the responsible adult (PA Department of Education, n.d.)

Safety: Interns should receive training about potential workplace hazards and how to protect themselves. The school entity must provide basic safety instruction, and the workplace must supplement this training with location-specific and occupation-specific instruction.

Program Guidance

Internships are intended to enhance workplace knowledge and awareness. They help build the skills required for specific occupations by exposing students to all aspects of the industry (New Hampshire Department of Education) and the multiple career options available. Internships engage students in their own learning and provide numerous opportunities for reflection on the experience, both verbally and in writing. Quality internships are designed to support academic learning directly.

School-Level Implementation

All internships should include structured activity before, during, and after the program. These activities help ensure that all involved parties have meaningful, productive experiences that result in enhanced student learning. Proper planning and preparation, attention to legal and safety details, maximization of learning potential, and communication and support for the student and worksite supervisor will help ensure success (Kansas City, Kansas Public Schools, pp. 1, Tool #34).

Steps in Planning an Internship Program

1. Identify and develop goals, policies and procedures for the internship program. Identify a teacher leader. Seek school board approval of the program.
2. Develop selection criteria for student participation and internship mentors. Take care to be inclusive in the participation guidelines. Special education students, as well as regular education students, should be eligible to participate.
3. Build a partnership with the community and community-based organizations. Work with the community to identify prospective sites for student internship experiences.

4. Publish information in school handbook including strategies for scheduling the internship while still maintaining enrollment in rigorous academics at the school (Kentucky Office of Career and Technical Education, 2015, pp. 7-1).

Success Factors

- Provide a classroom orientation and concurrent activities that support workplace learning.
- Obtain clear and precise information from workplace partners about the expected projects and duties the intern will perform.
- Develop a specific learning plan and a contract that details learning objectives and roles of all parties.
- Link workplace learning specifically to classroom learning by showing the integration of workplace knowledge with challenging academics.
- Maintain ongoing communication with workplace partners. (Kansas City, Kansas Public Schools, 2003, p. 211)

Assessing Quality Teaching and Learning at Work

Assessing the quality of the teaching and learning in the workplace is a concern for educators and administrators. Aspects of the workplace learning environment differ from the school setting and coordinators should consider the issues as they evaluate the effectiveness of the program in increasing the knowledge of students.

Social Context: Not only are the tasks performed in the workplace important, but the social context of these functions impacts the student's experience. To best match students with employers and jobs, determining the social context of work is important. Specifically, is the student in a work-role that is typically highly-supervised or one that has some discretion over tasks? Greater choice provides more opportunity to learn (Stasz & Stern, 1998).

The Community of Practice: Students enter a set of relations among people, activities and their work setting called the community of practice. A quality learning experience will include opportunities to participate in the work community by being involved in such things as staff meetings, company training opportunities and any other activities in which junior-level employees would be expected to attend (Stasz & Stern, 1998).

Pedagogy of the Worksite:

Asking the right kinds of questions can help program developers determine whether a work setting will provide opportunities for students to learn the kinds of skills or attitudes that they want them to learn.

- Will the job give students opportunities to take responsibility, make decisions, learn technical skills, or work in teams?
- Does the setting provide the social supports that students need to learn?
- Will students get adequate feedback on their performance to help them learn?
- Who teaches at work?
- Does the employer want workers who take the initiative, or workers who take orders?

School learning does not always instill an appropriate orientation toward learning at work. To learn on the job, students must interact in a social setting to learn their tasks with the goal of eventually carrying them out on their own. Students must know when to ask questions, have the confidence to solve problems, and know how to work with others (Stasz & Stern, 1998).

Who Is Involved and What Do They Do?

Role of Students (Kansas City, Kansas Public Schools, 2003, p. 19):

- Actively participate in their school and workplace experiences
- Develop meaningful learning objectives
- Participate in reflection activities that help them process what they have learned

Role of Teacher-Coordinator (Kentucky Office of Career and Technical Education, 2015, pp. 7-5)

As supervisor of the program, the teacher or coordinator generally will:

