

Work-Based Learning Report

September 16, 2011

Introduction

As part of the Illinois Pathways Initiative, and consistent with the State's Race to the Top college and career readiness reforms and the P-20 Council's College & Career Readiness Committee, public-private working groups in nine science, technology, engineering, and mathematics (STEM) clusters have been formed in order to develop consensus around model P-20 Programs of Study (POS). The product of these working groups will serve to facilitate connections between local P-20 education programs as well as outside partnerships, including business and industry partners by creating a common set of expectations, assumptions and definitions that enable the alignment of programmatic resources and targeting of instructional supports to build a stronger talent pipeline.

Each sector-based working group will be developing model P-20 programs that identify course definitions and sequencing. A component of each model is the inclusion of work-based learning experiences connected to pathway level courses, including cluster-wide orientation level courses and career pathway courses.

To assist in this effort a separate Work-Based Learning Working Group was assembled to provide a common set of definitions and a P-20 sequencing of work-based learning activities that can be adopted as part of each cluster-based POS model. The objectives are defined as follows:

- 1) To provide a common framework for defining, categorizing and setting a sequence of work-based learning opportunities that can be adopted across P-20 STEM career cluster-based models; and
- 2) To identify incentives, key policy recommendations, and a series of resources and supports that are targeted to increase student participation in work-based learning experiences as well as build program capacity.

To further support STEM education reform and scaling-up cluster-based POS offerings, the State of Illinois intends to collaborate with public-private partners to begin convening statewide cluster-based STEM Learning Exchanges later this year that will be supported through resources made available through the Learning and Performance Management System (LPMS). The framework, incentives, policies and tools developed by the Work-Based Learning Working Group will provide a resource to the Learning Exchanges as they coordinate public-private investment and develop strategic plans to increase and improve access to P-20 work-based learning opportunities.

Process

The Work-Based Learning Working Group is composed of public-private partners representing state agencies, P-20 education institutions, industry associations, after school programs, workforce boards, and others. During the first meeting three key models were introduced that were used to establish a consensus framework around types of work-based learning activities and their categorization. The three models reviewed included:

- 1) Chicago Workforce Investment Council (CWIC) Work-Based Learning Guide;
- 2) National Academy Foundation (NAF) Guide to Work-Based Learning; and
- 3) Metropolitan Chicago Healthcare Council (MCHC) Youth Partnership Toolkit.

The Work-Based Learning Working Group identified common elements as they related to activities and categories to create a unified sequence of opportunities that were then mapped to the P-20 POS model. Throughout the process additional national best practices were identified and reviewed, including Wisconsin-based apprenticeship models.

Objective 1: Definition of Work-Based Learning

In order to improve academic performance and postsecondary outcomes, as well as ensure students are both college and career ready, all students that are participating in P-20 STEM POS should have access to high-quality work-based learning experiences that build upon their academic and career interests and provide meaningful and relevant opportunities to demonstrate their skills and knowledge. Students should have access to a broad range of experiences and opportunities, both inside and outside the classroom (including through technology), that connect their academic programs to the world of work ranging from career awareness to more applied on-the-job training. Each of the experiences should help advance personalized plans of study and contribute to ongoing portfolio development that prepares students to make well-informed college and career choices while developing related workforce readiness and career pathways skills. In addition, work-based learning experiences, where possible, should provide students opportunities to access credentialing opportunities, including earning industry-recognized stackable credentials.

Work-based learning is understood to be an integral part of both college and career readiness in that it helps students to develop and apply their skills in practical and informative real-world activities. Meaningful engagement in work-based learning opportunities provides students with the ability to demonstrate their academic proficiency, workforce readiness, and pathway level skills in applied settings. Work-based learning is also an important experience that informs career guidance and transitions between education and training institutions and into employment.

For P-20 STEM POS the progression of work-based learning activities is categorized along a continuum that includes career awareness, career exploration, career preparation, and on-the-job training.

- *Career Awareness:* Takes place during elementary school providing students with authentic learning experiences, both inside and outside of school via standards-based, hands-on challenges. Experiences should reflect core STEM disciplines and mirror how school relates to the world of work, ideally involving families and the community. Career awareness activities for young learners help inform personalized education and career plans based on a student's identified interests.
- *Career Exploration:* Takes place in middle school, orientation level courses at the secondary education level, and in postsecondary education providing students with an opportunity to advance their personalized education and career plan through an introduction to real-world applications of learning within a career cluster as well as a deeper understanding of the range of occupations and related skills and education requirements.