- Provide information about the program to students, parents or guardians, and employers
- Keep the school and community informed regarding all aspects of the program
- Set up an advisory council to promote internships and to involve parents and business leaders in the design and implementation for the program. In Pennsylvania, this advisory committee could be a subcommittee of the career development program advisory council
- Identify potential internship sites, contact persons, and hosts
- Visit training sites to meet personnel, observe the work performed at the worksite, and check for appropriate safety practices and safety training
- Provide orientation for parents/guardians and students
- Select dates for internship experiences
- Guide the student in researching background on the company and industry
- Develop appropriate forms, such as a Parent or Guardian Consent Form and Student and Teacher Consent Form, in conformity with school policies
- Work with students in the selection of their placements, considering student interests, the personality of students and hosts, and other factors. The placement should match career goals and interests as identified in the student's career portfolio
- Develop a Work-Based Learning Plan and Agreement in consultation with the student and the employer
- Orient worksite personnel to policies, procedures and guidelines
- Teach students proper dress and behavior skills
- Make transportation arrangements
- Identify and coordinate insurance and liability issues
- Collaborate with teachers if students are to miss a class
- Observe students at their worksites
- Stay in contact with employers
- Integrate the student's worksite learning with school-based learning through regular seminar and classroom instruction
- Provide recognition and appreciation for business/industry and school personnel involved in the program

School Districts (National Academy Foundation, p. 11):

- Maintain and support policies and protocols that make work-based learning a viable structure what helps students meet academic standards
- Support teachers' professional development to ensure they can maximize the opportunities at the workplace
- Leverage available resources to make sure that work-based learning is supported within small learning communities at the high schools

Workplace Partners and Worksite Supervisors (National Academy Foundation, p. 11):

- Collaborate with school staff to create learning opportunities for students at the workplace
- Help students write learning objectives
- Train, coach, and guide students while they are involved
- Evaluate student progress toward learning objectives and on workplace skills
- Maintain ongoing communication with teachers

Community Partners (National Academy Foundation, p. 11):

- Serve as an intermediary to connect teachers and other school personnel and students with businesses
- Provide student referrals to work-based learning activities, including work experience and internship opportunities
- Assist in preparing youth for the workplace
- Assist in supervising student workplace experiences
- Subsidize work experience and internships for eligible students
- Support the development of work-based learning experiences tied to classroom-based academic and technical learning

Forms and Checklists

A variety of toolkits and model programs exist that have created forms and checklists for school districts to use. Exploring these forms provides an opportunity to create tools that fit the school entity's context. The links to each of these toolkits and documents can be found in the reference section. The following are the relevant citations

- (Kansas City, Kansas Public Schools, 2003, pp. 4-1 to 4-13, Tools 7-14)
- (Kansas City, Kansas Public Schools, pp. 1, Tool #34)
- (Kentucky Office of Career and Technical Education, 2015, pp. 7-7 to 7-11)
- (New York State P-TECH, 2016, pp. 34-37)

Financial Considerations

Staffing is critical for a quality program to be delivered. The teacher-coordinator must be able to make visits to the workplace while the student at the worksite. Many programs only visit the workplace once during an internship; however, additional visits can ensure success for struggling students.

Providing funding for student transportation expands the range of students who can participate and could broaden the geographic region where students can find interested employers. In urban areas, providing subsidies for public transportation is an option. In rural school districts, vans or buses are options.

Student Admissions, Access, Supports

Fulfilling Equity Goals

Scheduling challenges often restrict a student's access to internships. In smaller schools, building schedules that permit students to be at a workplace during the school day and enrolling in rigorous classes requires a keen awareness of potential scheduling conflicts. Internships that are for small groups of students to a single workplace can help build teamwork skills as well as make scheduling easier at the school.

Student Supports

Schools can improve student success in internships by providing:

- Thorough orientations to the world of work and to the workplace experience for the student and their parent/guardian.
- A planned seminar for students to discuss internship challenges.
- A comprehensive career development program in which the student has created a career portfolio based on an assessment of their vocational and occupational skills including personality tests (such as the Holland test), performance tests, career maturity assessments, and exploration of vocational interests.

Resources

Program Examples

[Souderton Area School District](#)

Souderton Area School District has adopted a pathways model which provides students with career development processes through course selection and workplace experiences. Their design includes four pathways, career exploration in 9th grade, job shadowing in 10th grade, a pathway internship in 11th grade and a senior presentation of their career development journey in the 12th grade (Souderton Area School District). Their internship is called a mentorship with guidelines, forms, employer contracts, and other support materials available on their [pathways website](#) (Souderton Area School District).

[Lehigh Carbon Technical Institute](#)

During the 2013-2014 school year, Lehigh Carbon Technical Institute (LCTI) instituted the Rotational Internship Program within the manufacturing sector to address the shortage of skilled workers, specifically in electromechanical and mechatronics. This innovative program was entirely driven by employer B Braun Medical, Inc. and was designed in partnership with LCTI and the Lehigh Valley Workforce Investment Board. Unlike cooperative learning experiences in which students are placed in one job for a semester or longer, the Rotational Internship Program requires students to work in several different manufacturing environments. However, like cooperative learning experiences, students in the Rotational Internship are paid. Per Ms. Jan Klevis, supervisor of LCTI's Adult Education, the program has been very successful as measured by student and employer feedback, student placement after graduation, and student and mentor engagement. During the 2014-2015 school year, the program was expanded to include two additional Lehigh Valley career and technical centers and additional employers. In addition, the Lehigh Valley Workforce Investment Board is providing partial funding through a PA JOBS1st grant to offset employer costs (Lehigh Carbon Technical Institute).

Helpful Links

[New Ways to Work](#)

New Ways to Work is a consulting, technical assistance, and training organization that helps communities build comprehensive local youth-serving systems, develop new programs and partnerships, and improve practice in the organizations that serve young people. Detailed, high-quality resources are available free to download on this site. Topics include career development approaches, employer engagement, and high-quality work-based learning. The Kansas City, Kansas Work-Based Learning Toolkit is amongst the

free resources available on this website (Kansas City, Kansas Public Schools, 2003, pp. 4-1 to 4-13, Tools 7-14, Factsheet 4).

[**NYS P-TECH Public-Private Partnerships for College and Career Success**](#)

The P-TECH 9-14 School Model Playbook website is designed to serve as the central hub for public-private partnerships interested in learning about and implementing this school reform model. The site focuses partnerships on the key elements that characterize the P-TECH model and provides action-oriented guidance and tools to enable them to implement the model with quality and fidelity. The site also features a series of case studies from P-TECH model schools to ground the key elements in practice. Under the tools and sitemap section of the website, resources are available supporting work-based learning, internships, and mentoring programs (P-TECH 9-14 Model, n.d.) (New York State P-TECH, 2016, pp. 32-37).

Apprenticeship

Introduction

Background

Apprenticeship is a career preparation activity designed to prepare an individual—generally a high school graduate—for careers in the skilled crafts and trades. However, some apprenticeship programs accept high school students between the ages of 16 and 18 so that the student can get a head start on completing the program. Apprenticeships consist of paid, on-the-job training, supplemented by related classroom instruction. Apprenticeship training usually requires one to five years to complete, depending on which occupation is chosen (New Ways to Work).

State and federal registered apprenticeship programs are work-based education partnerships between industry, labor, education, and government. Apprenticeship is industry-driven and provides an effective balance between on-the-job training and the classroom and laboratory instruction that is needed to develop marketable knowledge and skills in one of the many programs sponsored nationally. There is a broad span of occupations from low tech to high tech in fields including medical, trades, crafts, and technology. Apprenticeships can be offered in almost any occupation in which an employer wants to have thoroughly knowledgeable and skilled employees who desire to climb the career ladder via the earn-and-learn apprenticeship model (New Ways to Work).

Registered apprenticeships ensure quality learning by combining on-the-job training with theoretical and practical classroom instruction to prepare exceptional workers. Classroom and laboratory instruction are required in all registered apprenticeship programs. This document focuses on the registered apprenticeship programs wherein the apprentice is trained, paid and receives benefits according to state and federal apprenticeship laws.

“The most intensive forms of workplace learning—apprenticeship and sustained internships—are especially effective in meeting the developmental needs of young people. They provide a structure to support the transition from adolescence to adulthood which is lacking for the majority of young people in the U.S. apprenticeships provide increasingly demanding responsibilities and challenges in an intergenerational work setting that lends a structure to each day. Adult relationships are built on support and accountability, mentoring and supervision.” (Symonds, Schwartz, & Ferguson, 2011)

Research

Most research on apprenticeships has focused on adult apprenticeships and may not be applicable to high school programs. Adults, on average, start their apprenticeship training at age 27 – 29 (Lewis & Stone, 2011). Other researchers report that the breadth of research on all work-based learning lacks rigorous longitudinal studies. A summary report of available qualitative and quantitative research was completed by the National Institute for Work and Learning under contract for the National Research Center for Career and Technical Education (Alfeld, Charner, Johnson, & Watts, 2013).