- *Career Preparation*: Takes place during advanced pathway and gateway courses at the secondary education level and in postsecondary education providing students with opportunities to demonstrate workforce readiness skills and develop foundational pathway/technical skills within a cluster that include opportunities to apply those skills in real-world work experiences that involve interactions with outside professionals and career coaches.
- *On-the-Job Training*: Takes place during advanced pathway courses at the secondary education level and in postsecondary education providing students with opportunities to gain real-world experience aligned to their career objectives and provides for opportunities to perform advanced applications of their academic, career readiness, and pathway skills.

P-20 Work-Based Learning Sequence

The following matrix identifies a corresponding set of activities arranged by category and where they are positioned in a P-20 course sequence. These activities are recommended based on a model P-20 STEM Program of Study which has students move from career awareness to career cluster specific orientation and advanced pathway courses. Each set of activities is supposed to build on the skill set and contribute toward a growing portfolio as a student becomes career ready in their chosen program area.

Some categories are identified multiple times along the P-20 sequence given students may be switching programs or opting into programs at a later stage and will need to have a set of exploratory activities before engaging in more intensive career preparation and on-the-job training programs. Activities are also listed in multiple categories given their application can be customized to learner needs across a P-20 continuum. Also of note is that some categories and activities are not only targeted to students, but also educators to provide opportunities to upgrade their skills and access professional development opportunities.

The method of delivery of these activities assumes "life-wide" learning where students have access to a diverse delivery network that enables them to individually manage their performance and leverage their developing social and professional networks. While many of the activities can be coordinated through a student's school of record, students should have opportunities to leverage technology tools, after-school programs, student organizations, and other methods to connect to meaningful work-based learning opportunities that support their personalized Program of Study.

| P-20 Sequence | Categories | Activities |
|---|--------------------|--------------------------------------|
| Elementary School (P-6) | Career Awareness | Problem-Based Learning |
| | | Competitions |
| | | Service Learning |
| | | Classroom Support and Guest Speakers |
| | | Site Visits |
| Middle School (7-8) & Secondary: Orientation | Career Exploration | College and Career Fairs |
| | | Classroom Support and Guest Speakers |
| | | Site Visits |
| | | Problem-Based Learning |

| | | |
|--|---|-------------------------|
| | | Service Learning |
| | | Competitions |
| Secondary: Pathway | * Career Preparation | Career Coaching |
| | | Job Shadows |
| | | Internships |
| | | Co-Op/Independent Study |
| | | School-Based Enterprise |
| | * On-the-Job Training | Apprenticeship |
| | | Work-Experience |
| Postsecondary: Bridge Programs | Career Exploration | Problem-Based Learning |
| | * Career Preparation | Career Coaching |
| | | Internships |
| | * On-the-Job Training | Work-Experience |
| Postsecondary: Associates, Bachelors, and Graduate Programs | Career Exploration | Career Coaching |
| | | Competitions |
| | | Problem-Based Learning |
| | | Service Learning |
| | * Career Preparation | School-Based Enterprise |
| | | Internships |
| | * On-the-Job Training | Apprenticeship |
| | | Work-Experience |
| <i>Notes</i> | * Refers to categories that provide work-based learning opportunities for not only students, but also for educators seeking professional development opportunities. | |

Work-Based Learning Definitions

Below is a set of definitions for the activities identified in the P-20 course sequence and categories. Included are references to pre- and post-surveys and assessments for work-based learning experiences that are consistent with the recommendations from the Assessment Working Group.

A set of recommended prerequisites are included to measure student readiness to participate in career preparation and on-the-job training experiences. The prerequisites include student completion of an education and career plan, the completion of a workforce readiness assessment (i.e. an assessment that measures soft skills proficiency and is recognized by industry), and an assessment that measure student proficiency in academic disciplines. These baseline prerequisites ensure students are prepared to engage in a meaningful work experience with outside partners.