Symonds reported outcomes from an exemplary youth apprenticeship program in Wisconsin. “The Wisconsin Youth Apprenticeship Program began in the early 90s, and has since matured into the nation’s largest apprenticeship opportunity for high school students. Under the two-year program, high school juniors and seniors complete up to 900 hours of work-based learning and related courses. Many also earn college credits. Apprenticeships are now offered in fields ranging from healthcare and manufacturing to IT, hospitality, and agriculture. Apprenticeships are available in nearly half of Wisconsin’s school districts, and the program serves about 2,000 students at a time. Over 75 percent of youth apprenticeship graduates enroll in a technical college or university, and over 60 percent complete their degrees, which is far higher than the national average. What’s more, over 85 percent of graduates are employed after leaving high school, and a stunning 98 percent of participating employers say they would recommend it to others (Symonds, Schwartz, & Ferguson, 2011).”

Halpern draws on a study of an after-school initiative serving inner-city high school students to describe and reflect on ways in which apprenticeship-like experiences support work on a variety of developmental tasks. Key dimensions of the apprenticeship experience, challenges faced by instructors, and possible effects on participants are examined. “Findings suggest that, in addition to strengthening discipline-specific knowledge and skills and, more selectively, skills needed for carrying out complex tasks, apprenticeship-like learning experiences have interesting self-effects. These experiences lead at least some apprentices to take more responsibility for themselves, to learn to attend more deeply, to learn about themselves, to learn that it is OK to do new things, and to learn that expressing one’s thoughts, emotions, or doubts honestly will not have negative consequences. At the same time, apprentices’ growth is tentative. Shifting habits, predispositions, and dominant feelings (about oneself and others) is difficult work (Halpern, 2006).”

Definitions and Terms

Apprentice: “A minor of 16 years of age or over who is employed in a craft recognized as an apprenticeable trade where the work in an occupation or process otherwise prohibited is incidental to the apprentice training, is intermittent and for short periods of time, and is under the direct and close supervision of a journeyman, and who is registered with the Pennsylvania Apprenticeship and Training Council or employed under a written apprenticeship agreement under conditions which conform to the Federal and State standards of apprenticeship training,” (PA Department of Labor and Industry, n.d.)

Policy

The PA Department of Labor and Industry and the PA Department of Education regulate the employment of minors in industry. Each agency has a role in defining the structure of the work experience, the provision of work permits, the enforcement of child labor laws, and other relevant requirements (PA Department of Education, n.d.). Apprenticeships for youth between the ages of 16 and 18 fall under their regulations. These regulations also define specific prohibitions and specification for work within specific occupational areas (PA Department of Labor and Industry, n.d.). Visit the referenced websites for the most up-to-date guidance on laws on the employment of minors in Pennsylvania. Note that some occupations and industries have restrictions on allowable participation by minors.

Program Guidance

School-Level Implementation

Understanding the five building blocks of an apprenticeship program is critical to the successful implementation of the program at a school or career and technology center. Since apprenticeships tend to be industry-driven and on an individual student level, the role of the school often is secondary to the role of the business offering the apprenticeship.

There are five components to apprenticeship programs (U.S. Department of Labor, n.d.). These components are:

1. **Business Involvement:** Employers are the foundation of every apprenticeship program. They play an active role in building the program and remain involved every step of the way. Employers frequently work together through apprenticeship councils, industry associations, or other partnerships to share the administrative tasks involved in maintaining apprenticeship programs. Often the greatest challenge for a high school based apprenticeship program is finding a match between the employer and an interested student. (U.S. Department of Labor, n.d.)
2. **Structured On-the-Job Training:** Apprenticeships always include an on-the-job training (OJT) component. A written training plan is developed between the business, the student, and the school entity. Apprentices receive hands-on training from an experienced mentor at the job site. OJT focuses on the skills and knowledge an apprentice must learn during the program to be fully proficient on the job. This training is based on national industry standards and customized to the needs of the employer (U.S. Department of Labor, n.d.). The training is evaluated by a school-based supervisor and journeyman. This focus on national standards aligns well with state requirements for high school career and technical programs. The student receives high school credit for this training.
3. **Related Instruction:** One of the unique aspects of apprenticeships is that they combine on-the-job learning with related instruction on the technical and academic competencies that apply to the job. Education partners collaborate with business to develop the curriculum, which often incorporates established national-level skill standards. The related instruction may be provided by community colleges, technical schools, or apprenticeship training schools – or by the business itself. It can be delivered at a school, online, or at the job site (U.S. Department of Labor, n.d.). For high school level students, this instruction occurs at the high school partner’s location and should meet both state education requirements and the needs of the occupation. The student receives high school credit for this instruction.
4. **Rewards for Skill Gains:** Apprentices receive wages when they begin work and receive pay increases as they meet benchmarks for skill attainment. This helps reward and motivate apprentices as they advance through their training (U.S. Department of Labor, n.d.). Apprenticeship programs that permit students between the ages of 16 and 18 to participate must remain aware of hour restrictions and workplace safety restrictions defined by the PA Child Labor Law².
5. **Nationally-Recognized Credential:** Every graduate of a registered apprenticeship program receives a nationally-recognized credential. This is a portable credential that signifies to employers that apprentices are fully-qualified for the job (U.S. Department of Labor, n.d.).

² The Child Labor Law (43 P. S. §§ 41-71)

Financial Considerations

Apprenticeship programs generally are coordinated as part of a career and technical education program. Careful adherence to state and federal child labor laws are critical to ensuring that neither the school entity nor employer is at risk of being fined. A cooperative education certified teacher to coordinate the apprenticeship is highly recommended.

Student Admissions, Access, Supports

Fulfilling Equity Goals

Care should be taken in finding a match between the employer and a student who is interested in an apprenticeship commitment. Many occupations have an overrepresentation of a single gender. Nontraditional careers are those occupations in which one gender comprises less than 25% of the current workforce. Workbased learning experiences can be used to promote nontraditional career preparation.

Student Supports

The U.S. Department of Labor encourages apprenticeships for people with disabilities (U.S. Department of Labor, n.d.). An apprenticeship could be considered as part of a student's transition plan, a required component of the youth's Individual Education program beginning at age 16.

Resources

Program Examples

[Philadelphia Works: Southeast PA Region Apprenticeship Initiative](#)

This \$2.9 million project strengthens the pipeline of motivated, qualified youth who can be directed into American Apprenticeship programs. The project will develop and implement innovative, hybrid, or competency-based pre-apprenticeship curricula to ensure participants' employability aligns with available apprenticeship positions and results in portable credentials that are recognized by multiple providers and employers. Three hundred and ten apprenticeship positions will be created: 170 IT apprentices and 140 behavioral health technicians. A new governing body, the SEPA Region American Apprenticeship Collaborative, and dedicated staff oversee all registered apprenticeships to share learning, identify synergies, and develop meaningful work-based experiences for apprentices and pre-apprentices.

[Forbes Road Career and Technology Center](#)

Apprenticeship: This is a one or two-year secondary program with technical training. Students begin work-site learning as youth apprentices during their junior or senior year of high school. Students spend three days per week in technical and applied academics classes at Forbes Road Career and Technology Center. The other two days, students will work at a work-site under the supervision of a mentor. Following high school graduation, the apprentice will continue training in an adult apprenticeship program or in post-secondary education.

Helpful Links

[Cooperative Education: Guidelines for Administration](#)

This Pennsylvania toolkit provides details as to how to comply with federal and state laws and regulations related to cooperative education including apprenticeships (PA Department of Education, 2014).

[Pennsylvania Apprentice Coordinator's Association](#)

The Pennsylvania Apprentice Coordinators Association (PACA) was developed to provide a medium for the exchange of ideas and the methods and information relative to apprenticeships in Pennsylvania. PACA exists to collectively assist in improving its members' registered programs and the skills of their instructional staff and to inform and promote apprenticeship; especially in the unionized building trades. Lastly, PACA will inform its members of the latest laws, regulations, and pending legislation that affect apprenticeship and apprenticeship training in Pennsylvania as well as North America. This resource provides a listing of apprenticeships in Pennsylvania and provides contact information for chapters throughout the commonwealth (Pennsylvania Apprentice Coordinators Association, n.d.).

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