In addition, a set of assessments are included for career preparation and on-the-job training activities. The assessments measure a student's growth and skill development as a result of the work experience. Assessments include observational assessments which are completed by educators and adult supervisors and provide a survey of a student's work experience, development, and net-growth. Also, an industry-recognized certification or other widely-accepted forms of endorsement (e.g. badge systems) can serve as validation of a student's technical competency, workforce preparedness, and pathway skill level attainment learned through their work experience.

| Activities | Definition | Prerequisites/ Assessments |
|---|---|--|
| Problem-Based Learning | <p>Problem-based learning (PBL) is focused experiential learning organized around student-centered investigation and resolution of real-world problems identified with input from outside stakeholders. PBL organizes curriculum around this holistic problem, enabling student learning in relevant and connected ways. PBL creates a learning environment in which teachers coach student thinking and guide student inquiry, facilitating learning toward deeper levels of understanding while entering the inquiry as a co-investigator. This experience can be strengthened by using industry volunteers.</p> <p>PBL can be administered as either a career awareness activity in the P-8 grades or as a career exploration activity at both the secondary and postsecondary education levels.</p> | <p><u>Prerequisite</u> 1) None</p> <p><u>Assessment</u> 2) Education and Career Plan</p> |
| Competitions | <p>Similar to PBL, Competitions are focused experiential learning organized around student-centered investigation and resolution of real-world problems identified by outside stakeholders. Competitions are not necessarily embedded in curriculum, but provide opportunities for students to compete individually or as a member of an interdisciplinary team to provide innovative solutions to sponsored challenges.</p> <p>Competitions can be administered as either a career awareness activity in the P-8 grades or as a career exploration activity at both the secondary and postsecondary levels.</p> | <p><u>Prerequisite</u> 1) None</p> <p><u>Assessment</u> 2) Education and Career Plan</p> |
| Service Learning | <p>Students learn and develop through active participation in thoughtfully organized service that is conducted in and meets the needs of a community while advancing a students' personalized education and career plan. Unlike volunteerism, service learning is integrated into and enhances the academic curriculum and strongly emphasizes structured reflection on learning.</p> <p>Service Learning can be administered as either a career awareness activity in the P-8 grades or as a career exploration activity at both the secondary and postsecondary education levels.</p> | <p><u>Prerequisite</u> 1) None</p> <p><u>Assessment</u> 2) Education and Career Plan</p> |
| Classroom Support and Guest Speakers | <p>Volunteers support teachers by bringing real-world experience in the delivery of course content, programs, services, and certification preparation. In addition, volunteers provide students with orientation-level career development information specific to a cluster.</p> <p>Classroom Support and Guest Speakers can be administered as either a career awareness activity in the P-8 grades or as a career exploration activity at the secondary education level.</p> | <p><u>Prerequisite</u> 1) None</p> <p><u>Assessment</u> 2) Education and Career Plan</p> |
| Site Visits | <p>Students are provided with a real-world bridge from classroom to industry by participating in a structured site visit to a company or organization. A site visit can be strengthened by providing student a hands-on experience.</p> | <p><u>Prerequisite</u> 1) None</p> <p><u>Assessment</u></p> |

| | | |
|---------------------------------|--|--|
| | Site Visits can be administered as either a career awareness activity in the P-8 grades or as a career exploration activity at the secondary education level. | 2) Education and Career Plan |
| College and Career Fairs | <p>Students attend events in-person or virtually that showcase college and career opportunities aligned to their personalized plan of study, including how academic pathways connect to career pathways and outcomes. Activities can include workshops, informational booths, guest speakers, and other virtual or hands-on activities.</p> <p>College and Career Fairs are administered as a career exploration activity at the secondary education level.</p> | <p><u>Prerequisite</u></p> <p>1) Education and Career Plan</p> <p><u>Assessment</u></p> <p>2) Observational Assessment</p> |
| Career Coaching | <p>Students engage with an outside volunteer to achieve specific career goals aligned to their personalized plan of study. Unlike mentoring, which focuses on generalized social/emotional support; career coaching utilizes a goal oriented, future-focused, action-oriented processes to inform college and career pathways and guidance.</p> <p>Career Coaching can be administered as a career exploration activity at the secondary and postsecondary education level.</p> | <p><u>Prerequisite</u></p> <p>1) Education and Career Plan 2) Workforce Readiness Assessment 3) Meet expectations appropriate to grade level as defined by PSAE, ACT, Compass, Common Core assessments, and postsecondary admissions exams</p> <p><u>Assessment</u></p> <p>4) Observational Assessment 5) Endorsement/Credential</p> |
| Job Shadows | <p>Students accompany an outside volunteer to a workplace setting where they observe and learn about roles, responsibilities, and required skill sets associated with an occupation within a cluster and pathway aligned to their personalized plan of study. In addition, Job Shadows provide students with opportunities to expand their professional network.</p> <p>Job Shadows are administered as a career preparation activity at the secondary and education level.</p> | <p><u>Prerequisite</u></p> <p>1) Education and Career Plan 2) Workforce Readiness Assessment 3) Meet expectations appropriate to grade level as defined by PSAE, ACT, Compass, Common Core assessments, and postsecondary admissions exams</p> <p><u>Assessment</u></p> <p>4) Observational Assessment 5) Endorsement/Credential</p> |
| Internships | <p>Students participate in work-related experience in a company setting where they perform the roles and functions of one or many occupations specific to a cluster and pathway that aligns with their personalized plan of study. Internships can be structured to be short or long-term depending on when they are offered and the amount of time a student can commit to the experience over a period of time. Students should have clearly defined goals for how the internship advances their skill sets and allows them to demonstrate their knowledge through applied learning. Students should have a designated</p> | <p><u>Prerequisite</u></p> <p>1) Education and Career Plan 2) Workforce Readiness Assessment 3) Meet expectations appropriate to grade level as defined by PSAE, ACT, Compass, Common Core assessments, and postsecondary admissions</p> |

| | | |
|---|---|--|
| | <p>supervisor who will evaluate their performance as part of an exit interview.</p> <p>Internships can be administered as a career preparation activity at the secondary and postsecondary education level.</p> | <p>exams</p> <p><u>Assessment</u> 4) Observational Assessment 5) Endorsement/Credential</p> |
| Co-Op/ Independent Study | <p>A experiential, independent study course co-engineered by students, teachers and outside partners that is designed to advance a student's personalized plan of study as they engage in advanced pathway courses within a given cluster pathway. Courses can be a quarter, semester, year long, or taken over the summer, and can be completed either in a lab environment or on-site at an employer.</p> <p>Co-Op/Independent Study experiences are administered at the secondary education level.</p> | <p><u>Prerequisite</u> 1) Education and Career Plan 2) Workforce Readiness Assessment 3) Meet expectations appropriate to grade level as defined by PSAE, ACT, Compass, Common Core assessments, and postsecondary admissions exams</p> <p><u>Assessment</u> 4) Observational Assessment 5) Endorsement/Credential</p> |
| School-Based Enterprise | <p>Students develop a business model for designing, implementing, and sustaining a program or venture that involves the production of goods and services for sale or use by other groups. Similar to Problem-Based Learning and Competitions, School-Based Enterprises can involve students solving real-world challenges consistent with their personalized plan of study and identified in consultation with outside partners. School-Based Enterprises do not place students directly with employers, but instead enable students to use their institutional environment to pursue a venture.</p> <p>School-Based Enterprises can be administered as a career preparation activity at the secondary and postsecondary education level.</p> | <p><u>Prerequisite</u> 1) Education and Career Plan 2) Workforce Readiness Assessment 3) Meet expectations appropriate to grade level as defined by PSAE, ACT, Compass, Common Core assessments, and postsecondary admissions exams</p> <p><u>Assessment</u> 4) Observational Assessment 5) Endorsement/Credential</p> |
| Apprenticeship | <p>Companies provide career-immersion programs where students supplement their learning and personalized plans of study with real-world applications of skills in a specific occupation in close alignment with an experienced employee or team of employees. Students should have clearly defined goals for how the apprenticeship advances their skill sets and allows them to demonstrate their knowledge through applied learning. Students not only receive hands-on work experience, but also receive career coaching and expand their professional network. Apprenticeships should also provide opportunities for students to earn pathway relevant industry credential or certification. Students should have a designated supervisor who will evaluate their performance as part of an exit interview.</p> <p>Apprenticeships can be administered as an on-the-job training activity at the secondary and postsecondary education level.</p> | <p><u>Prerequisite</u> 1) Education and Career Plan 2) Workforce Readiness Assessment 3) Meet expectations appropriate to grade level as defined by PSAE, ACT, Compass, Common Core assessments, and postsecondary admissions exams</p> <p><u>Assessment</u> 4) Observational Assessment 5) Endorsement/Credential</p> |

| | | |
|------------------------|---|---|
| Work-Experience | Students participate in part-time or full-time employment in an occupation consistent with a cluster and pathway that aligns with their personalized plan of study. Students not only receive hands-on work experience, but also receive career coaching and expand their professional network. Ideally, students should structure their work experience to meet clearly defined goals, access career coaching, and receive a performance evaluation. | <u>Prerequisite</u> 1) Education and Career Plan 2) Workforce Readiness Assessment 3) Meet expectations appropriate to grade level as defined by PSAE, ACT, Compass, Common Core assessments, and postsecondary admissions exams |
| | Work Experience can be administered as an on-the-job training activity at the secondary and postsecondary education level. | <u>Assessment</u> 4) Observational Assessment 5) Endorsement/Credential |

Objective 2: Incentives, Resources, and Policy Recommendations

In order to support building capacity for work-based learning opportunities aligned to STEM POS, several policies and incentives can be developed to increase participation on the part of 1) Schools & Educators/Counselors; 2) Students, and 3) Employers. The recommendations identified below include both incentive and regulatory-based reforms that address a key set of barriers that prevent going to scale with work-based learning offerings. In addition, several resources are identified to be developed that can assist with reducing the transaction costs associated with connecting students, educators and employers to work-based learning opportunities. Also, it is noted that each of the recommendations will require a diverse set of strategies and partners to ensure implementation.

| Target | Description | Barriers | Incentive, Resources, and Policy Recommendations | Implementation Strategy |
|---|--|---|--|--|
| Schools & Educators/Counselors | Incentives and policies that support schools as well as educators/counselors in building POS capacity and being held accountable for providing students with robust work-based learning experiences and career guidance. | Educators have a lack of financial support to access additional work-experiences and are not held accountable for industry-relevant professional development. | 1) <i>Subsidized Professional Development</i> : Develop new subsidies--or reinstate the VIP program--for educators seeking work-experience in an approved Program of Study sector. 2) <i>CPDU Requirements</i> : Establish requirements for educators to participate in industry training as part of certificate maintenance. | ISBE, the P-20 Council, and the General Assembly to develop new professional development grant programs. |
| | | Career guidance is fragmented and not linked to personalized data and professional mentorship networks. | 3) <i>Career Development, Guidance, and Portfolio Applications</i> : Develop new tools and supports for career guidance systems integrated with state and local data as well as with access to professional networks. | Interagency team to work to fund and develop applications to be housed in the LPMS/SLI cloud-computing platform. |
| | | | | |

| | | | | |
|-----------------|--|--|--|---|
| | | Existing assessments focus almost exclusively on academic proficiency not linked to workforce readiness. | <i>4) Workforce Readiness Assessment Framework and Tools:</i> Develop a network of approved free and fee-based workforce readiness assessments that locals can integrate into student portfolios. | DCEO and Illinois workNet to identify workforce readiness assessment framework and make available free assessment tools. Also, both agencies to coordinate with PARCC to ensure workforce readiness in included in new statewide Common Core assessments. |
| | | Schools are not held accountable for work-based learning access or performance. | <i>5) Report Card Metrics:</i> A more comprehensive assessment to hold schools accountable for increasing access to workforce readiness assessments and work-based learning opportunities. | P-20 Council to identify college & career readiness metrics that are inclusive of work-based learning access and performance as part of report card initiative. |
| | | Students often do not have access to financing to compensate and validate their engagement in work experience. | <i>6) WBL Financing:</i> Develop financing and reimbursement mechanism that would enable students to use education funding to support their participation in work-based learning experiences. | ISBE to explore innovative financing options to enable students to manage and invest education foundation level funding as well as access CTE reimbursements to support their participation in work-based learning experiences. |
| Students | Supports to help students more seamlessly connect to work-based learning opportunities as well as build and develop a P-20 portfolio that demonstrates progression towards career goals. | Students have limited access to connecting to professional networks aligned to their Program of Study. | <i>7) Matchmaking Applications:</i> Develop applications designed to standardize connecting students to adult mentors and work-based learning experiences. | Interagency team to work to fund and develop applications to be housed in the LPMS/SLI cloud-computing platform. |
| | | Students have limited financial support to access meaningful work-based learning experiences. | <i>8) Work Study:</i> Increase funding for existing and new work-study programs that subsidize student employment and other work-based learning opportunities. | IBHE to work with agency partners to expand existing work study programs and work with ISBE to launch similar secondary education programs. |
| | | Work-based learning is not connected to college and university admission requirements and not weighted toward graduation requirements. | <i>9) Credits/Credit Recovery:</i> Support policies that link work-based learning to credit-earning programs to provide students with opportunities to count experiences towards graduation as well as to support drop-out prevention. | Extracurricular activity programs to work with ISBE and local districts to identify how work-based learning experiences outside the classroom can be linked to credit recovery programs. |
| | | | <i>10) Prior Learning Assessments:</i> Support policies that encourage college | IBHE and ICCB to review admission office policies to explore including the |

| | | | | |
|------------------|---|---|---|---|
| | | | admission offices to review work-based learning experiences as part of acceptance decisions as well as awarding of credits. | weighting of work-based learning experiences in considerations for admissions as well as credit acquisition. |
| | | Many schools do not allow time for students to engage in meaningful work-based learning experiences due to "seat-time" restrictions imposed by the Carnegie system. | <i>11) Carnegie Waivers for Participating in Work-Based Learning Experiences:</i> Allow students to seek waivers to participate in immersive work-based learning experiences that may require adjustments or flexibility to the Carnegie schedule system. | ISBE to explore the policy requirements for implementing Carnegie waivers as well as work with local school districts to define the terms and conditions of student access to waivers. |
| | | While there is transparency around widely-accepted industry credentials, there is a need to explore alternative credentialing for validating work-based learning experiences. | <i>12) Work-Based Learning Badges:</i> Student should be able to acquire a recognized endorsement for participation in a wide-range of work-based learning experiences that may not yield an industry-recognized pathway credential. | ISBE to work with DCEO and higher education agencies to explore the development of a network of portfolio "badges" that are widely endorsed by local school districts, community partners, and employers. |
| Employers | Incentives that encourage small, medium, and large employers to support a continuum of work-based learning opportunities aligned to POS and to increase training investments. | Employers and supervisors are not provided with incentives to support investment in training students. | <i>12) Tax Credits:</i> Develop new tax credits for employers who support a continuum of work-based learning opportunities. | DCEO to work with General Assembly and IDOR on identifying new tax credits for employers offering work-based learning experiences and training. |
| | | | <i>13) Employer Training Investment Programs:</i> Develop grant programs to support employer supervision and training expenses for supporting on-the-job training programs. | DCEO to investigate how ETIP, WIA, and other employee training grant programs can be expanded to support the training of students engaged in work-based learning. |
| | | Contracts with school-based entities do not leverage access to work-based learning as an additional requirement. | <i>14) Procurement Requirements:</i> Support policies that encourage education partners to build into their procurement contracts requirements for vendors to support work-based learning opportunities. | ISBE, ICCB, and IBHE to review procurement policies to make recommendations on how contracts can leverage work-based learning placements for students. |
| | | Regulations, safety requirements, | <i>15) Government Regulatory Barriers for Youth in the Workplace across Sectors:</i> | DCEO and ISBE to review state regulatory policy to communicate regulatory |

| | | | | |
|--|--|--|---|---|
| | | <p>and policies are not clear or streamlined to support youth in the work-place across diverse industry sectors.</p> | <p>Support policies that standardize and communicate clearly the requirements for youth in the workplace across sectors.</p> | <p>requirements more clearly as well as support recommendations for changes made by STEM Learning Exchanges.</p> |
| | | | <p><i>16) Work Site Agreements:</i> Develop standardized work site agreement templates that are consistent with regulatory requirements, clearly identify learning objectives, and are fully customizable by individual parties.</p> | <p>Interagency team to develop work site templates consistent with the categories and definitions identified in the report and to be hosted as applications on the LPMS/SLI platform.</p> |